Modernization of Elevators at Pines Point Senior Residence

Invitation for Bids # CS-23-06

General Information		
Project Cost Estimate	$1,390,200.00	See Section 1.4
Project Timeline	120 calendar days from NTP.	See Section 1.4
Evaluation of Proposals	Staff	See Section 1.7
Mandatory Pre-Bid Meeting	10:00 a.m. on December 19, 2023, at the Pines Point Senior Residence at 401-601 NW 103 Ave Pembroke Pines, FL 33024	See Section 1.8
Question Due Date	January 2, 2023	See Section 1.8
Proposals will be accepted until	2:00 p.m. on January 16, 2023	See Section 1.8
Proposal Security / Bid Bond	☐ Not required. ☐ Required only for bidders that have a total cumulative base proposal amount that exceeds $200,000. Proposal Security shall be in the amount of 5% of the total cumulative base amount proposed. ✓ Required for every bidder, regardless of proposal amount. Proposal Security shall be in the amount of 5% of the total cumulative base amount proposed. ☐ Required for every bidder, regardless of proposal amount. Proposal Security shall be in the amount of $10,000 or 5% of the total cumulative base amount proposed, whichever is less.	See Section 4.1
100% Payment and Performance Bonds	☐ Not required. ✓ Required, regardless of the awarded contract amount. ☐ Required in the event that the awarded contract exceeds $200,000.	See Section 4.2
Grant or Federal Funding Information	The Community Development Block Grant (CDBG) -CV Program	Not Applicable

THE CITY OF PEMBROKE PINES
PROCUREMENT DEPARTMENT
8300 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA 33025
(954) 518-9020

Table of Contents

ATTACHMENTS

SECTION 1 - INSTRUCTIONS

1.1 NOTICE

Notice is hereby given that the City Commission of the City of Pembroke Pines is seeking sealed proposals for:

IFB # CS-23-06
Modernization of Elevators at Pines Point Senior Residence

Solicitations may be obtained from the City of Pembroke Pines website at http://www.ppines.com/index.aspx?NID=667 and on the https://ppines.bonfirehub.com/ website.

If you have any problems downloading the solicitation, please contact the Bonfire Support at Support@GoBonfire.com.

If additional information help is needed with downloading the solicitation package please contact the Procurement Department at (954) 518-9020 or by email at purchasing@ppines.com. The Procurement Department hours are between 7:00 a.m. - 6:00 p.m. on Monday through Thursday and is located at 8300 South Palm Drive, Pembroke Pines, Florida 33025.

The City requires all questions relating to the solicitation be entered through the "Messages" section for the specific project on the https://ppines.bonfirehub.com/ website. Under the "Messages" section, vendors will find the "Opportunity Q&A" tab in which they can ask their specific question(s). Responses to the questions will be provided online at https://ppines.bonfirehub.com. Such request must be received by the "Question Due Date" stated in the solicitation. The issuance of a response via Bonfire is considered an Addendum and shall be the only official method whereby such an interpretation or clarification will be made.

Proposals will be accepted until 2:00 p.m., Tuesday, January 16, 2024. Proposals must be **submitted electronically at https://ppines.bonfirehub.com/**. The sealed electronic proposals will be publicly opened at 2:30 p.m. by the City Clerk's Office, in the City Hall Administration Building, 4th Floor Conference Room located at 601 City Center Way, Pembroke Pines, Florida, 33025.

1.1.1 VIRTUAL BID OPENING

The bid opening for this project will be held in the **City Clerk's Office Conference Room** located on the 4th Floor in the Charles F. Dodge City Center/City Hall Administration Building at 601 City Center Way, Pembroke Pines, Florida, 33025 at **2:30 PM on the bid due date.**

In light of public health concerns and to ensure accessibility for all, the City encourages interested parties, vendors, and the public to participate virtually via live streaming instead of attending the meeting in person. To virtually attend the bid opening, please use the Cisco Webex Meetings platform.

Virtual Meeting Details:

- WebEx Meeting Link: https://ppines.webex.com/meet/purchasing
- Cisco Webex Meeting Number: 717 019 586
- Join by Phone Number: +1-408-418-9388

The public may download the **Cisco Webex Meetings app** from https://www.webex.com/downloads.html/

To ensure an efficient meeting process, participants are requested to mute their audio and camera during the meeting. While the public is welcome to attend the virtual bid opening, **please note that active participation and commenting will not be allowed during the proceedings.**

For further information about the bid opening or assistance in accessing the virtual meeting, please contact:

Danny Benedit, Procurement Department
City of Pembroke Pines
8300 South Palm Drive,
Pembroke Pines, FL 33025
954-518-9022 or 954-518-9020
purchasing@ppines.com

1.2 PURPOSE

The City of Pembroke Pines is seeking proposals from qualified firms, hereinafter referred to as the Contractor, to modernize the elevators at Pines Point Senior Residence (401-601 NW 103 Ave Pembroke Pines, FL 33024), in accordance with the terms, conditions, and specifications contained in this solicitation.

This project is a part of the Community Development Block Grant (CDBG) Program, funded by the U.S. Department of Housing and Urban Development (HUD), thus this project will follow Federal Procurement guidelines.

1.3 SCOPE OF WORK

Below is a summary of the scope of work required to complete the project. It is not intended to be complete. Refer to the attachment “HYDRAULIC ELEVATOR MODERNIZATION

SPECIFICATION" for all requirements, in conjunction to the requirements outline in this bid package.

- The contractor shall follow the scope of work attached to this IFB written by the City's consultant for this job (Lerch Bates).
- The contractor shall review the attachment for the preferred upgraded cab interior. Once the contractor is selected, the contractor and city's property manager will select the final cab interior and colors.
- Contractors must provide prices per elevator (401 service elevator, 401 passenger elevator, 601 service elevator, and 601 passenger elevator.) The city reserves the right to select which elevators to replace depending on budget constraints.
- The contractor **MUST USE** Siemens for fire alarm related work and connectivity. Siemens contact: David Metzger at David_metzger@siemens.com.
- The contractor must complete one elevator modernization before beginning the next car.
- The contractor is to clean up daily.
- The contractor to include hydraulic jack and casing replacement in each modernization.
- This is a turnkey project. The contractor is responsible for all finishes, including drywall, concrete repair, painting, and trim work associated with their work. The contractor shall leave all work areas in the same or better condition than they were originally.

1.3.1 GENERAL CONDITIONS

The contractor shall be solely responsible for verifying all existing dimensions, quantities, and job site conditions prior to submitting their bid.

1. The contractor will be required to schedule all the work with the Project Manager.
2. The work must be performed Monday through Friday or as approved by the Project Manager to not interfere with ongoing facility operations. Schedule flexibility is a must.
3. Any use of existing parking areas shall be requested in advance.
4. This project is funded through Federal Grants and therefore is subject to the Davis Bacon Act.
5. Contractor's use of premises:
    a. The contractor shall limit their use on the premises for work and storage, to allow for owner's occupancy.
    b. Contractor shall coordinate use of premises under direction of Owner representative, assume full responsibility for the protection and safe-keeping of products under this contract stored on-site, and move any stored products under Contractor's control which interfere with operations of the owner.
    c. Contractor to request the use of any parking spots in advance.

d. Contractors shall take proper care to protect and close off work area as required for normal facility operation.

1.4 PROJECT COST ESTIMATE & TIMELINE

Staff estimates this project to cost approximately $1,390,200.00, which does not include permit costs.

Please note that the City will waive all City related permit, license, impact or inspection fees (including the Building Department and Engineering Department Permit Fees) related to this project. Any related State or County fees, for the aforementioned permits, will be paid by the City.

In addition, the City shall cover the cost for any other permit fees related to external entities through the City's Owner's Contingency for this project**, therefore proposers should not include permit costs in their total proposal price.**

The work shall be completed within 120 days from issuance of CITY's Notice to Proceed.

In addition, please note the city's average time for a contractor to apply for and receive an approved permit is 30 days; delays in this timeline caused by the contractor's failure to actively monitor the permit process and submit all required documentation in a timely manner, will count against the project's contractual completion period.

1.4.1 PERMIT, LICENSE, IMPACT OR INSPECTION FEES

With the exception of the City related permit, license, impact or inspection fees (including the Building Department and Engineering Department Permit Fees), which will be waived for this project, the City does not anticipate any additional permit, license, impact or inspection fees for this project.

The City shall determine the amount of the Owner's Contingency at time of award. The Owner's Contingency may be based on a specified percent of the proposed project amount and shall be established for the specific project being performed under the contract. This dollar amount shall be shown on the specific project purchase order as a distinct item from the vendor's overall offer to determine the total potential dollar value of the contract. Any Owner's Contingency funds that have not been utilized at the end of the project will remain with the City, if the permit fees exceed the Owner's Contingency indicated, the City will reimburse the contractor the actual amount of the permit fees required for project completion.

1.5 PROPOSAL REQUIREMENTS

The https://ppines.bonfirehub.com website allows for vendors to complete, scan and upload their documents as part of the proposer's submittal on the website.

Prospective proposers interested in responding to this solicitation are requested to provide all of the information listed in this section. Submittals that do not respond completely to all of requirements specified herein may be considered non-responsive and eliminated from the process. Brevity and clarity are encouraged.

The Bonfire system utilizes "Questionnaires" to request the following information from prospective proposers.

1.5.1 Pricing Sheet / Bid Tables

1. **Bid Table:** The vendor must provide their pricing through the designated lines items listed on the Excel Sheet that is available for download on the Bonfire website under the **"Pricing Sheet / Bid Table"** section. Please follow the instructions given in this package and on the Excel Sheet to complete and upload the information back onto the Bonfire website.

2. **Primary Responses:** This tab of the Bid Table includes a **"Vendor Notes"** column for any additional comments regarding the requested line item(s). A comment is required in the **"Vendor Notes"** column. If the vendor does not need to submit any comments, please enter N/A or similar.
   a. Below is a sample of the "**Primary Responses"** tab of the Bid Table:

				Numeric	Text	
#	Item	QTY	Unit of Measure	Price per Unit	Vendor Notes	Total Cost
#0-1	401 Service Elevator	1	Lump Sum			
#0-2	401 Passenger Elevator	1	Lump Sum			
#0-3	601 Service Elevator	1	Lump Sum			
#0-4	601 Passenger Elevator	1	Lump Sum			

3. **Additional Responses:** This tab of the Bid Table allows for bidders to submit alternative options. Substitutions of brands or products must be submitted as an alternative for the City's review and approval.
   a. To submit an alternative, the vendor must copy the information for the corresponding line item from the **"#"** column in the **"Primary Responses"** tab and paste it into the **"Additional Reponses"** tab to identify which item they are providing an alternative option for.
   b. Vendors are required to identify the substitution of brands or products in the **"Vendor Notes"** column.
   c. For additional information on uploading supporting documentation for the proposed alternative(s), please refer to **Section 1.5.4(3)**.
   d. Below is a sample of the **"Additional Responses"** tab of the Bid Table:

				Numeric	Text	
#	Item	QTY	Unit Of Measure	Price per Unit	Vendor Notes	Total Cost
						-
						-

1.5.2 Questionnaires

1. Contact Information Form

2. Proposer's Background Information

3. Vendor Registration Checklist

4. **References Form:** Provide specific examples of similar contracts delivered by the proposed team members. Provide details on related projects (preferably where the team was the same). A minimum of 3 references should be from the last five years and should be capable of explaining and confirming your firm's capacity to successfully complete the scope of work outlined herein. As part of the proposal evaluation process, the City may conduct an investigation of references, including a record check or consumer affairs complaints. Proposers' submission of a proposal constitutes acknowledgment of the process and consent to investigate. The City is the sole judge in determining Proposers qualifications. In this section you will have the ability to enter information for 5 different references including the Reference Contact Information and the specific Project Information.

   In addition, **do not provide City of Pembroke Pines projects as any of your references and do not utilize any current City of Pembroke Pines employees as reference contacts.**

   A) References Contact Information
      a. Name of Firm, City, County or Agency
      b. Address
      c. Contact Name
      d. Contact Title
      e. Contact E-mail Address
      f. Contact Telephone #
   B) Project Information
      a. Name of Contractor Performing the work
      b. Name and location of the project
      c. Nature of the firm's responsibility on the project
      d. Project duration
      e. Completion (Anticipated) Date
      f. Size of project

g. Cost of project
h. Work for which staff was responsible

1.5.3 Other Completed Documents

1. Attachment A: Non-Collusive Affidavit

2. Proposal Security (Bid Bond Form or Cashier's Check)

   a. Each Proposal should be accompanied by a certified or cashier's check or by a Bid Bond made payable to the City of Pembroke Pines on an approved form, duly executed by the Proposer as principal and having as surety thereon a surety company acceptable to CITY and authorized to write such Bond under the laws of the State of Florida, in an amount not less than five percent (5%) of the amount of the base Proposal price.

   b. Contingency is not to be counted in the total amount the proposal security is based on.

   c. Proposers must submit a scanned copy of their bid security (bid bond form or cashier's check) with their bid submittal through Bonfire.

   d. Proposers should also submit their original bid security (bid bond form or cashier's check) at time of the bid due date, or they may be deemed as non-responsive.

   e. The original Bid Bond or Cashier's Check should be in a sealed envelope, plainly marked "**BID SECURITY - IFB # CS-23-06 Modernization of Elevators at Pines Point Senior Residence**" and sent to the City of Pembroke Pines, City Clerk's Office, 4th Floor, 601 City Center Way, Pembroke Pines, Florida, 33025.

   f. Please see SECTION 4 - SPECIAL TERMS & CONDITIONS of this document for additional information.

1.5.4 Optional Documentation

1. Trade Secrets:

   a. The Proposer's response to this solicitation is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this solicitation and the Contract to be executed for this solicitation, subject to the provisions of Chapter 119.07 of the Florida Statutes.

b. Any language contained in the Proposer's response to the solicitation purporting to require confidentiality of any portion of the Proposer's response to the solicitation, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Proposer shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer's response to the solicitation constitutes a Trade Secret.

c. EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED. ALL DOCUMENTS THAT THE FIRM PURPORTS TO BE CONFIDENTIAL, PROPRIETARY OR A TRADE SECRET SHALL BE UPLOADED TO THE BONFIRE WEBSITE AS A SEPARATE ATTACHMENT, IN THIS SECTION, CLEARLY IDENTIFYING THE EXEMPTION BEING CLAIMED UNDER FLORIDA STATUTES 119.07.

d. The city's determination of whether an exemption applies shall be final, and the proposer agrees to defend, indemnify, and hold harmless the city and the city's officers, employees, and agent, against any loss or damages incurred by any person or entity as a result of the city's treatment of records as public records.

2. Financial Statements:

a. The City is **not** requesting the vendor to submit any financial statements for this project and prefers if the vendor does not submit financial statements. In addition, if the City needs a copy of the vendor's financial statements, the City can contact the vendor after the bid due date to request those documents. However, if the vendor does submit the financial statements, they should be uploaded in this section.

b. Any claim of confidentiality on financial statements must be asserted at the time of submittal. The firm must identify the specific statute that authorizes the exemption from the Public Records Law. Please note that the financial statement exemption provided for in Section 119.071(1)c,

Florida Statutes only applies to submittals in response to a solicitation for a "public works" project.

3. **Alternatives:**

   a. If you are submitting an alternative product, please upload any related information in this section (such as specification sheets, etc.).

   b. In addition, pursuant to **Section 3.7 "Brand Names,"** if and wherever in the specifications a brand name, make, name of manufacturer, trade name, or vendor catalog number is mentioned, it is for the purpose of establishing a grade or quality of material only. Since the City does not wish to rule out other competition and equal brands or makes, the phrase "OR EQUAL" is added. However, if a product other than that specified is bid, Proposers shall indicate on their proposal and clearly state the proposed substitution and deviation. It is the vendor's responsibility to provide any necessary documentation and samples within their bid submittal to prove that the product is equal to that specified. Such samples are to be furnished before the date of bid opening, unless otherwise specified. Additional evidence in the form of documentation and samples may be requested if the proposed brand is other than that specified. The City retains the right to determine if the proposed brand shall be considered as an approved equivalent or not.

4. **Additional Information:**

   a. Please provide any additional information that you deem necessary to complete your proposal in this section, if it has not been requested in another section.

1.6 VENDOR REGISTRATION DOCUMENTS

The **https://ppines.bonfirehub.com/** website will allow vendors to update their information and documents on an as-needed basis. This process is intended to make the bidding process easier for vendors that bid on multiple City projects. This process will allow vendors to complete and submit the following standard forms and documents at any time prior to bidding on a project. In addition, the vendors will be able to utilize these same forms without the need to re-fill and re-submit the forms each time they bid on a City project. In the event that the City does not have one of the forms or documents listed below for your company, the City may reach out to your company after the bid has closed to obtain the document(s).

Furthermore, please make sure to update this information on an as-needed basis so that all pertinent information is accurate, such as local business tax receipts, and any other relevant information.

The following documents can be completed prior to the bidding process through the **https://ppines.bonfirehub.com/** website and do not need to be attached to your submittal as the Bonfire website will automatically include it.

1.6.1 Vendor Information Form

1.6.2 Form W-9 (Rev. October 2018)

a. Previously dated versions of this form will delay the processing of any payments to the selected vendor.

1.6.3 Company Profile Form

1.6.4 Sworn Statement on Public Entity Crimes Form

1.6.5 Equal Benefits Certification Form

1.6.6 Vendor Drug-Free Workplace Certification Form

1.6.7 Scrutinized Company Certification

1.6.8 E-Verify System Certification Statement

a. Effective January 1, 2021, pursuant to Section 448.095. Florida Statues, the City may not enter into a contract with a vendor/contractor/subcontractor unless that vendor/contractor/subcontractor is registered with and uses the E-Verify system administered by the U.S. Department of Homeland Security ("DHS").

b. Contractor shall also require all subcontractors to provide an affidavit attesting that the subcontractor does not employ, contract with, or subcontract with, an unauthorized alien. The Contractor shall maintain a copy of such affidavit for the duration of the contract.

1.6.9 Veteran Owned Small Business Preference Certification

a. If claiming Veteran Owned Small Business Preference Certification, business must attach the "Determination Letter" from the United States Department of Veteran Affairs Center for Verification and Evaluation notifying the business that they have been approved as a Veteran Owned Small Business (VOSB).
b. The Veteran Owned Small Business Preference Certification form must be completed by/for the proposer; the proposer **WILL NOT** qualify for Veteran Owned Small Business Preference based on their sub-contractors' qualifications.

1.6.10 Local Business Tax Receipts

1.6.11 Certification Regarding Lobbying; Debarment, Suspension and Other Responsibility Matters for Expenditure of Federal Funds

a. Lobbying:

i. As required by 7 CFR Part 3018, for persons entering into a contract, grant or cooperative agreement over **$100,000** involving the expenditure of Federal funds, the Contractor must complete the **Certification Regarding Lobbying.**

ii. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress, in connection with this Federal contract, grant, loan, or cooperative agreement, the Contractor shall also complete and submit the **Standard Form - LLL, "Disclosure Form to Report Lobbying,"** in accordance with its instructions.

b. Debarment, Suspension and Other Responsibility Matters:

i. Where the Contractor is unable to certify to any of the statements in the certification for **Debarment, Suspension and Other Responsibility Matters,** he or she shall **provide an explanation.**

1.6.12 Minority-Owned Business Enterprise

1.6.13 Woman-Owned Business Enterprise

1.6.14 HUBZone-Certified Small Businesses / Labor Surplus Area Firms

1.7 EVALUATION OF PROPOSALS & PROCESS OF SELECTION

A. Staff will evaluate all responsive proposals received from proposers who meet or exceed the bid requirements contained in the solicitation. Evaluations shall be based upon the information contained in the proposals as submitted.

B. Staff will make a recommendation to the City Commission for award of contract.

1.8 TENTATIVE SCHEDULE OF EVENTS

Event	Time &/or Date
Issuance of Solicitation (Posting Date)	**December 12, 2023**

Mandatory Pre-Bid Meeting	**10:00 a.m. on December 19, 2023**
Question Due Date	**January 2, 2023**
Anticipated Date of Issuance for the Addenda with Questions and Answers	**January 8, 2023**
Proposals will be accepted until	**2:00 p.m. on January 16, 2023**
Proposals will be opened at	**2:30 p.m. on January 16, 2023**
Evaluation of Proposals by Staff	**February 2023**
Recommendation of Contractor to City Commission award	**February 2023**
Issuance of Notice to Proceed	**February 2023**
Project Commencement	**Not later than 10 days after NTP**
Project Completion	**120 days after NTP**

1.8.1 MANDATORY PRE-BID MEETING / SITE VISIT

There will be a mandatory scheduled pre-bid meeting on **December 19, 2023 at 10:00 a.m.** Meeting location will be at the Pines Point Senior Residence at 401-601 NW 103 Ave Pembroke Pines, FL 33024.

In the event that a contractor cannot attend the scheduled pre-bid meeting, or if a contractor would like a follow up visit to the site, they may request a site visit by contacting **Byron Granda Paez** at **954-518-9025**. We urge all contractors to attend the scheduled meeting, as a separate or follow-up meeting may not be afforded to the requester due to scheduling and availability of staff to assist with any additional meetings. In addition, if making a request for a separate or follow-up meeting, contractors are urged to make these requests as early as possible.

Contractors may be required to sign in at any of the meetings to show proof of attendance. It is the vendor's responsibility to make sure that they sign in at the meeting.

1.9 SUBMISSION REQUIREMENTS

Bids/proposals **must be submitted electronically** at **https://ppines.bonfirehub.com/ on or before 2:00 p.m. on January 16, 2023.**

Please note vendors should be registered on Bonfire under the name of the organization that they are operating as and it should match the organization name on the documents that they are submitting and utilizing when responding to the solicitation.

In addition, the vendor must complete any questionnaires on the **https://ppines.bonfirehub.com/** website and provide any additional information requested throughout this solicitation. Any additional information requested in the solicitation should be scanned and uploaded.

The City recommends for proposers to submit their proposals as soon as they are ready to do so. Please allow ample time to submit your proposals on the **https://ppines.bonfirehub.com/** website. Proposals may be modified or withdrawn prior to the deadline for submitting Proposals. Bonfire Support is happy to help you with submitting your proposal and to ensure that you are submitting your proposals correctly, but we ask that you contact Support@GoBonfire.com with ample time before the bid closing date and time.

PLEASE DO NOT SUBMIT ANY PROPOSALS VIA MAIL, E-MAIL OR FAX.

However, please note that any required Bid Bond or Cashier's Check should be in a sealed envelope, plainly marked "**BID SECURITY - IFB # CS-23-06 Modernization of Elevators at Pines Point Senior Residence**" and sent to the City of Pembroke Pines, City Clerk's Office, 4th Floor, 601 City Center Way, Pembroke Pines, Florida, 33025.

Lerch Bates
BUILDING INSIGHT

PINES POINT APARTMENTS

PEMBROKE PINES, FLORIDA

HYDRAULIC ELEVATOR MODERNIZATION SPECIFICATION

OCTOBER 13, 2023

PREPARED FOR:

Matt Desharnais
Project Supervisor
City of Pembroke Pines
Public Service Department
8300 S Palm Drive
Pembroke Pines, FL 33025

Email: mdeshharnais@ppines.com
Phone: (945) 261-7207

PREPARED BY:

Chris Weir
Consultant
Email: christopher.weir@lerchbates.com
Phone (305) 413-1620

LB Project № 0100039866

TABLE OF CONTENTS

SECTION 000200 — REQUEST FOR QUOTATION

PART 1 - GENERAL

1.1 PROJECT: ELEVATOR MODERNIZATION

A. Lerch Bates Inc. has been authorized by City of Pembroke Pines to consult on this project for:
1. All labor, materials, transportation, services, and equipment necessary and reasonably incidental to perform work required by Contract Documents.
2. Warranty preventive maintenance.

1.2 CONTRACT DOCUMENTS

A. One set of Contract Documents is provided for your use.

B. Make inquiries to City of Pembroke Pines. Do not contact building personnel or the Owner, with the exception of requirement of item 1.2 C.

C. Permission to review existing equipment and site conditions shall be secured from Matt Desharnais at (954)261-7207.

1.3 CONSTRUCTION SCHEDULE

A. See Section 003100, “Quotation Form” for project schedule.

END OF SECTION

SECTION 001000 — INSTRUCTIONS TO CONTRACTOR

PART 1 - GENERAL

1.1 EXAMINATION

A. In order to discover and resolve conflicts or lack of definition which might create problems, Contractor must review Contract Documents, existing site conditions, and existing equipment specified to be retained for compatibility with its product prior to submitting quotation. Site review shall include, but not be limited to adequacy of access, retained equipment, elevator hoistways, pits, machine rooms, overhead clearances, electrical power characteristics, structural supports, etc. Investigation and structural calculations required to determine compliance of existing elevator components including machine support beams, with ASME A17.1, Rule 8.7.2.15.2 1202.4b, are responsibility of Contractor. Attach specific, written exception and/or clarification with quotation. Compliance with all provisions of Contract Documents is assumed and required in absence of written exception. If written exception is acceptable to Owner and Consultant, an Addendum to the specifications will be issued and authorized. Owner will not pay for change to building structure, structural supports, mechanical, electrical, or other systems required to accommodate Contractor's equipment if not identified before Contract award and authorized as stipulated above.

B. Submission of quotation is considered evidence that Contractor has visited and is conversant with the site facilities, site conditions, requirements of the Contract Documents, pertinent state and local codes, state of labor and material markets, and has made due allowance in his quotation for all contingencies. Should Contractor's investigation of site conditions or local codes or rules reveal requirements contrary to Contract Documents, or if Contractor finds any discrepancies or omissions from Contract Documents, or if Contractor is in doubt as to their meaning, it shall contact the Consultant for clarification at least two weeks prior to quotation due date.

C. No oral explanation will be made, and no oral instructions will be given before quotation due date. Contractor shall act promptly and allow sufficient time for a reply to reach it before submission of its quotation. Any required interpretation or supplemental instructions will be issued in the form of an addendum to the specifications and forwarded to all bidders.

D. Provide everything necessary for and incidental to the satisfactory completion of work required by Contract Documents. All required preparations and hoisting and movement of new equipment, reused equipment, or removal of existing equipment shall be the responsibility of Contractor.

END OF SECTION

SECTION 002000 — CONTRACTOR PRE-QUALIFICATION FORM

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Contractors interested in submitting a quotation for modernization of four hydraulic elevators at Pines Point Apartments, shall register and submit their bid on bonfire.

1.2 EXISTING EQUIPMENT

A. Project includes complete replacement of existing group supervisory system, control system, jack replacement, pump unit, door operators, car and corridor fixtures, communication systems, etc. Employ the latest solid state microprocessor technology available. Existing equipment is as follows:
   1. Four hydraulic passenger elevators, building 601 North, building 401 South
   2. Capacity: 2 units @ 2500 lbs. - 2 units @ 4500 lbs.
   3. Speed: 125 fpm
   4. Landings: Two units serve 1-5 – Two units serve 1-6
   5. Doors: Two units are SS side slide – Two units are 2S side slide
   6. Original Manufacturer: Mowery Elevator
   7. Installed: 1997
   8. Modernized: N/A

1.3 CONTRACTOR EXPERIENCE

A. Provide a list with a minimum of 5 similar projects completed by your firm in the last 5 years in close proximity to building location. List current projects in progress, including start dates, and estimated completion dates. Include the following information on each representative project:
   1. Building name.
   2. Building address.
   3. Name of principal contact.
   4. Phone no. of principal contact.
   5. Date completed.
   6. Scheduled and actual final project completion dates.
   7. Cost of project.
   8. Provide current number of new installation and modernization projects in progress and estimated completion dates.

B. Provide general information as follows:
   1. Number of years your firm has existed: .....
   2. Number of years your firm has operated in locale of this building: .....
   3. Number of field employees currently employed by your firm in general locale of this building:
      a. Construction/Modernization Mechanics: .....
      b. Construction/Modernization Supervisors: .....
      c. Maintenance Mechanics: .....
      d. Maintenance Supervisors: .....

4. Number of Maintenance Routes: .....
5. Average number of elevator/escalator units maintained by individual Maintenance Mechanic: .....
6. Average number of hours per month to be expended performing routine site preventive maintenance at the project site upon completion of modernization work: .....
7. Name of the Union of which your Maintenance Mechanics are members, if applicable: .....
8. Name of manufacturer, including system/component designation for the following:
   a. Group supervisory and motor control: .....
   b. Door operator: .....
   c. Signal fixtures: .....
   d. <>Car enclosure, new/refurbish: .....
   e. <>Hoist machine: .....

1.4 PROJECT STAFFING

A. Attach a commentary to this form summarizing how your firm would propose to staff and complete this project. Also attach a resume of proposed project managers, superintendents, and site mechanics in charge.

END OF SECTION

1.5 OWNER'S CONSTRUCTION SCHEDULE

A. Start work date is date existing unit is removed from service for modernization.

B. Undersigned submits the following completion schedule for the project:

UNIT	START WORK DATE	COMPLETION DATE
601 N	.....	.....
601 S	.....	.....
401 N	.....	.....
401 S	.....	.....

1.6 CONTRACTOR'S LIST OF SUPPLIERS/SUB-CONTRACTORS

A. The undersigned Contractor will utilize the following suppliers/subcontractors for major components of work and submits these firms for approval. Upon acceptance of these Suppliers/Sub-Contractors by Owner/Consultant, no substitutions shall be made without written approval of Consultant.

Suppliers/Subcontractor Name	Component/Type of Work
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

(Use back of page if necessary)

SECTION 008000 — SUPPLEMENTAL CONDITIONS

PART 1 - GENERAL

1.1 DEFINITION OF TERMS

A. Term ELEVATOR CONSULTANT or CONSULTANT as used herein, refers to Lerch Bates Inc., (Lerch Bates).

B. OWNER as used herein refers to The City of Pembroke Pines.

C. The term CONTRACT or CONTRACT DOCUMENTS as used herein consists of the Agreement, Conditions of Contract, Specifications, Addenda, Drawings if included, and Alternates if accepted.

D. CONTRACTOR or ELEVATOR CONTRACTOR, as used herein, refers to any persons, partners, firm, or corporation having a contract with Owner to furnish labor and materials for the execution of work required.

E. CONTRACT AWARD as used herein refers to Owner's written award for work required.

F. SUBCONTRACTOR, as used herein, refers to any persons, partners, firm, or corporation having a contract with Contractor to furnish labor and materials for the execution of work required.

G. As used in these Contract Documents "provide" shall be understood to mean "furnish and install."

H. As used in these Contract Documents "retain or reuse existing" shall be understood to mean restore existing components or parts to like-new condition.

I. Words in the singular shall include the plural whenever applicable or context so indicates.

J. All technical terms in these Contract Documents have their definition given in latest edition of American National Standard Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks ASME A17.1. and A17.2.

1.2 CONSULTANT'S STATUS

A. Consultant shall act as Owner's and/or Building Management's representative on all matters pertaining to required work. Consultant shall interpret Contract Documents, review Contractor suggested alternates, review all submittals of Contractor, approve billings, review technical details and construction procedure, perform work progress reviews and review and test completed work for compliance with Contract Documents prior to acceptance of work by Owner.

B. Field Review Scheduling: Schedule progress and final work reviews with Consultant. Reply promptly, in writing, to corrective work indicated on Consultant's progress and/or final review reports, indicating status, and schedule for completion. Consultant anticipates scheduled site review appointments will be met.

1.3 CONTRACT

A. Contract includes all engineering, labor, tools, and material required to complete the work in every respect, except those items specifically indicated to be done by other trades, Section 019000. Contractor is cautioned to familiarize itself with existing site conditions and to include all incidental work which might occur or be required during the work. After Contract has been awarded, verbally or in writing, no extra charges will be

allowed for any labor or material necessary to complete required work whether exactly described in these specifications herein or not, as long as such work, labor, and material are required to accomplish desired effect and results.

B. Any discrepancies or ambiguities found in Contract Document or drawings shall be reported to the Consultant prior to Contractor's quotation submittal.

1.4 MEASUREMENTS AND DRAWINGS

A. Drawings or measurements included with Contract Documents are for convenience of Contractor. Complete responsibility for detailed dimensions lies with Contractor. Contractor shall verify all dimensions with the actual on site conditions. Where work of Contractor is to join another trade, Contractor's shop drawings shall show actual dimensions and method of joining work of those trades.

1.5 CODES AND ORDINANCES

A. All work covered by these Contract Documents is to be done in full accord with national code, state and local codes, ordinances, and elevator safety orders as are in effect at time of Contract award. All requirements of local Building Department and fire jurisdiction are to be fulfilled by Contractor and its Subcontractors. Also see Section 010400, Article 1.1.

1.6 TAXES, OLD AGE PENSIONS AND UNEMPLOYMENT INSURANCE

A. Contractor's quotations for required work, materials and equipment shall include all local, state, and federal occupational and sales taxes, luxury taxes, excise taxes, federal and state old age pensions, unemployment insurance contributions, and any other similar taxes and contributions in effect at time of award of Contract (verbally or in writing). Contractor shall be liable for aforementioned taxes whether or not specifically included in his quotation or in final Contract Document. In event additional sales or use taxes are imposed after award of Contract, such sales or use taxes are to be paid, in addition to original Contract amount, by Owner to Contractor, who in turn is to pay them to proper authorities. Reciprocally, if any of above mentioned taxes or contributions in effect at time of award of Contract should be revoked before consummation of Contract, Contractor shall rebate Owner amount of taxes included in original quotation and Contract. Where required by law, amount of the tax is to be specifically stated in Contractor's quotation; however, failing to do so will not relieve Contractor from responsibility for assumption of these taxes.

1.7 LABOR LAWS

A. Contractor and its Subcontractors performing work under this Contract shall comply with applicable provisions of all federal, state, local labor laws and Davis Bacon Act.

1.8 PATENTS

A. Contractor shall save and hold harmless Owner and its officers, agents, servants, employees, and Consultant from liability of any nature or kind on account of any patented or unpatented invention, process, article, or appliance manufactured or used in performance of Contract, including its use by Owner including all cost and expenses for defending any suits unless otherwise specifically stipulated in Contract Documents.

B. Licenses which may be required for completion of required work are to be obtained and paid for by the Contractor.

1.9 ASSIGNMENTS

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

1.10 ADVERTISING

A. Advertising privileges will be retained by Owner. It is the duty of Contractor to keep premises free from posters, signs, decorations, etc., unless specifically approved by Owner.

1.11 PROTECTION OF WORK AND PROPERTY

A. Contractor shall continuously maintain adequate protection of all its work from damage and shall protect Owner property from injury or loss arising out of this Contract. Contractor shall make good any such damages, injury, or loss, except such as may be directly caused by agents, subcontractors, or employees of the Owner. Contractor shall provide all barricades required to protect open hoistways or shafts per OSHA regulations. Design of barricades in public areas shall be approved by Owner prior to fabrication and installation.

B. If Contract includes work which would be disruptive during normal business operations or would be dangerous to building occupants said work shall be performed during hours as building management dictates. Examples of such work include, without limitation, saw cutting of concrete, jack hammering, welding, metal cutting, pouring concrete, erecting steel, or hoisting equipment over occupied portions of the building, or performing tests requiring all elevators in a group. Contractor shall perform such work during off-hours and shall include all costs in its quotation.

C. Contractor shall install a suitable protective covering on all finished floors (whether marble, wood, carpet or other) in areas where work is being performed. No material handling equipment shall be permitted on or over finished floors unless said floors have been protected in a manner approved by building management.

D. Portable fire extinguishers shall be provided throughout Contractor's area of work and shall be placed so as to be accessible at all times. Extinguishers shall be multi-purpose dry chemical type, provided on a basis of one 2A-20BC rated unit for each 3,000 square feet of floor area. Extinguishers to remain property of Contractor.

E. Contractor shall at all times maintain work areas so that all portions are accessible to fire department personnel and apparatus. Fire hydrants and fire department connections to building sprinkler systems must be kept free from obstruction at all times.

F. Contractor shall strictly supervise any welding, metal cutting or other operations employing open flame work. All welding and cutting equipment shall be safely arranged and all combustibles in vicinity of any work being performed shall either be removed or protected by a noncombustible cover. Welding or cutting shall be attended by an assistant or fire watchman who is equipped with at least one 2A-20BC rated multi-purpose dry chemical fire extinguisher. Fire watchman will maintain strict surveillance during entire welding or cutting operation and extinguish flying sparks or burning slag. After welding or cutting operation, fire watchman shall thoroughly search entire area for remnants of smoldering materials before he is released from his duty. Any welding or other operation employing open flame in any portion of building shall be scheduled with and receive approval of Owner.

G. Contractor shall keep noise level below 80 dBA level during normal building hours. When it is necessary to produce noise above this level, Contractor shall advise building management of such needs and times will be

scheduled as directed. The Contractor shall anticipate and schedule excessive noise-generating procedures and include allowance for same in its quotation and schedule.

1.12 ACCIDENT REPORTS

A. In the event of accidents of any kind, Contractor shall furnish Owner with copies of all accident reports. Reports shall be sent without delay and at same time that they are forwarded to any other parties.

1.13 STORAGE OF MATERIALS

A. Contractor shall confine storage of materials on job site to limits approved by Owner and shall not unnecessarily encumber premises or overload any portion of building with materials to a greater extent than structure design load. Owner shall supply contractor with owner space for storage POD onsite.

1.14 REMOVAL OF EQUIPMENT AND RUBBISH

A. Contractor shall remove and properly dispose of all rubbish, as fast as it accumulates including all existing parts and components not retained, keeping building and premises clean during progress of work, and leave premises at completion in a condition acceptable to the Owner. Store parts and components identified by Consultant as useful for maintenance of units not being modernized as directed by Owner. All other parts and components not retained shall become property of Contractor.

1.15 MATERIALS AND WORKMANSHIP

A. All materials and equipment furnished shall be new and best quality. Installation shall be accurate, workmanlike, and subject to approval of Consultant. All materials and equipment provided shall conform to regulations of enforcement bodies having jurisdiction. Contractor shall furnish material samples for approval.

1.16 SUPERVISION

A. Contractor shall assign a competent Project Manager, superintendent, and on-site foreman for project satisfactory to Owner and Consultant. Such persons shall represent Contractor and all instructions given to them shall be binding as if given to Contractor.

1.17 ROUTINE BUSINESS

A. After award of Contract all business relating to required work shall be transacted through Consultant unless otherwise directed.

1.18 CHANGES AND EXTRA WORK

A. Owner may at any time make changes to Contract Documents, plans, and drawings, omit work, or require additional work by Contractor. For such additional work performed hereunder, Owner shall pay Contractor on the basis of a mutually agreed lump sum. See Article 1.25 for method of computing lump sum cost of additional work. Contractor shall make no additions, changes, alterations, or omissions, or perform extra work, without receipt of written authorization of Owner.

1.19 PAYMENTS

A. Unless otherwise agreed, Contractor shall submit monthly applications for payment together with necessary data, information, waivers, and affidavits to Consultant and City. Consultant shall review data for accuracy and forward such applications to Purchaser for payment. Information shall be submitted with payment request and work progress forms included at the end of this section as Appendix "A."

B. Balance (retention) shall be paid by Owner upon final acceptance of entire work by Consultant and Owner and after performance guarantees have been satisfactorily demonstrated. See Section 017000 Article 1.2 D-G.

1.20 PAYMENT WITHHELD

A. Owner and/or Consultant may withhold approval of payment on any Contractor request to such extent as may be necessary to protect Owner from loss on account of:
1. Believed negligence on part of Contractor to execute the work properly or fail to perform any provision of Contract. Owner may, after 10 day's written notice to Contractor, and without prejudice to any other remedy it may have, make good such deficiencies, and may deduct its cost from the overall Contract sum.
2. Claims filed or reasonable evidence indicating probable filing of claims by other Contractors or Subcontractors.
3. Failure of Contractor to make proper payments to its material suppliers or Subcontractors for material and labor.
4. A reasonable doubt that required work can be completed by Contractor for balance then unpaid or in Contract time frame.
5. Contractor's damage to building or another Contractor.

B. When the above grounds are removed, payment shall be made in full, less retention.

1.21 LIENS AND AFFIDAVITS

A. Neither final payment nor any part of billing retention shall become due until Contractor shall deliver to Owner a complete release of all liens arising out of this Contract, or receipts marked paid in full in lieu thereof. In addition, Contractor shall furnish an affidavit to Owner that so far as he has knowledge or information, releases or receipts include all labor and materials for which a lien could be filed. If any lien remains unsatisfied after all payments are made by Owner, Contractor shall refund to Owner all monies the latter may be compelled to pay in discharging such a lien, including all costs and reasonable attorney's fees.

1.22 CLAIMS FOR EXTRA COST

A. Contractor claims for extra cost due to additions or changes to required work shall be submitted to Consultant in writing within a reasonable time after such additions or changes identified or are requested and, in any event, before proceeding with required work. No such claim shall be valid unless so made. Maximum charge for additions/changes to work shall be Contractor cost +10% handling fee +15% for overhead and profit. Contractor's cost shall be verifiable from actual supplier invoices, purchase orders, time tickets, etc.

1.23 DELAYS AND EXTENSION OF TIME
1. Should Contractor's progress in relation to the approved installation schedule fall behind by more than 2 weeks, Contractor must work 60 hours per week at no additional charge to Purchaser until project returns to the approved installation schedule.

2. Should the project be completed past the final approved scheduled turnover date for beneficial public usage after all code inspections have been successfully completed, a penalty will be assessed based on the following: $500 per day
3. Contractor's attempt to reduce, implement a cap or eliminate non-performance financial penalties will impact Purchaser's award consideration to Contractor.

1.24 PERMITS

A. Contractor shall obtain and pay for or cause its Subcontractor to obtain and pay for all permits required to complete required work. In addition, Contractor shall arrange, schedule, and pay for or cause its Subcontractors to arrange, schedule and pay for all required final inspections by state, local, or independent certified inspecting authorities necessary for issuance of all required Owner utilization permits in regard to completed work.

PART 2 - SPECIAL CONDITIONS

2.1 PROGRESS OF WORK

A. Upon award, in writing, Contractor shall reconfirm in writing starting and completion schedule including equipment delivery dates based upon the information submitted on its quotation form, Section 003100.

B. Contractor shall submit, in writing, monthly reports with payment request, including current equipment delivery dates and anticipated completion dates for individual units and groups of units.

C. Project Manual: Upon award, in writing, Contractor shall prepare three project manuals neatly bound in a three ring binder. One manual shall be retained by Contractor, one provided to Owner, and one provided to Consultant. The manuals shall contain the following information and sections identified in an index with numbered divisions.
1. Project Specification, revised if required to indicate basis of award. (While maintaining original text and clearly identifying revision.)
2. Contractor completed Bid Form, specification Section 003100. Include copy of original submission and any revisions.
3. Alternate quotations indicating Owner acceptance or rejection.
4. Owner's executed Contract.
5. Initial project schedule with estimated versus actual milestone dates. Include schedule revisions.
6. Project payment requests including verification of payment and lien releases.
7. Code acceptance.
8. Owner's temporary acceptance documents
9. Owner's final acceptance documents.
10. Consultant's progress review comments and requirements.
11. Consultant's final Contract review comments and requirements.
12. Shop drawing submittals, including set(s) with review remarks.
13. As built drawings, including control wiring diagrams.

D. A second manual shall include the identical section numbers and shall be identified and utilized for general correspondence on these subjects. Additional sections shall include correspondence not specifically identified by one of these sections. An index in front of this section shall number and identify source of correspondence and subject.

E. Contractor shall maintain all six manuals in an up-to-date condition. Prior to final payment, Contractor shall deliver to Owner the documents in Items 1, 2, 3, and 13 above on computer disk.

END OF SECTION

SECTION 010100 — SUMMARY OF WORK

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

A. Modernize cars 1-4 North and South Buildings.

B. Provide all labor, engineering, tools, transportation, services, supervision, materials, and equipment necessary for and incidental to satisfactory completion of required work as indicated in Contract Documents.

C. Provide all required staging, hoisting, and movement of new equipment, reused equipment, or removal of existing equipment.

D. Applicable conditions of Owner's General, Special, and Supplemental Conditions.

E. Prime contracts are defined below, and each is recognized to be a major part of required work to be performed concurrently in close coordination with work of other Contractors.
   1. This Contract: Elevator Modernization and New Installation. Including associated work specified in Section 019000.

F. Scope of Contract includes, but is not limited to, the following:
   1. Coordination, scheduling, and management of work of component suppliers and subcontractors.
   2. Modernize or furnish and install equipment as specified utilizing existing and/or modified hoistways and machine rooms or newly constructed hoistways and machine rooms.
   3. Specific item of required work which cannot be determined to be included in another contract is thereby determined to be included in prime contract.

1.2 PRIME CONTRACTOR'S DUTIES

A. Prime Contractor's duties include the following:
   1. Provide and pay for labor, materials and equipment, tools, construction equipment and machinery, and other facilities and services necessary for proper execution and completion of required work.
   2. Pay for legally required sales, consumer, and state remodel taxes.
   3. Secure and pay for required permits, fees, and licenses necessary for proper execution and completion of required work, as applicable at time of quotation due date.
   4. Give required notices.
   5. Comply with codes, ordinances, rules, regulations, orders, and other legal requirements of public authorities which bear on performance of required work.
   6. Promptly submit written notice to Consultant of observed variance of Contract Documents from legal requirements.
   7. Enforce strict discipline and good order among employees. Do not employ persons unskilled in assigned task.

1.3 WORK SEQUENCE

A. Construct work in stages. Description and proposed sequence dates are as listed on Quotation Form Section 003100.

1.4 CONTRACTOR USE OF PREMISES

A. Confine operations at site to areas permitted by law, ordinances, permits, Contract Documents, and Owner's specific instructions.

B. Do not unreasonably encumber site with materials or equipment. Staging area will be located as directed by Owner.

C. Do not load structure with weight that will endanger structure. Coordinate with Owner.

D. Assume full responsibility for protection and safekeeping of tools and products stored on or off premises.

E. Move stored products which interfere with operations of building or the operations of other trades.

F. Obtain and pay for use of additional storage or work areas needed for operations.

1.5 CONCURRENT MODERNIZATION WORK AND BUILDING OPERATION

A. This project is a major elevator modernization in an existing building which is open for public business and will continue to operate throughout all phases of required work. It is essential that Contractor give special attention and priority to all matters concerning project safety, protection from dust and loose materials, reduction of noise level, protection from water and air infiltration into building, and maintenance of neat, sightly conditions in and around work areas inside and outside of building. Packaging, scrap materials, and demolition debris shall be promptly removed from building and site on a daily basis.

B. At all times, Contractor shall provide clearly visible warning and directions signs, barricades, temporary lighting, overhead protection, and hazard-free walking surfaces throughout public areas. At all times, special attention must be given to building entrances, exits, and proper safe exiting through work areas as required by law.

C. Contractor shall consult Owner and other Contractors to establish and maintain safe temporary routes including, but not limited to, proper barricades, walking surfaces, lighting, fire protection, exiting, warning and directional signs, and general protection of persons from all hazards in accordance with OSHA Standards due wholly or partially to its operations.

END OF SECTION

SECTION 010400 — PROJECT PROCEDURES

PART 1 - GENERAL

1.1

A. Compliance with Regulatory Agencies: Comply with most stringent applicable provisions of following codes, laws, and/or authorities, including revisions and changes in effect:
   1. Safety Code for Elevators and Escalators, ASME A17.1
   2. Elevator and Escalator Electrical Equipment, ASME A17.5
   3. National Electrical Code, NFPA 70
   4. Americans with Disabilities Act, ADA
   5. Local Fire Authority
   6. Requirements of UBC, BOCA, SBC, IBC, OSHPD, DSA, and all other codes, ordinances, and laws applicable within the governing jurisdiction
   7. Life Safety Code, NFPA 101.
   8. Florida Accessibility Code.

1.2 STAGING AREA

A. An equipment staging area will be available for use by Contractor. Contractor shall restrict usage to area designated and shall notify Owner/Property Management prior to storing of any large equipment which will impose heavy concentrated loading on floor area. Do not store such equipment until approval is received.

1.3 WORK PHASE

A. See Section 003100, Quotation Form.

1.4 OCCUPANCY AND WORK BY OTHERS

A. Contractor expressly affirms Owner’s rights to let other contracts and employ other Contractors in connection with required work. Contractor will afford other Contractors and their workmen reasonable opportunity for introduction and storage of materials and equipment, for execution of their work and will properly connect and coordinate his work with theirs. Contractor will also incorporate comparable provisions in all its subcontracts.

B. Contractor declares that other Contractors employed by Owner on basis of separate contracts may proceed at such times as necessary to install items of work required by Owner.

C. Contractor declares that it will cooperate with other Contractors employed by Owner and, in addition to other coordination and expediting efforts, will coordinate their work by written notices regarding necessity of such work to be done on or before certain dates.

D. Contractor declares that it is responsible for review, stamped, and signed approval of all shop drawings for required work.

E. Contractor hereby declares that content of foregoing paragraphs and influence they may have on project:
   1. Shall not cause a change in stipulated Contract Sum.
   2. Shall not cause a change in Construction Time Schedule.

END OF SECTION

SECTION 013000 — SUBMITTALS

PART 1 - GENERAL

1.1 SUBMITTALS

A. Within thirty (30) calendar days after award of contract and before beginning equipment fabrication, submit shop drawings, and required material samples for review. Allow thirty days for response to initial submittal.
   1. Scaled or Fully Dimensioned Layout: Plan of pit, hoistway, and machine room indicating equipment arrangement, elevation section of hoistway, details of car enclosures, hoistway entrances, and car/hall signal fixtures.
   2. Design Information: Indicate equipment lists, reactions, and design information on layouts.
   3. Power Confirmation Information: Design for existing conditions.
   4. Fixtures: Cuts, samples, or shop drawings.
   5. Finish Material: Submit 3" x 12" samples of actual finished material for review of color, pattern, and texture. Compliance with other requirements is the exclusive responsibility of the Contractor. Include, if requested, signal fixtures, lights, graphics, Braille plates, and detail of mounting provisions.
   6. Design Information: Provide calculations verifying the following:
      a. Adequacy of existing electrical provisions.
      b. Machine room heat emissions in BTU.
      c. Adequacy of existing car platform structure for intended loading.
      d. Adequacy of plunger wall thickness for intended loading.
   7. Written Maintenance Control Program (MCP) specifically designed for the equipment included under this contract. Include any unique or product specific procedures or methods required to inspect or test the equipment. In addition, identify weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including statutory and other required equipment tests.

B. Submittal review shall not be construed as an indication that submittal is correct or suitable, or that the work represented by submittal complies with the Contract Documents. Compliance with Contract Documents, code requirements, dimensions, fit, and interface with other work is Contractor’s responsibility.

C. Acknowledge and/or respond to review comments within fourteen calendar days of return. Promptly incorporate required changes due to inaccurate data or incomplete definition so that delivery and installation schedules are not affected. Identify and cloud drawing revisions, including Contractor elective revisions on each re-submittal. Contractor’s revision response time is not justification for equipment delivery or installation delay.

1.2 FINAL CONTRACT DOCUMENTS

A. See Section 017000, Project Closeout.

END OF SECTION

SECTION 016000 — MATERIAL AND HANDLING

PART 1 - GENERAL

1.1 SITE CONDITION INSPECTION

A. Prior to beginning installation of equipment, examine hoistway and machine room areas. Verify no irregularities exist which affect execution of work specified.

B. Do not proceed with installation until work in place conforms to project requirements.

1.2 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver material in Contractor's original, unopened protective packaging.

B. Store material in original protective packaging. Prevent soiling, physical damage, or moisture damage.

C. Protect equipment and exposed finishes from damage and stains during transportation, erection, and construction.

D. Allocate available site storage areas and coordinate their use with Owner and other Contractors.

E. Provide suitable temporary weather-tight storage facilities as may be required for materials which will be stored in the open.

1.3 INSTALLATION REQUIREMENTS

A. Install all equipment in accordance with Contractor's instructions, referenced codes, specification, and approved submittals.

B. Install machine room equipment with clearances in accordance with referenced codes and specification.

C. Install all equipment so it may be easily removed for maintenance and repair.

D. Install all equipment for ease of maintenance.

E. Install all equipment to afford maximum accessibility, safety, and continuity of operation.

F. Remove oil, grease, scale, and other foreign matter from the following equipment and apply one coat of field-applied machinery enamel.
   1. All exposed equipment and metal work installed as part of this work which does not have architectural finish.
   2. Machine room equipment, hoistway equipment including guide rail brackets and pit equipment.
   3. Hoistway equipment including guide rails, guide rail brackets, and pit equipment.

4. Neatly touch up damaged factory-painted surfaces with original paint color. Protect machine-finish surfaces against corrosion.

1.4 MANUFACTURER'S NAMEPLATES

A. Manufacturer's name plates and other identifying markings shall not be affixed on surfaces exposed to public view. This requirement does not apply to Underwriter's Laboratories and code required labels.

B. Each major component of mechanical and electrical equipment shall have identification plate with the Manufacturer's name, address, model number, rating, and any other information required by governing codes.

1.5 COLORS OF FACTORY-FINISHED EQUIPMENT

A. All colors will be selected from the Manufacturer's standard range unless custom colors are specified herein.

B. Submit samples of all standard colors available and/or specified custom colors for review and approval. See Section 013000, Submittals

C. Submit samples of all specified architectural metals specified for review and approval. See Section 013000, Submittals.

1.6 MATERIALS AND FINISHES

A. Steel:
1. Sheet Steel (Furniture Steel for Exposed Work): Stretcher-leveled, cold-rolled, commercial quality carbon steel, complying with ASTM A366, matte finish.
2. Sheet Steel (for Unexposed Work): Hot-rolled, commercial quality carbon steel, pickled and oiled, complying with ASTM A568/A568M-03.
3. Structural Steel Shapes and Plates: ASTM A36.

B. Stainless Steel: Type 302, 304, or 441 complying with ASTM A240, with standard tempers and hardness required for fabrication, strength, and durability. Apply mechanical finish on fabricated work in the locations shown or specified, Federal Standard and NAAMM nomenclature, with texture and reflectivity required to match Architect's sample. Protect with adhesive paper covering.
1. No. 4 Satin: Directional polish finish. Graining directions as shown or, if not shown, in longest dimension.
2. Textured: 5WL as manufactured by Rigidized Metals or 5-SM as manufactured by Rimex Metals or approved equal with .050 inches mean pattern depth with bright directional polish (satin finish).
3. Burnished: Non-directional, random abrasion pattern.

C. Bronze: Stretcher-leveled, re-squared sheets composed of 60% copper and 40% zinc similar to Muntz Metal, Alloy Group 2, with standard temper and hardness required for fabrication, strength, and durability. Clean and treat bronze surfaces before mechanical finish. After

completion of the final mechanical finish on the fabricated work, use a chemical cleaner to produce finish, Federal Standard, and NAAMM nomenclature, matching Architect's sample:

1. No. 4 Satin: Directional polish finish, fine-satin, clear-coated with clear-organic coating recommended by Fabricator. Provide graining direction as shown or, if not shown, in longest dimension.
2. No. 8 Mirror: Reflective polish finish with no visible graining, bright-polished, clear-coated finish with clear-organic lacquer coating recommended by Fabricator.
3. Acid-Etched Pattern: Provide a No. 8 mirror reflective-polished background with selectively acid-etched, matte-textured, custom pattern as shown. Acid selection and dilution, if required, as recommended by Fabricator. After final finishing, coat bronze with clear-organic lacquer coating recommended by Fabricator.

D. Aluminum: Extrusions per ASTM B221; sheet and plate per ASTM B209.

E. Plastic Laminate: ASTM E84 Class A and NEMA LD3.1, Fire-Rated Grade (GP-50), Type 7, 0.050" ±.005" thick, color and texture as follows:

1. Exposed Surfaces: Color and texture selected by Architect.
2. Concealed Surfaces: Contractor's standard color and finish.

F. Fire-Retardant Treated Particle Board Panels: Minimum 3/4" thick backup for natural finished wood and plastic laminate veneered panels, edged and faced as shown, provided with suitable anti-warp backing; meet ASTM E84 Class "I" rating with a flame-spread rating of 25 or less, registered with local authorities for elevator finish materials.

G. Natural Finish Wood Veneer: Standard thickness, 1/40" thoroughly dried conforming to ASME/HPMA HP-1983, Premium Grade. Place veneer, tapeless spliced with grain running in direction shown, belt and polish sanded, book-matched. Species and finish designated and approved by Architect.

H. Paint: Clean exposed metal parts and assemblies of oil, grease, scale, and other foreign matter and factory paint one shop coat of standard rust-resistant primer. After erection, provide one finish coat of industrial enamel paint. Galvanized metal need not be painted.

I. Prime Finish: Clean all metal surfaces receiving a baked enamel paint finish of oil, grease, and scale. Apply one coat of rust-resistant primer followed by a filler coat over uneven surfaces. Sand smooth and apply final coat of primer.

J. Baked Enamel Finish: Prime finish per above. Unless specified "prime finish" only, apply and bake three additional coats of enamel in the selected solid color.

K. Entrance Support Equipment within Hoistway: Include strut angles, headers, sill support angles, fascia, hanger covers, etc. Clean, remove, and check for corrosive activity. Replace components that exhibit severe deterioration. Tighten all fastenings. Repaint exposed surfaces with two coats of rust preventive primer.

L. Glass: Laminated safety glass, minimum 9/16" thick, conforming to ANSI Z97.1 and CPSC 16 CFR Part 1201.

END OF SECTION

SECTION 017000 — FINAL CONTRACT COMPLIANCE REVIEW

PART 1 - GENERAL

1.1 FINAL CLEANING

A. See Section 008000, Supplemental Conditions, for contractual requirements governing site cleaning. As a minimum:
   1. Elevator hoistways and all equipment therein shall be cleaned and left free of rust, filings, welding slag, rubbish, loose plaster, mortar drippings, extraneous construction materials, dirt, and dust. Include walls, building beams, sill ledges, and hoistway divider beams.
   2. Care shall be taken by work persons not to mark, soil, or otherwise deface existing or new surfaces. Clean and restore such surfaces to their original condition.
   3. Clean down surfaces and areas which require final painting and finishing work. Cleaning includes removal of rubbish, broom cleaning of floors, removal of any loose plaster or mortar, dust, and other extraneous materials from finish surfaces, and surfaces which will remain visible after the work is complete.

1.2 CONSULTANT'S FINAL OBSERVATION AND REVIEW REQUIREMENTS

A. Review procedure shall apply for individual elevators, portions of groups of elevators and completed groups of elevators accepted on an interim basis, or elevators and groups of elevators completed, accepted, and placed in operation.

B. Contractor shall perform review and evaluation of all aspects of its work prior to requesting Consultant's final review. Work shall be considered ready for Consultant's final contract compliance review when all Contractor's tests are complete and all elements of work or a designated portion thereof are in place and elevator, or group of elevators, are deemed ready for service as intended.

C. Furnish labor, materials, and equipment necessary for Consultant's review. Notify Consultant five working days in advance when ready for final review of elevator or group of elevators.

D. Consultant's written list of observed deficiencies of materials, equipment, and operating systems will be submitted to Contractor for corrective action. Consultant's review shall include as a minimum:
   1. Workmanship and equipment compliance with Contract Documents.
   2. Contract speed, capacity, floor-to-floor, and door performance comply with Contract Documents.
   3. Performance of following is satisfactory:
      a. Starting, accelerating, running.
      b. Decelerating and stopping accuracy.
      c. Door operation and closing force.
      d. Equipment noise levels.
      e. Signal fixture utility.
      f. Overall ride quality.
      g. Performance of door control devices.

h. Operations of emergency two-way communication device.
i. Operations of firefighters' service.
j. Operations of remote monitoring devices.

4. Test Results:
   a. In all test conditions, obtain specified contract speed, performance times, stopping accuracy without re-leveling, and ride quality to satisfaction of Owner and Consultant. Tests shall be conducted under both no load and full load condition.
   b. Temperature rise in motor windings limited to 50° Celsius above ambient. A full-capacity one-hour running test, stopping at each floor for ten seconds in up and down directions, may be required.

E. Performance Guarantee: Should Consultant's review identify defects, poor workmanship, variance, or noncompliance with requirements of specified codes and/or ordinances, or variance or noncompliance with the requirements of Contract Documents, Contractor shall complete corrective work in an expedient manner to satisfaction of Owner and Consultant at no cost as follows:
   1. Replace equipment that does not meet code or Contract Document requirements.
   2. Perform work and furnish labor, materials, and equipment necessary to meet specified operation and performance.
   3. Perform retesting required by Governing Code Authority, Owner, and Consultant.

F. A follow-up final contract compliance review shall be performed by Consultant after notification by Contractor that all deficiencies have been corrected. Provide Consultant with copies of the initial deficiency report marked to indicate items which Contractor considers complete.

1.3 OWNER'S INFORMATION

A. Provide three sets of neatly bound written information necessary for proper maintenance and adjustment of equipment within thirty days following final acceptance. Final retention will be withheld until data is received by Owner and reviewed by Consultant. Include the following as minimums:
   1. Straight-line wiring diagrams of "as-installed" elevator circuits with index of location and function of components. Provide one set reproducible master. Mount one set wiring diagrams on panels, racked, or similarly protected, in elevator machine room. Provide remaining set rolled and in a protective drawing tube. Maintain all drawing sets with addition of all subsequent changes. These diagrams are Owner's property.
   2. Written Maintenance Control Program (MCP) specifically designed for the equipment included under this contract. Include any unique or product specific procedures or methods required to inspect or to test the equipment. In addition, identify weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including statutory and other required equipment tests.
   3. Provide any necessary interface cards required for equipment maintenance, code mandated testing, and troubleshooting.
   4. Lubrication instructions including recommended grade of lubricants.
   5. Parts catalogs for all replaceable parts including ordering forms and instructions.
   6. Four sets of keys for all switches and control features properly tagged and marked.

7. Neatly bound instructions explaining all operating features including all apparatus in the car and lobby control panels.
8. Neatly bound maintenance and adjustment instructions explaining areas to be addressed, methods and procedures to be used, and specified tolerances to be maintained for all equipment.
9. Diagnostic equipment complete with access codes, adjusters' manuals and set-up manuals for adjustment, diagnosis and troubleshooting of elevator system, and performance of routine safety tests.

B. Non-Proprietary Equipment Design: Provide three sets of neatly bound written information necessary for proper maintenance and adjustment of equipment within thirty days following final acceptance. Final retention will be withheld until data is received by Owner and reviewed by Consultant. Include the following as minimums:
1. Straight-line wiring diagrams of “as-installed” elevator circuits with index of location and function of components. Mount one set wiring diagrams on panels, racked, or similarly protected, in elevator machine room. Provide remaining set rolled and in a protective drawing tube. Maintain all drawing sets with addition of all subsequent changes. These diagrams are Owner’s property. A legend sheet shall be furnished with each set of drawings to provide the following information:
    a. Name and symbol of each relay, switch, or other apparatus.
    b. Location on drawings, drawing sheet number and area, and location of all contacts.
    c. Location of apparatus, whether on controller or on car.
2. Written Maintenance Control Program (MCP) specifically designed for the equipment included under this contract. Include any unique or product specific procedures or methods required to inspect or test the equipment. In addition, identify weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including statutory and other required equipment tests.
3. Printed instructions explaining all operating features.
4. Complete software documentation for all installed equipment.
5. Lubrication instructions, including recommended grade of lubricants.
6. Parts catalogs listing all replaceable parts including Contractor’s identifying numbers and ordering instructions.
7. Four sets of keys for all switches and control features properly tagged and marked.
8. Diagnostic test devices together with all supporting information necessary for interpretation of test data, troubleshooting of elevator system, and performance of routine safety tests.
9. The elevator installation shall be a design which can be maintained by any licensed elevator maintenance company employing journeymen mechanics, without the need to purchase or lease additional diagnostic devices, special tools, or instructions from the original equipment Contractor.
    a. Provide onsite capability to diagnose faults to the level of individual circuit boards and individual discrete components for the solid state elevator controller.
    b. Provide a separate, detachable device, as required, to the Owner as part of this installation if the equipment for fault diagnosis is not completely self-contained within the controller. Such device shall be in possession of and become property of the Owner.

c. Installed equipment not meeting this requirement shall be removed and replaced with conforming equipment at no cost to the Owner.

10. Provide upgrades and/or revisions of software during the progress of the work, warranty period and the term of the ongoing maintenance agreement between the Owner and Contractor.

C. Acceptance of such records by Owner/Consultant shall not be a waiver of any Contractor deviation from Contract Documents or shop drawings or in any way relieve Contractor from his responsibility to perform work in accordance with Contract Documents.

END OF SECTION

SECTION 018000 — MAINTENANCE

PART 1 - GENERAL

1.1 INTERIM MAINTENANCE

A. City has an elevator maintenance contract which will be paused once modernization begins on each elevator.

B. Use competent personnel, acceptable to Owner, employed and supervised by the Contractor.

1.2 WARRANTY MAINTENANCE

A. Provide preventive maintenance and 24-hour emergency callback service for one year commencing on date of final acceptance by Owner. Systematically examine, adjust, clean, and lubricate all equipment. Repair or replace defective parts using parts produced by the Contractor of installed equipment. Maintain elevator machine room, hoistway, and pit in clean condition.

B. Use competent personnel, acceptable to the Owner, supervised and employed by Contractor.

C. The warranty maintenance period specified in Item 1.2 A. above shall be extended one month for each three-month period in which equipment related failures average more than .25 per unit per month.

D. Owner retains the option to delete cost of warranty maintenance from new equipment contract and remit twelve equal installments directly to Contractor during period in which maintenance is being performed.

END OF SECTION

SECTION 019000 — RELATED WORK

PART 1 - GENERAL

1.1 RELATED WORK BY CONTRACTOR

A. Hoistway and Pit:
1. Wall blockouts and fire rated closure for control and signal fixture boxes which penetrate walls.
2. Cutting and patching walls and floors.
3. Erect front hoistway wall after elevator entrances are installed.
4. Pit access stationary or retractable ladder for each elevator. Retractable ladder if provided, shall include an electrical contact conforming to ASME A17.1, Rule 2.2.2.4.2.7.
5. Waterproof pit. Provide new sump with flush grate and pump. Sump pump/drain capacity minimum 3000 gallons per hour, per elevator.
6. Protect open hoistways and entrances during construction per OSHA Regulations.
7. Protect car enclosure, hoistway entrance assemblies, and special metal finishes from damage.
8. Hoistway venting.
9. Seal fireproofing to prevent flaking.

B. Machine Room and Machinery Spaces:
1. Enclosure with access. Retain
2. Paint walls and ceiling.
3. Class “ABC” fire extinguisher in each elevator machine room. Owner responsibility.
4. Seal fireproofing to prevent flaking.
5. Fire sprinklers where required. Retain existing.

C. Electrical Service, Conductors, and Devices:
1. Lighting and GFCI convenience outlets in pit, machine room, and overhead machinery spaces. Provide one additional non-GFCI convenience outlet in pit for sump pump and oil return pump.
2. Three-phase mainline copper power feeder with true earthen grounding to terminals of each elevator controller in the machine room with protected, lockable “open” disconnecting means with auxiliary contacts to allow Elevator Contractor to electronically interlock battery power lowering unit.
3. Single-phase copper power feeder to each elevator controller for car lighting and exhaust blower with individual protected, lockable “open” disconnecting means located in machine room.
4. Emergency telephone line to each individual elevator control panel in elevator machine room.
5. Fire alarm initiating devices in each elevator lobby for each group of elevators or single elevator and each machine room to initiate firefighters’ return feature. Device at top of hoistway if sprinkled. Provide alarm initiating signal wiring from hoistway or machine room connection point to elevator controller terminals. Device in machine room and at top of hoistway to provide signal for general alarm and discrete signal for Phase II firefighters’ operation.
6. Temporary power and illumination to install, test, and adjust elevator equipment.

7. Means to automatically disconnect power to affected elevator pump unit and controller prior to activation of machine room fire sprinkler system and/or hoistway fire sprinkler system. Manual shut-off means shall be located outside bounds of machine room.
8. When sprinklers are provided in the hoistway all electrical equipment located less than 4'-0" above the pit floor shall be identified for use in wet locations. Exception: seismic protection devices.

D. Standby Power Provision:
1. Standby power of normal voltage characteristics via normal electrical feeders to run one elevator at a time in North and South building. Car 1 state # 51730 and Car 1 state # 51729 single elevator unit at full-contract car speed and capacity.
2. Conductor from auxiliary form “C” dry contacts, located in the standby power transfer switch to a designated elevator control panel in North and South building or single elevator unit. Provide a time delay of 30-45 seconds for pre-transfer signal in either direction.
3. Standby power to machine room, and pit lighting.
4. Standby power to machine room ventilation or air conditioning.
5. Standby power to emergency communications devices.
6. Standby power provided by owner; elevator contractor shall coordinate the connection of applicable elevator equipment as necessary.

END OF SECTION

SECTION 142500 – HYDRAULIC ELEVATOR MODERNIZATION

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The four hydraulic elevators as follows:
   1. 601 North, 2 passenger elevators, Cars 1 & 2.
   2. 401 South, 2 passenger elevators, Cars 1 & 2.

B. All engineering, equipment, labor, and permits required to satisfactorily complete elevator modernization required by Contract Documents.

C. Applicable conditions of General, Special, and Supplemental Conditions, Division 1, and all sections listed in Contract Documents “Table of Contents.”

D. Preventive maintenance as described in Section 018000 and Section 143250 herein. See page 27.

E. Additional equipment or finishes furnished under other sections, installed under this section:
   1. Car interior finishes.
   2. Car finish flooring.
   3. Car ceiling.

F. Cartage and Hoisting: All required staging, hoisting and movement to, on, and from the site including new equipment, reused equipment, or dismantling and removal of existing equipment.

G. Unless specifically identified as “Reuse,” “Retain,” or “Refurbish,” provide new equipment.

H. Protective barriers between cars in normal operation and adjacent cars in the modernization process. Full depth and height of hoistway.

I. Hoistway, pit, and machine room barricades as required.

1.2 RELATED WORK PROVIDED UNDER OTHER SECTIONS

A. See Section 019000, Related Work Provided Under Other Sections.

1.3 DEFINITIONS

A. Terms used are defined in the latest edition of the Safety Code for Elevators and Escalators, ASME A17.1.

B. Reference to a device or a part of the equipment applies to the number of devices or parts required to complete the installation.

C. Provisions of this specification are applicable to all elevators unless identified otherwise.

1.4 QUALITY ASSURANCE

A. Compliance with Regulatory Agencies: See Section 010400, Project Procedures.

B. Warranty:
1. Material and workmanship of installation shall comply in every respect with Contract Documents. Correct defective material or workmanship which develops within one year from date of final acceptance of all work to satisfaction of Architect, Owner and Consultant at no additional cost, unless due to ordinary wear and tear, or improper use or care by Owner.
2. Defective is defined to include, but not be limited to operation or control system failures, car performance below required minimum, excessive wear, unusual deterioration, or aging of materials or finishes, unsafe conditions, the need for excessive maintenance, abnormal noise, or vibration, and similar unsatisfactory conditions.
3. Retained Equipment: All retained components, parts, and materials shall be cleaned, checked, modified, repaired, or replaced, so each component and its parts are in like new operating condition. Retained equipment must be compatible for integration with new systems. All retained equipment shall be covered under the warranty provisions, of Article 1.4 D. 1. and 2. above. No prorations of equipment or parts shall be allowed on preventive maintenance contract, Section 143250, between the Contractor and Owner.
4. Make modifications, requirements, adjustments, and improvements to meet performance requirements of Sections 017000 and 142500.

1.5 DOCUMENT AND SITE VERIFICATION

A. In order to discover and resolve conflicts or lack of definition which might create problems, Contractor must review Contract Documents and site conditions for compatibility with its product prior to submittal of quotation. Review existing structural, electrical provisions, and mechanical provisions for compatibility with Contractor's products. Owner will not pay for change to structural, mechanical, electrical, or other systems required to accommodate Contractor’s equipment.

1.6 SUBMITTALS

A. See Section 013000, Submittals, and Section 017000, Final Contract Compliance Review, Article 1.3.

1.7 PERMIT, TEST, AND INSPECTION

A. Obtain and pay for permit, license, and inspection fee necessary to complete installation.

B. Perform test required by governing authority in accordance with procedure described in ASME A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks in the presence of Authorized Representative.

C. Supply personnel and equipment for test and final review by Consultant, as required in Section 017000.

1.8 MAINTENANCE

A. Warranty Maintenance: See Section 018000, Maintenance, Article 1.2, A.

PART 2 - PRODUCTS

2.1 MATERIALS

A. See Section 016000, Materials.

2.2 CAR PERFORMANCE

A. Car Speed: ±10% of contract speed under any loading condition.

B. Car Capacity: Safely lower, stop, and hold 125% of rated load.

C. Car Stopping Zone: ±1/4" under any loading condition.

D. Door Opening Time: Seconds from start of opening to fully open.
1. North Elevators 2.7 seconds.
2. South Elevators 3.4 seconds.

E. Door Closing Time: Seconds from start of closing to fully closed.
1. North Elevators 2.7 seconds.
2. South Elevators 3.4 seconds.

F. Pressure: Fluid system components shall be designed and factory-tested for 500 psi. Maximum operating pressure shall be 400 psi.

G. Car Ride Quality:
1. Horizontal and vertical acceleration within car during all riding and door operating conditions. Not more than 20 mg peak-to-peak (adjacent peaks) in the 1-10 Hz range.
2. Acceleration and Deceleration: Smooth constant and not less more than 3.0 feet/second^2 with an initial ramp between 0.5 and 0.75 second.
3. Sustained Jerk: Not more than 6 feet/second^3.
4. Measurement Standards: Measure and evaluate ride quality consistent with ISO 18738, using low pass cutoff frequency of 10 Hz and A95 peak-to-peak average calculations.

H. Noise and Vibration Control:
1. Airborne Noise: Measured noise level of elevator equipment and its operation shall not exceed 60 dBA inside car under any condition including door operation and car ventilation exhaust blower on its highest speed. Limit noise level in the machine room relating to elevator equipment and its operation to no more than 80 dBA. All dBA readings to be taken 3'-0" off the floor and 3'-0" from the equipment using the “A” weighted scale.
2. Vibration Control: All elevator equipment provided under this contract, including power unit, controller, oil supply lines, and their support shall be mechanically isolated from the building structure and electrically isolated from the building power supply and to

each other to minimize the possibility of objectionable noise and vibrations being transmitted to occupied areas of the building.

2.3 OPERATION

A. Selective Collective Microprocessor-Based, Elevator North & South cars:
1. Operate car without attendant from pushbuttons in car and located at each floor. When car is available, automatically start car and dispatch it to floor corresponding to registered car or hall call. Once car starts, respond to registered calls in direction of travel and in the order the floors are reached.
2. Do not reverse car direction until all car calls have been answered, or until all hall calls ahead of car and corresponding to the direction of car travel have been answered.
3. Slow car and stop automatically at floors corresponding to registered calls, in the order in which they are approached in either direction of travel. As slowdown is initiated for a hall call, automatically cancel hall call. Cancel car calls in the same manner. Hold car at arrival floor an adjustable time interval to allow passenger transfer.
4. Answer calls corresponding to direction in which car is traveling unless call in the opposite direction is highest (or lowest) call registered.
5. Illuminate appropriate pushbutton to indicate call registration. Extinguish light when call is answered.
6. Utilize 3rd party controls, non-proprietary, in leu of manufactures standard offering.

7. Approved microprocessor-based, group dispatch, car and motion control systems as follows:
   a. GAL
   b. MCE
   c. Elevator Controls
   d. SmartRise
   e. KONE

B. Other Items:
1. Low Oil Control: In the event oil level is insufficient for travel to the top floor, provide controls to return elevator to the main level and park until oil is added.
2. Independent Service: Provide controls for operation of each car from its pushbuttons only. Close doors by constant pressure on desired destination floor button or door close button. Open doors automatically upon arrival at selected floor.

C. Firefighters' Service: Provide equipment and operation in accordance with code requirements.

D. Automatic Car Stopping Zone: Stop car within 1/4" above or below the landing sill. Maintain stopping zone regardless of load in car, direction of travel, distance between landings.

E. Remote Monitoring and Diagnostics: Equip each controller and the group dispatch logic controller, with standard ports, interface boards, and drivers to accept maintenance, data logging, fault finding diagnostic, and monitoring computers, keyboards, modems, and programming tools.

F. Motion Control: AC type with unit valve suitable for operation specified and capable of providing smooth, comfortable car acceleration and retardation. Limit the difference in car

speed between full load and no load to not more than ±10% of the contract speed in either direction of travel.

G. Selective Leveling: Provide means to limit elevator car speed when traveling between adjacent floors.

H. Door Operation: Automatically open doors when car arrives at main floor. At expiration of normal dwell time, close doors. Reopen doors when car is designated for loading.

I. Standby Lighting and Alarm: Car mounted battery unit with solid-state charger to operate alarm bell and car emergency lighting. Battery to be rechargeable with minimum five-year life expectancy. Include required transformer. Provide constant pressure test button in service compartment of car operating panel. Coordinate location of light fixture with Consultant. Provide lighting integral with portion of normal car lighting system.

J. Standby Power Operation: Upon loss of normal power, adequate standby power will be supplied via existing building electrical feeders to simultaneously start and run one car in North & South buildings at contract car speed and capacity. Car state numbers are 51730 & 51729.
   1. Automatically return one car at a time in each group and single car, nonstop to designated floor, open doors for approximately 3.0 seconds, close doors, and park car. During return operation, car and hall call pushbuttons shall be rendered inoperative. As each car parks, system shall immediately select the next car until all cars in a group have returned to the designated floor. If a car fails to start or return within 30 seconds, system shall automatically select the next car in the group to automatically return.
   2. When all cars (51730 & 51729) have returned to the designated floor, each car shall be designated for automatic operation. When a service demand exists for 30 seconds and designated car fails to start.
      a. Switches shall be labeled “STANDBY POWER OVERRIDE” with positions marked “AUTO” and appropriate car numbers controlled by each respective switch. Key shall be keyed same as key utilized for firefighters' Phase I and II key switch. Key shall be removable in “AUTO” position only.
      b. Switch shall override automatic return and automatic selection functions and cause the manually selected car to operate. Manual selection shall cause car to start and proceed to designated floor and open and close its doors before standby power is manually transferred to next selected car.
      c. Provide “STANDBY POWER” indicator lights (one per car) and Indicator light illuminates automatically to operate on standby power.
   3. Successive Starting: When normal power is restored or there has been a power interruption, individual cars in each North and South building shall restart at five-second intervals.

K. Battery Standby Power Transfer: Building 401 state # 51731 and building 601 state # 51728.
   1. Upon loss of normal power, provide controls to automatically lower the car(s) to the nearest lower landing. Upon arrival at the nearest landing, the elevator doors shall open automatically and remain open until regular door time has expired. The elevator shall then become deactivated. The standby power source shall be provided via 12-volt D.C. battery units installed in machine room, including solid-state charger and testing means

mounted in a common metal container. Battery to be rechargeable lead acid or nickel cadmium with a ten-year life expectancy.

2. Upon restoration of normal power, the elevator shall automatically resume normal operation.
3. Surge Suppression. The main line electrical system shall include a multi-phase surge protection device (SPD) designed to protect against high energy, high voltage transient surges. It shall be designed for transient voltage surge suppression (TVSS). Its parallel-operated design shall include 40 MM-Diameter, Metal Oxide Varistors and EMI/PR filter circuitry equipped with high voltage- rise capacitors for harmonic tolerance. It shall incorporate indicator lights and audible alarm for monitoring power and surge protection status as well as a dry contact for remote monitoring. This SPD shall be located in the machine room on the incoming line side of each unit's mainline disconnect

2.4 MACHINE ROOM EQUIPMENT

A. Arrange equipment in existing machine room spaces and/or as shown on drawings.

B. Pump Unit: Assembled unit consisting of positive displacement pump, induction motor, master-type control valves combining safety features, holding, direction, bypass, stopping, manual lowering functions, shut off valve, oil reservoir with protected vent opening, oil level gauge, outlet strainer, drip pan, muffler, all mounted on isolating pads. Provide oil thermal unit and oil temperature thermostat to maintain oil at operating temperature. Enclose entire unit with removable sheet steel panels lined with sound-absorbing material. Provide SCR soft start with closed transition. Design unit for 80 up starts/hour.

C. Landing Systems: Solid-state, magnetic, or optical type.

D. Controller: UL/CSA labeled.
1. Compartment: Securely mount all assemblies, power supplies, chassis switches, relays, etc., on a substantial, self-supporting steel frame. Completely enclose equipment with covers. Provide means to prevent overheating.
2. Relay Design: Magnet operated with contacts of design and material to insure maximum conductivity, long life, and reliable operation without overheating or excessive wear. Provide wiping action and means to prevent sticking due to fusion. Contacts carrying high inductive currents shall be provided with arc deflectors or suppressors.
3. Microprocessor-Related Hardware:
    a. Provide built-in noise suppression devices which provide a high level of noise immunity on all solid-state hardware and devices.
    b. Provide power supplies with noise suppression devices.
    c. Isolate inputs from external devices, such as pushbuttons, with opto-isolation modules.
    d. Design control circuits with one leg of power supply grounded.
    e. Safety circuits shall not be affected by accidental grounding of any part of the system.
    f. System shall automatically restart when power is restored.
    g. System memory shall be retained in the event of power failure or disturbance.

h. Equipment shall be provided with Electro Magnetic Interference (EMI) shielding within FCC guidelines.

4. Wiring: CSA labeled copper for factory wiring. Neatly route all wiring interconnections and securely attach wiring connections to studs or terminals.
5. Permanently mark components, relays, fuses, PC boards, etc., with symbols shown on wiring diagrams.
6. Monitoring System Interface: Provide controller with serial data link through RJ45 Ethernet connection and install all devices necessary to monitor items outlined in Section 2.13. Elevator contractor responsible to connect monitoring system interface to machine room monitoring compartment and LAN. Wiring from the LAN to the machine room monitoring compartment by others.

E. Muffler: Provide in discharge oil line near pump unit. Design shall dampen and absorb pulsation and noise in the flow of hydraulic fluid.

F. Piping and Oil: Retain existing piping and provide new oil for the system. Provide isolated pipe stands or hangers as required. A minimum of two sound isolation couplings shall be provided between the pump unit and oil line and the oil line and jack unit.

G. Shutoff Valve: Manual valve in line adjacent to pump unit. Provide second valve in pit adjacent to jack unit.

2.5 HOISTWAY EQUIPMENT

A. Guide Rails: Retain main guide rails in place.
1. Clean rails and brackets. Remove rust.
2. Check all rail and bracket fastenings and tighten.
3. Provide supplemental rail brackets and/or backing as required by code or to enhance car ride quality.

B. Buffers, Cars North & South buildings: Retain existing.
1. Rebuild, clean and paint.

C. Hydraulic Jack Assembly:

Replace Hydraulic Jack assembly,

a. All work that emits odors must be done after normal business hours due to the occupied facility.
b. All work that presents and unsafe environment for general public must be done after normal business hours.
c. Provide lockable 8 foot Barricades around work space and staging space for duration of project.
d. Provide all labor and materials used for removal of existing cylinder, construction of new cylinder and installation of new cylinder assembly in strict accordance with the latest ASME A17.1 code requirements.
e. Provide all labor and material for rigging and suspensions means necessary to suspend and secure the elevator in the uppermost portion of hoist way utilizing a

minimum of two suspension means. If required, provide structural load analysis to ensure suspension means can be adequately supported by the location(s) of attachment.

f. Provide all labor and material associated with removing the hydraulic plunger from the cylinder and disposing of.
g. Provide all labor and material to remove the oil line & pit channels from cylinder.
h. Provide all labor and material to remove concrete surrounding jack head.
i. Provide all labor and material to remove existing oil from the hydraulic system and dispose of.
j. Provide all labor and material to remove existing cylinder and dispose of properly.
k. Provide all labor and material to remove hazardous debris from inside of present well casing. Removal from job site of any hazardous waste should be daily.
l. Provide all labor and material to install ASME Code Compliant protective PVC, “Sock” type enclosure or protective coating to new cylinder to aid in protection against corrosion.
m. Provide and install sealed PVC liner for cylinder with two (2) 1” PVC tubes at the top of the sealed liner, one (1) to extend to the bottom of the liner and one (1) to just below the top cap of the liner for the purpose of monitoring and removal of oil or other liquids from the liner through pressurization of the liner.
n. Provide all labor and material to weld cylinder sections together, allow coupling and protective wrap at joints & re-install head to cylinder.

D. Jack Support and Fluid Shut-Off Valves: Retain existing steel pit channels to support jack assembly and transmit loads to building structure. Provide intermediate stabilizers as required. Provide manual on/off valves in oil lines adjacent to pump unit and jack units in pit adjacent to jack units.

E. Terminal Stopping: Provide normal and final devices.

F. Electrical Wiring and Wiring Connections: Provide new.
1. Conductors and Connections:
a. Copper throughout with individual wires coded and connections on identified studs or terminal blocks.
b. Use no splices or similar connections in wiring except at terminal blocks, control compartments, or junction boxes.
c. Provide 10% spare conductors throughout. Run spare wires from car connection points to individual elevator controllers in the machine room.
d. Provide four shielded pair of spare shielded communication wires in addition to those required to connect specified items.
e. Tag spares in machine room.
2. Conduit:
a. Painted or galvanized steel conduit, EMT, or duct.
b. Minimum Conduit Size: 1/2".

c. Flexible heavy-duty service cord may be used between fixed car wiring and car door switches for door protective devices.

3. Traveling Cables:
   a. Flame and moisture-resistant outer cover.
   b. Prevent traveling cable from rubbing or chafing against hoistway or equipment within hoistway.
4. Auxiliary Wiring: Connect fire alarm initiating devices, emergency two-way communication system, in each car controller in machine room. MUST USE SIEMENS.

G. Entrance Equipment: Provide new.
1. Door Hangers: Two-point hanger roller with neoprene roller surface and suspension with eccentric upthrust roller adjustment.
2. Door Tracks: Bar or formed, cold-drawn removable steel tracks with smooth roller contact surface.
3. Door Interlocks: Operable without retiring cam. Paint interlock box flat black.
4. Door Closers: Spring, spirator, or jamb/strut mounted counterweight type. Design and adjust to insure smooth, quiet mechanical close of doors.

H. Hoistway Door Unlocking Device: Provide new unlocking device with escutcheon in door panel at all floors, with finish to match adjacent surface.

I. Hoistway Access Switches: Provide new. Mount in wall entrance frame side jamb at top and bottom floors. Provide switch with faceplate.

J. Floor Numbers: Stencil paint 4" high floor designations in contrasting color on inside face of hoistway doors or hoistway fascia in location visible from within car.

2.6 HOISTWAY ENTRANCES

A. Frames: Retain existing. Clad existing frames in satin finish stainless steel.

B. Door Panels: Provide new 16 gauge steel, sandwich construction without binder angles. Provide leading edges of center-opening doors with rubber astragals. Provide a minimum of two gibs per panel, one at leading and one at trailing edge with gibs in the sill groove entire length of door travel. Construct door panels with interlocking, stiffening ribs. Architectural metal cladding shall wrap around leading and trailing edge of panel and return a minimum of 1/2" on rear side of leading edge of panel at all floors.

C. Sight Guards: Provide new 14 gauge, same material and finish as hoistway entrance door panels. Construct without sharp edges.

D. Sills: Retain existing. Clean and polish. Check and tighten all fastenings.

E. Sill Supports: Retain existing. Check and tighten all fastenings.

F. Fascia and Hanger Covers: Retain existing. Provide as required where damaged or missing. Check and tighten all fastenings.

G. Toe Guards: Provide new 14 gauge furniture steel with black enamel Contractor's standard finish where missing.

H. Struts and Headers: Retain existing. Check and tighten all fastenings.

2.7 CAR EQUIPMENT

A. Frame: Retain Existing. Check and tighten all fastenings. Clean and paint.

B. Platform: Retain existing. Reinforce if required. Check and tighten all fastenings.

C. Platform Apron: Provide new extended platform apron per code. Minimum 14 gauge steel, reinforced and braced to car platform front with black enamel Contractor's standard finish.

D. Guide Shoes: Replace existing with ELSCO rollers.

E. Finish Floor Covering: Provided under other sections.

F. Sills: Retain existing. Clean and polish. Check and tighten all fastenings.

G. Doors: Provide new as specified for hoistway entrance doors.

H. Door Hangers: Provide new two-point hanger rollers with neoprene roller surface and suspension with eccentric upthrust roller adjustment.

I. Door Track: Provide new bar or formed, cold-drawn removable steel track with smooth roller contact surface.

J. Door Header: Retain existing. Check and tighten all fastenings.

K. Door Electrical Contact: Provide new to prohibit car operation unless car door is closed.

L. Door Clutch: Provide new heavy-duty clutch, linkage arms, drive blocks and pickup rollers or cams to provide positive, smooth, quiet door operation. Design clutch so car doors can be closed, while hoistway doors remain open.

M. Restricted Opening Device: Provide new car-door interlock per code to prevent opening of car doors outside unlocking zone. Plunger type restrictors not acceptable.

N. Door Operator: Provide new.
1. Medium-speed heavy-duty door operator capable of opening doors at no less than 1½ fps. Accomplish reversal in no more than 2½" of door movement. Provide solid-state door control with closed loop circuitry to constantly monitor and automatically adjust door operation based upon velocity, position, and motor current. Provide a minimum of four controller-activated motion profiles, per floor, per door, to maintain consistent, smooth, and quiet door operation at all floors, regardless of door weight or varying air pressure.
2. Acceptable closed-loop door operators:
   a. G.A.L.

O. Door Control Device: Provide new.
   1. **3D Infrared Reopening Device**: Black, fully enclosed device with full screen infrared matrix or multiple beams extending vertically along leading edge of each door panel to minimum height of 7'-0" above finished floor. Device shall prevent doors from closing and reverse doors at normal opening speed if beams are obstructed while doors are closing, except during nudging operation. In event of device failure, provide for automatic shutdown of car at floor level with doors open. **3D beam device to detect approach from elevator lobby to comply with ASME A17.1 2019.**
      a. Panachrome+ with 3D detection or Consultant-approved equal shall be used.
   2. Nudging Operation: After beams of door control device are obstructed for a predetermined time interval (minimum 20.0 - 25.0 seconds), warning signal shall sound, and doors shall attempt to close with a maximum of 2.5-foot pounds kinetic energy. Activation of the door open button shall override nudging operation and reopen doors.
   3. Interrupted Beam Time: When beams are interrupted during initial door opening, hold door open a minimum of 3.0 seconds. When beams are interrupted after the initial 3.0 second hold open time, reduce time doors remain open to an adjustable time of approximately 1.0 - 1.5 seconds after beams are reestablished.
   4. Differential Door Time: Provide separately adjustable timers to vary time that doors remain open after stopping in response to calls.
      a. Car Call: Hold open time adjustable between 3.0 and 5.0 seconds.
      b. Hall Call: Hold open time adjustable between 5.0 and 8.0 seconds. Use hall call time when car responds to coincidental calls.

P. Car Operating Panel: Provide new.
   1. One car operating panel with faceplate, consisting of a metal box containing vandal resistant operating fixtures, mounted behind the car stationary swing front return panel. Faceplates shall be hinged and constructed of satin finish stainless steel.
   2. Suitably identify floor buttons, alarm button, door open button, door close button, and emergency push-to-call button with SCS, Visionmark, or Entrada cast tactile symbols recessed flush rear mounted. Configure plates per local building code accessibility standards including Braille. Locate operating controls no higher than 48" above the car floor; no lower than 35" for emergency push-to-call button and alarm button.
   3. Provide minimum 3/4" diameter raised or flush floor pushbuttons which illuminate to indicate call registration.
   4. Provide alarm button to ring bell located on car.
   5. Provide keyed stop switch at bottom of car operating panel in locked car service compartment. Mark device to indicate “run” and “stop” positions.
   6. Provide “door open” button to stop and reopen doors or hold doors in open position.
   7. Provide “door close” button to activate door close cycle. Cycle shall not begin until normal door dwell time for a car or hall call has expired, except firefighters’ operation.
   8. Provide firefighters’ Phase II key switch with engraved instructions filled red. Include light jewel, audible signal, and call cancel button.
   9. Provide lockable service compartment with recessed flush door. Door material and finish shall match car return panel or car operating panel faceplate. Inside surface of door shall contain an integral flush window for displaying the elevator operating permit.
   10. Include the following controls in lockable service cabinet with function and operating positions identified by permanent signage or engraved legend:
      a. Inspection switch.

b. Light switch.
c. Two Speed, Three-position exhaust blower switch.
d. Independent service switch.
e. Constant pressure test button for battery pack emergency lighting.
f. 120-volt, AC, GFCI protected electrical convenience outlet.
g. Stop switch.

11. Provide black paint filled (except as noted), engraved, or approved etched signage as follows with approved size and font:
    a. Phase II firefighters' operating instructions on main operating panel above corresponding key switch filled red.
    b. Car number on main car operating panel.
    c. "Certificate of Inspection on File in Building Office" on main car operating panel.
    d. "No Smoking" on main car operating panel.
    e. Car capacity in pounds and serial number on main car service compartment door.

Q. Car Top Control Station: Provide new. Mount to provide safe access and utilization while standing in an upright position on car top.

R. Work Light and Duplex Plug Receptacle: Provide new GFCI protected outlet at top of car. Include on/off switch and lamp guard.

S. Emergency Car Communication System Operation (ASME A17.1-2019 Compliant Requirement):

1. Hands-Free Phone System:
    a. Two-way communication instrument in car to provide automatic dialing, tracking, and recall features.
    b. Automatic dialer to include automatic rollover capability with minimum two numbers:
    c. Activated by "Help" button in car or by external telephone call.
    d. Adjacent light jewel illuminates and flashes when call is acknowledged.
2. Emergency Personnel Communication:
    a. Communication system allows emergency personnel to establish communications with each elevator individually.
    b. Emergency Personnel Communication overrides any existing connection outside of building.
    c. Adjacent light jewel shall illuminate and flash when call is acknowledged.
    d. On the same car operating panel as the phone push button, provide capability to communicate with and obtain responses from passengers.
    e. Provide display video capability for entrapment assessment.
3. Communication for Deaf, Hard of Hearing and Speech Impaired: On the same car operating panel as the phone pushbutton, provide capability to communicate with and obtain responses from passengers, including those passengers who cannot communicate verbally or hear.
4. On the same car operating panel as the phone push button, provide capability to communicate with and obtain responses from passengers, including those passengers who cannot communicate verbally or hear.
5. **2-way communication shall comply with ASME A17.1-2019 Section 2.27.1 and IBC-2018 Section 3001.2.**

a. Device shall be open-sourced and capable of being monitored by any entity as selected by the owner. All software, hardware, and training cost associated with the device shall be included within this project. Associated monthly monitoring costs will only be accepted if Cellular connection is selected.
b. Connectivity shall be provided via hardwire internet connection or wirelessly through cellular connection.

6. Elevator Position Indicator Feature:
   a. In addition to the functionality outlined for standard in-car elevator position indicator, also provide the following to account for the functionality for the **ASME A17.1-2019** Section 2.27.1 and IBC-2018 Section 3001.2. as follows:
      1) A minimum of a 7" LCD or similar screen.
      2) Device shall be open-sourced and capable of being monitored by any entity as selected by the owner. All software, hardware, and training cost associated with the device shall be included within this project. Associated monthly monitoring costs will only be accepted if Cellular connection is selected.
      3) Connectivity shall be provided via hardwire internet connection or wirelessly through cellular connection.
7. Intercom System:
   a. System shall be capable of auto dialing out of the building to any active telephone number selected by Purchaser if intercom call is not answered.
   b. Master Stations:
      1) Concierge Desk/Fire Control Station:
         a) Communicate with any other station, any group of stations or all stations simultaneously.
      2) Machine Rooms/Control Rooms:
         a) Communicate with other master stations and all elevator cars.
         b) Loud audible signal to announces calls to this unit.
   c. Remote Stations:
      1) Communicates with all master stations.

2.8 CAR ENCLOSURE

A. Passenger elevators North & South buildings: Retain existing car shell. Remove existing interior finishes, weigh, and document. Check and tighten all fastenings. Provide new interior finishes under allowance of $25,000.00 per car. Contractor shall include allowance amount to be spent directly with cab vendor. Owner may choose to delete cab interior allowance and finishes at their discretion. Verify weight of new interior finishes does not exceed weight of removed finishes by more than code allowable. Modify shell for application of new signal and pushbutton fixtures.

2.9 HALL CONTROL STATIONS

A. Pushbuttons: Provide 1 riser with flush mounted faceplates. Include pushbuttons for each direction of travel which illuminate to indicate call registration. Include approved engraved message and pictorial representation prohibiting use of elevator during fire or other emergency situation as part of faceplate. Pushbutton design shall match car operating panel pushbuttons. Dual station at main lobby only, single riser at typical floors. Provide vandal

resistant pushbutton and light assemblies. Provide enlarged faceplate to cover existing wall blockout and facilitate handicapped access requirements. Include approved engraved message and pictorial representation prohibiting use of elevator during fire or other emergency situation as part of faceplate. Provide any cutting and patching required.

2.10 SIGNALS

A. Car Direction Lantern, all cars North & South buildings: Provide new flush-mounted car lantern in all car entrance columns. Illuminate up or down LED lights and sound electronic tone once for up and twice for down direction travel as doors open. Sound tone once for up direction and twice for down direction. Sound level shall be adjustable from 0-80 dBA measured at 5'-0" in front of hall control station and 3'-0" off floor. Provide adjustable car door dwell time to comply with ADA requirements relative to hall call notification time. Car direction lenses shall be arrow shaped with faceplates. Lenses shall be minimum 2½" in their smallest dimension. Provide vandal resistant lantern and light assemblies consisting of series of dots or lines for maximum visibility.

B. Car Position Indicator: Provide new alpha-numeric digital indicator containing floor designations and direction arrows a minimum of 1/2" high to indicate floor served and direction of car travel. Locate fixture in car operating panel. When a car leaves or passes a floor, illuminate indication representing position of car in hoistway. Illuminate proper direction arrow to indicate direction of travel. Provide multi-numeral vandal resistant indicator and light assemblies.

C. Faceplate Material and Finish: Satin stainless steel, all fixtures.

D. Floor Passing Tone: Provide an audible tone of no less than 20 decibels and frequency of no higher than 1500 Hz, to sound as the car passes or stops at a floor served.

E. Firefighters' Key Box: Flush-mounted box with lockable hinged cover. Engrave instructions for use on cover per Local Fire Authority requirements.

PART 3 - EXECUTION

3.1 SITE CONDITION INSPECTION

A. Prior to beginning installation of equipment, examine hoistway and machine room areas. Verify no irregularities exist which affect execution of work specified.

B. Do not proceed with installation until work in place conforms to project requirements.

3.2 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver material in Contractor's original, unopened protective packaging.

B. Store material in original protective packaging. Prevent soiling, physical damage, or moisture damage.

C. Protect equipment and exposed finishes from damage and stains during transportation, erection, and construction.

3.3 INSTALLATION

A. Install all equipment in accordance with Contractor's instructions, referenced codes, specification, and approved submittals.

B. Install machine room equipment with clearances in accordance with referenced codes and specification.

C. Install all equipment so it may be easily removed for maintenance and repair.

D. Install all equipment for ease of maintenance.

E. Install all equipment to afford maximum accessibility, safety, and continuity of operation.

F. Remove oil, grease, scale, and other foreign matter from the following equipment and apply one coat of field-applied machinery enamel.
   1. All exposed equipment and metal work installed as part of this work which does not have architectural finish.
   2. Neatly touch up damaged factory-painted surfaces with original paint color. Protect machine-finish surfaces against corrosion.

3.4 FIELD QUALITY CONTROL

A. Work at jobsite will be checked during course of installation. Full cooperation with reviewing personnel is mandatory. Accomplish corrective work required prior to performing further installation.

B. Have Code Authority acceptance inspection performed and complete corrective work.

3.5 ADJUSTMENTS

A. Install hydraulic jack assembly and guide rails plumb and align vertically with tolerance of 1/16" in 100'-0". Secure guide rail joints without gaps and file any irregularities to a smooth surface.

B. Static balance car to equalize pressure of guide shoes on guide rails.

C. Lubricate all equipment in accordance with Contractor's instructions.

D. Adjust motors, valves, controllers, leveling switches, limit switches, stopping switches, door operators, interlocks, and safety devices to achieve required performance levels.

3.6 CLEANUP

A. Keep work areas orderly and free from debris during progress of project. Remove packaging materials on a daily basis.

B. Remove all loose materials and filings resulting from work.

C. Clean machine room equipment and floor.

D. Clean hoistways, car, car enclosure, entrances, operating, and signal fixtures.

3.7 ACCEPTANCE REVIEW AND TESTS

A. See Section 017000, Article 1.2, Consultant's Final Observation and Review Requirements.

3.8 OWNER'S INFORMATION

A. See Section 017000, Article 1.3, Final Contract Compliance Review.

END OF SECTION

SECTION 143250 - LERCH BATES WARRANTY SPECIFICATION (LBMS)

PART 1 - GENERAL

1.1 PARTIES

A. The parties to this Agreement (the "Agreement") are City of Pembroke Pines ("Purchaser") and ..... ("Contractor"). The contract start date is the date this Agreement is executed by Purchaser or their Designated Representative. The purpose of this Agreement is to set forth the terms and conditions under which Contractor will provide certain services for Purchaser. This agreement covers four existing elevators listed in Appendix A.

1.2 DUTIES OF CONTRACTOR

A. Contractor shall furnish all supplies, materials, parts, labor, labor supervision, tools, scaffolding, machinery, hoists, equipment (including employee safety equipment), lubricants, and technical information to provide proactive full preventive maintenance service including, but not limited to, cleaning, lubrication, adjusting, parts replacement, repair, and callback service. All work shall be in conformity with highest standards and best industry practices, applicable laws, and all expressed and implied provisions of this Agreement for the complete vertical transportation systems detailed in Appendix A of this Agreement.

1.3 AGREEMENT INTENT

A. The intent of this Agreement is to maintain the elevator equipment to the highest industry standards using "industry best" practices by continuously preserving and maintaining the condition, appearance, and performance of the elevators in keeping with their original and modernized design. The purpose of the maintenance program specified herein is to provide the following:
   1. Safe, consistent, and reliable operation
   2. Maximum operational performance
   3. Maximum beneficial usage
   4. Maximum life cycle

B. Contractor acknowledges Purchaser is relying on Contractor's professional expertise in performance of Services to achieve and comply with the Agreement intent.

C. Contractor accepts full responsibility for the equipment, as it exists on the effective date of this Agreement, and will leave it in a condition acceptable to Purchaser, or a mutually agreeable third party consultant, at the termination date.

D. Contractor acknowledges Purchaser provided free access to and sufficient time for adequate examination of the equipment and review of service records. Contractor further acknowledges the specified vertical transportation equipment has been evaluated by Contractor, and Contractor has determined the equipment is in serviceable operating condition. The Contractor accepts full and complete responsibility for all of the maintenance service, repair,

cleaning, and testing of the specified vertical transportation equipment listed, in “as is” condition, in accordance with this Agreement.

E. Invoicing Requirements. The following criteria must be clearly met for payment of any invoice:
1. Travel time clearly identified and a separate line item on technician’s time sheet.
2. Site arrival time and departure time clearly identified on technician’s time sheet.
3. Service call and work description clearly identified on technician’s time sheet.
4. Billable material cost backup.
5. Travel expenses/surcharges shall not be allowed.
6. Contractor’s invoice must include clear and concise detail of service call and work complete.
7. Contractor’s invoice must include clear and concise detail of travel hours billed and hourly rate utilized.
8. Contractor’s invoice must include clear and concise detail of time on job and hourly rate utilized.

1.4 OBSOLESCENCE:

A. Definition of Obsolescence: A system, component, or part that is no longer repairable, re-buildable, supported, manufactured, available in-stock or supplied by the OEM, non-OEM elevator/escalator systems parts supplier or other third party parts supplier or fabricator in the same form, fit and function.

B. Prior to submission of contractor’s proposal to the Purchaser, the contractor will have an opportunity to review all applicable vertical transportation elements as identified in this document. After such review, if the contractor believes there are systems, components or parts which are obsolete or may become obsolete during the term of this agreement, they must identify those components in Appendix A. Additionally, contractor must:
1. Provide Base Bid proposal response pricing that excludes systems, components or parts listed in Section 003100 Article 1.2 as obsolete or prorated.
2. Provide Alternate pricing that includes full maintenance coverages of all components listed in Section 003100 Article 1.2 as obsolete or prorated.
3. Provide Alternate pricing to replace all systems, components or parts detailed in Section 003100 Article 1.2, as an extra charge, at the beginning of this agreement for the Purchaser’s consideration.

C. If contractor, third party consultant, or Purchaser receive a notice of “component or part obsolescence” from a third party non-OEM elevator system parts supplier, not owned by or in any way affiliated with the contractor, during the course of this agreement then Purchaser will evaluate a claim of obsolescence. Claim may include only the necessary retro-fit material and only the additional portion of labor above and beyond what would have been required to replace the obsolete component or part with an OEM original component or part.

D. No other claim for obsolescence of any kind will be considered by the Purchaser during the course of this agreement.

1.5 OBSOLESCENCE:

A. During the term of this agreement, any system, component, or part not meeting the Definition of Obsolescence in 1.4 A.1. above shall be covered as prescribed in this document. Systems, Components or Parts which are repairable or re-buildable as noted above shall be covered under the following conditions:
   1. Part is repairable, in the same form and fit, either through the manufacturer or through any third party provider, up to the cost that the original part would have been at its latest available date.
   2. Part is custom makeable, in the same form and fit, up to the cost that the original part would have been at its latest available date.
   3. Additionally, if cost of the part repair or fabrication is greater than the original part, Contractor shall submit documentation to substantiate the original part cost and the current repair/fabrication cost. Purchaser shall not be responsible for additional labor cost associated with this repair or fabrication.

B. If contractor, third party consultant, or Purchaser receive a notice of “component or part obsolescence” from a third party non-OEM elevator system parts supplier, not owned by or in any way affiliated with the contractor, during the course of this agreement then Purchaser will evaluate a claim of obsolescence. Claim may include only the necessary retrofit material and only the additional portion of labor above and beyond what would have been required to replace the obsolete component or part with an OEM original component or part.

C. No other claim for obsolescence of any kind will be considered by the Purchaser during the course of this agreement.

1.6 TERM OF AGREEMENT

A. The term of this Agreement is a 1 year warranty maintenance ..... and terminating after 1 year. This Agreement shall be subject to termination as provided in Article 1.6.

1.7 CANCELLATION

A. If Contractor violates any provision or fails to properly perform services required by this Agreement on any unit, Purchaser shall advise Contractor of deficiencies and shall allow Contractor ten working days unless otherwise agreed, to correct deficiencies at Contractor’s expense and to Purchaser’s sole satisfaction. If Contractor fails to comply or remedy in the allotted time, Purchaser shall have right to cancel Agreement immediately with written notice to Contractor.

B. Purchaser, after an additional ten calendar days’ written notice to Contractor, may perform or cause to be performed all or any part of Services and Contractor agrees that it shall reimburse Purchaser for any expenses incurred. Purchaser shall deduct said expense from any sum owed to Contractor.

C. The waiver by Purchaser of a breach of any provision of this Agreement by Contractor shall not be construed as a waiver of any subsequent breach by Contractor.

D. If any property covered by this Agreement is sold, new Owner may extend this Agreement at its discretion by assignment or other means.

E. Purchaser may modernize all or a portion of vertical transportation units during the term of this Agreement. Modernization is any “Alteration” as defined by Code. Any modernization may or will be competitively bid and if the successful bidder is not the current Contractor, then the Contractor agrees that this contract may be cancelled at the sole discretion of the Owner. The Owner is under no obligation to include the Contractor in the bidding process.

F. If this Agreement Is Cancelled:
1. Contractor agrees to take actions reasonably necessary to cause an orderly transition of Services to another contractor without detriment to the rights of Purchaser or to continued operation of Property including, but not limited to, refraining from any interference or disruption of occupants or other contractors.
2. Contractor shall immediately deliver to Purchaser all reports, records, as-built wiring diagrams, portable electronic diagnostic devices supplied (owned by Purchaser or Owner), access codes, and other materials and documentation related to and required to facilitate services required by this Agreement.

1.8 CONTRACTOR SERVICES

A. Services shall include all labor, transportation, supplies, materials, parts, tools, scaffolding, machinery, hoists, employee safety equipment, equipment, lubricants, supervision and all other work and materials expressly required under this Agreement, or reasonably inferred, whether or not expressly stated herein.

B. Contractor shall coordinate and follow the directives of Purchaser with respect to scheduling Services and any deliveries hereunder or at a time or times further specified in other provisions of this Agreement.

C. Services shall be performed as follows:
1. In conformance with all provisions of this Agreement including Sections 003100 and 143250.
2. In conformance with all applicable original equipment manufacturer’s specifications.
3. In conformance with the written Maintenance Control Program (MCP).
4. In conformance with Purchaser’s rules, policies, regulations, and requirements for work at the Property, as modified and supplemented during term of this Agreement.
5. In conformance with Purchaser’s requirements for cleanup using containers supplied by Contractor.
6. To Purchaser’s satisfaction in conformance with this agreement.
7. By qualified, careful, and efficient employees in conformity with best industry practices.
8. Diligently, to highest industry standards, in a complete and workman-like manner, free of defects or deficiencies.
9. In such manner as to minimize any annoyance, interference, or disruption to occupants of Property and their invitees.

D. Contractor shall initiate, maintain, and supervise all safety precautions and programs in connection with Services, and comply with all applicable safety laws. Contractor shall take all

reasonable precautions for safety of Purchaser, Purchaser's tenants, Purchaser's employees, Contractor's employees, and other persons on or about the Property.

E. Contractor shall repair, to satisfaction of Purchaser, any damage to the Property and adjacent areas caused by performance of Services. This excludes building structural deficiencies which may occur during periodic safety testing.

F. Contractor's additional services:
1. Performance of routine preventive maintenance procedures and scheduled repairs of service elevators during other than the normal operating hours of the property.
2. Attendance and assistance to facilitate re-lamping of architectural lighting in equipment pits, hoistways, or elevator car tops. Contractor may require certain waivers for third party contractors/employees.
3. Attendance and assistance to facilitate Emergency Power testing.
4. Attendance and assistance to facilitate Fire Service testing.

1.9 CONTRACTOR COMPLIANCE WITH LAWS

A. Contractor agrees to comply with all current laws, codes, rules, and regulations set forth by appropriate authorities having jurisdiction in the locations where Services are performed. In the event of differing testing requirements between this Agreement and local codes or ordinances, the more stringent requirement shall prevail.

B. The Contractor shall not be required to install new attachments or perform tests as may be recommended or directed by inspecting entities; insurance companies; and federal, state, or municipal governmental authorities subsequent to the date of this Agreement, unless compensated for such tests, installation, or services.

C. Contractor must complete all code-mandated testing and work tasks as detailed in Appendix E.

1.10 CONTRACTOR'S EMPLOYEES

A. This Agreement is not one of agency, partnership, master-servant, or joint employer, but one with Contractor engaged in the business of providing Services hereunder as an independent contractor. Contractor shall have sole responsibility for the means, methods, techniques, procedures, and safety precautions in connection with performance of Services.

B. Contractor shall be responsible for the supervision and execution of Services by its employees. An onsite condition review shall be conducted by the designated Supervisor of Contractor on an annual basis to ensure that all Services hereunder are performed properly. Contractor shall designate its Supervisor and inform Purchaser of the person responsible for execution of Service, and Supervisor shall have the authority to act as Contractor's agent. Supervisor shall notify Purchaser of site inspection and provide Purchaser with a written summary of findings within ten working days after completion of site review.

C. Contractor agrees that its employees are properly qualified and will use reasonable care in the performance of Services. Contractor agrees that all work shall be performed by, and under the supervision of, skilled, experienced elevator service and repair persons directly trained, employed, and supervised by Contractor. Any and all employees performing work under this

Agreement shall be satisfactory to Purchaser. Purchaser shall be given at least thirty days' notice prior to making changes to site-specific mechanic/employees.

D. If Purchaser, in Purchaser's sole opinion, determines, for any reason, that the qualifications, actions, or conduct of any particular Contractor employee has violated this Agreement by performing unsatisfactory Services, interfering with operation of Property, bothering or annoying any occupants, other contractors, or subcontractors then at Property, or that such actions or conduct is otherwise detrimental to Purchaser, then upon Purchaser's notice, Contractor shall immediately provide qualified replacement persons.

E. Contractor shall not engage any subcontractors or other parties to perform Services unless first approved in writing by Purchaser. Purchaser's acceptance of subcontractors or other parties shall not relieve, release, or affect in any manner any of Contractor's duties, liabilities, or obligations hereunder, and Contractor shall at all times be and remain fully liable hereunder.

F. Contractor employees are required to wear standard matched uniforms with a company logo. Each employee shall be required to have on their person a company ID card for identification as a current company employee.

1.11 HOURS AND MANNER OF WORK

A. All work, except as otherwise noted in this Agreement, including unlimited call-back service, shall be performed during the building's regular hours. These hours are 7:00 a.m. to 5:00 p.m. Purchaser, at its option, may request callback or normal service within the scope of this Agreement at no additional cost during those hours. Emergency callback service requested prior to 4:30 p.m. but answered after 5:00 p.m. shall be considered a regular one-hour callback; after which it shall be in accordance with Article 1.10 D.

B. Response Time for Callback Service:
   1. During regular time hours identified in Article 1.10 A. Contractor shall arrive at Property within 60 minutes from time of notification of equipment problem or failure by Purchaser. For callbacks placed during regular time hours, the portion of work that could have been accomplished from the required arrival time of technician to the end of the defined workday shall not be billed at overtime rates. Property(ies) designated in Appendix A as "exempt" shall be excluded from this requirement.
   2. During the regular time hours identified in Article 1.10 A, Contractor shall arrive at Property in response to passenger entrapment calls within 60 minutes from time of notification by Purchaser. Properties designated in Appendix A as "exempt" shall be excluded from this requirement.
   3. During hours outside those identified in Article 1.10 A. Contractor shall arrive at Property within 60 minutes from time of notification of equipment problem or failure by Purchaser. For callbacks placed during regular time hours, the portion of work that could have been accomplished from the required arrival time of technician to the end of the defined workday shall not be billed at overtime rates. Property(ies) designated in Appendix A as "exempt" shall be excluded from this requirement.
   4. During hours outside those identified in Article 1.10 A, Contractor shall arrive at Property in response to passenger entrapment calls within 60 minutes from time of

notification by Purchaser. Property(ies) designated in Appendix A as “exempt” shall be excluded from this requirement.

C. If additional work within the scope of this Agreement is requested during overtime hours, Purchaser shall pay only the difference between regular time and overtime hours at the hourly rates indicated in Section 003100 Item 1.8.

D. If additional work beyond the scope of work enumerated in this Agreement is requested during regular hours, the regular time hourly rates shown below shall apply at the hourly rates indicated in Section 003100 Item 1.8.

E. If additional work beyond the scope of work enumerated in this Agreement is requested during overtime, the rate billed shall be the regular time rate plus the applicable overtime premium at the hourly rates indicated in Section 003100 Item 1.8.

F. If any unit is shut down due to equipment failure for more than 72 continuous hours, maintenance billing for that unit may be suspended until it is restored to beneficial usage, excluding scheduled equipment repairs. Suspended billing shall be calculated per unit, per day, and will not begin until the 72 hour period is exceeded.

G. During peak passenger traffic times, Purchaser requires all elevators to be in operation. The elevator Contractor shall not remove elevators from service during these times without authorization. The peak traffic times are Monday through Friday 7:30-9:30 a.m. and 4:30-6:00 p.m. Holidays are excluded.

1.12 MINIMUM MAINTENANCE HOURS AND PROCEDURES

A. Contractor agrees to furnish maintenance personnel for specified minimum hours per week, month, quarterly, or annually for on-site, routine, regular preventive maintenance as listed in Appendix A (see detailed scheduled hours).

B. Staffing: Contractor shall provide adequate and dedicated personnel suitable to Purchaser, for preventative maintenance based on the required maintenance hours identified in Appendix A. During vacation periods, an alternate mechanic, suitable to Purchaser, shall be assigned for maintenance. These hours shall not include time expended for callbacks, repair work, tests, or billable work. Time spent assisting Purchaser in performing tests of Firefighter’s Emergency Operation or Standby Power Operation, and time spent accompanying Purchaser or their Elevator Consultant in making tests, inspections, or reviews may be credited against these minimum hours, and no additional billing shall be accepted for such time expended.

C. Contractor’s Employees Shall:
1. Upon arrival and departure all Contractor employees must register in the log maintained at Purchaser’s location. In addition, Purchaser may require Contractor’s employees to check in with designated personnel each time they enter the building.
2. The site maintenance logbook shall indicate the name of person or persons, time of arrival, purpose of visit, i.e., callback, preventive maintenance, scheduled repair, Supervisor’s inspection, etc., and a brief description of work accomplished, including car and/or group designation, elevator, and time of departure. A sample of the maintenance logbook is in Appendix I and a sample of the callback log is in Appendix J.

3. When departing the property, Contractor's personnel shall sign the maintenance logbook indicating as listed above under item C. 2.
4. In addition, Contractor's employees who perform billable work shall leave time tickets after each visit when leaving the property.
5. Purchaser may elect to have any entries or time tickets documented via a manual or electronic log device provided by Purchaser, or supplied by Contractor.

D. If the hours expended fall below those required on a three-month rolling average basis Purchaser shall have the right to require the shortfall in hours of work to be made up on a schedule of work acceptable to Purchaser. If the hours expended fall below those required for two three-month rolling average periods, the Purchaser shall have the right to a credit in the amount of the shortfall in hours for every three-month rolling average period after the first period. This metric will reset after each period where the hours expended meets or exceeds those required.

E. Quarterly, Contractor shall meet with Purchaser or its Designated Representative. The scope of this meeting shall include:
1. A review of the previous quarter's callbacks.
2. A review of maintenance, including work performed, progress on any deficiency lists or other programs, and scheduled work requiring removal of elevators from service.
3. A review of any reported complaints.
4. Such other elevator-related items as may be appropriate.
5. A review of on-site spare equipment or parts for the elevators.
6. A review of maintenance hours.
7. If requested by Purchaser, Contractor shall provide a monthly list of callbacks for review by Purchaser prior to the quarterly meetings.

F. Overtime travel time in response to any callback shall be billed as the difference between regular time and overtime travel. There shall be a maximum of two hours per round trip allowed for travel for any overtime callback. The cost for this overtime travel shall be calculated and identified as a flat rate in Section 003100 Item 1.7.

1.13 SCHEDULING OF WORK

A. Within thirty days of receipt of a fully executed copy of this Agreement, Contractor shall prepare and submit a schedule of repairs, tests, or other work that will require a shutdown of one or more elevators within the initial 90 days. The nature of work, elevator involved, and anticipated days out of service shall be included. Subsequently, this schedule shall be updated quarterly prior to the meeting referenced in Article 1.11 E.

B. Pre-Maintenance Repairs: All work detailed and accepted by Purchaser at award of Agreement as pre-maintenance repairs must be completed per the schedule agreed upon between Contractor and Purchaser.

1.14 ELEVATOR CALLBACK FREQUENCY

A. Callback frequency for the elevators covered under this Agreement shall be subject to the provisions of this Agreement.

B. Total callbacks for equipment failure on any elevator shall not be more than 1 per unit per month for one quarter, as indicated in Appendix A.

C. Callbacks due to vandalism or misuse of the equipment shall be excluded.

1.15 PERFORMANCE REQUIREMENTS

A. Contractor agrees to maintain the following minimum performance requirements for the gearless, geared, gearless machine-room-less (MRL), and hydraulic elevators designated in table located in Appendix A:

1. Floor-to-floor times are measured in seconds from start of doors closing, including a typical one-floor travel and until the elevator is approximately level with the next successive floor, either up or down, and the doors are 3/4 open for center-opening doors or 1/2 open for side-opening doors, per Appendix A. Times shown are ±0.2 seconds.
2. Door opening times are measured in seconds from start of car door open until doors are fully open, per Appendix A. Times shown are ±0.1 seconds.
3. Door closing times are measured in seconds from start of door close to doors fully closed, and shall be no less than the times shown per above schedule or those permitted by code. Times shown are ±0.1 seconds. Door closing force is measured at rest with the doors between 1/3 and 2/3 closed. Door closing force shall be no more than 30 lbf.
4. Stopping accuracy shall be measured under all load conditions and maintained per Appendix A. Standards shown are maximum allowable from no load to full load.
5. Variance from rated speed, regardless of load, shall not exceed the following:
   a. ±10%.
   b. +10% up/-20% down, no load.
6. Door opening and closing shall be smooth and quiet, with smooth checking at the extremes of travel. Car and hoistway doors shall open flush with entrance jambs and each other.
7. Acceleration and deceleration shall be smooth, with no noticeable “steps” or bumps to increase or reduce speed, and no objectionable vibrations.
8. Elevator cars shall travel smoothly and quietly through the hoistways.
9. Performance requirements indicated are minimum standards and are not the sole criteria for judging the Contractor’s performance.
10. Car Ride Quality and Noise: All elevators shall be maintained and adjusted to meet the performance requirements per these specifications for each property and within the following parameters:
    a. Horizontal acceleration within the cars during all riding and door operating conditions shall not exceed 15 mg peak-to-peak for gearless elevators installed prior to 2013, mg peak-to-peak for gearless elevators installed after 2013, and 20 mg peak-to-peak for geared elevators, in the 1-10 Hz range. Measurement Criteria: ISO 8041, peak-to-peak vs. A95 standard.
    b. Vertical acceleration and deceleration shall be constant and not exceed 4 feet/second/second with an initial ramp between 0.5 and 0.75 seconds.
    c. Sustained jerk shall not exceed 6 feet/second^3.
    d. Measured noise levels in any moving car outside the leveling zone shall not exceed 55 dBA under any condition including ventilation blower or fan on highest

speed. Measured noise levels in the car within the leveling zone or when the car is stopped shall not exceed 60 dBA. There shall be no discernible sound in the elevator car from the machine, pump unit, ropes, sheaves, motor generator sets, platforms, cab walls, or car guides unless it is mutually determined by Contractor and Purchaser that such sounds are attributable to the design of the equipment, provided such design exception shall not apply to the extent that Contractor has provided design or redesign Services under this Agreement or a related agreement.

1.16 REMOVAL OF UNITS FROM SERVICE

A. Removal of elevators from service during peak hours shall be coordinated with and approved by Purchaser. Removal of elevators for routine maintenance during off-peak hours is expected, but notification to and coordination with Purchaser shall be provided.

1.17 PURCHASER'S RIGHT TO INSPECT AND REQUIRE WORK

A. Purchaser reserves the right to make, or cause to be made, audits, maintenance evaluations, inspections, or tests whenever it deems advisable or necessary to ascertain that the requirements of this Agreement are being fulfilled. The Contractor agrees to furnish, without cost, personnel to accompany Purchaser and/or its representatives during such inspections. Deficiencies noted shall be submitted in writing to the Contractor.
   1. If said deficiencies are not corrected at the time of the follow-up review, then Contractor shall be responsible for the cost of subsequent follow-up reviews at a cost of $250/hour portal to portal.
   2. Failure to correct the deficiencies found, as a part of this section, to the satisfaction of the Purchaser or their representative subject this agreement to cancellation as noted in Section 1.7.

B. The Contractor shall, promptly (within ten days unless otherwise agreed), correct deficiencies covered under the terms of this Agreement at its expense. This includes deficiencies discovered as a part of this section.

C. If Contractor fails to perform the work required by the terms of this Agreement in a diligent and satisfactory manner, Purchaser, after thirty days' written notice to Contractor listing the deficiencies or failures to perform, may perform or cause to be performed all or any part of the work required hereunder. Contractor agrees that it shall reimburse Purchaser for any expense incurred thereto, or Purchaser, at its election, may deduct such expenses from any sum owed to Contractor. The waiver by Purchaser of a breach of any provision of this Agreement by Contractor shall not operate or be construed as a waiver of any subsequent breach by Contractor.

D. In the event Contractor disputes a listing of deficiencies or failures to perform, in whole or in part, and the parties cannot resolve the dispute, a qualified Elevator Consultant acceptable to both parties may be retained by Contractor to conduct a non-binding mediation of any disputes, and Purchaser and Contractor shall split the Consultant's fees equally.

E. A qualified vertical transportation consultant may be retained by Purchaser to perform any of Services and mediate disputes noted in 1.17 or elsewhere in this agreement.

1.18 EXCLUSIONS

A. Contractor shall NOT be responsible for the following:
   1. Repairs, callbacks, modifications, adjustments, or replacement required because of negligence, accident, or misuse of the equipment by anyone other than Contractor, its employees, subcontractors, servants or agent, or other causes beyond the Contractor's control except ordinary use and wear.
   2. Repair or replacement of building items, such as hoistway or machine room walls and floors, car enclosures, car finish floor material, hoistway and car entrance frames, car or hoistway sills, signal fixture faceplate surfaces, cleaning of car interiors, and cleaning of the portions of sills visible when the doors are open.
   3. Mainline and auxiliary disconnect switches, fuses, and feeders to control panels. Excludes jack casing and underground piping.
   4. Lamps for car, machine room and pit illumination. Contractor shall replace machine room and pit lamps if such items are provided by Purchaser.
   5. Smoke and heat sensors and related life safety equipment.
   6. Standby power generators and associated contacts and relays, and wiring to the elevator machine rooms (exclusive of wiring connections to elevator controller).
   7. Building paging/communication systems, including consoles, panels and wiring to junction box on elevator controllers. However, Contractor shall maintain paging system and emergency telephone equipment and speakers in the cars and wiring from each such speaker to the machine room junction boxes.
   8. Failure or fluctuations of property electric power, air conditioning, or humidity control.
   9. Ingress by water or other material into machine room, hoistway, car enclosure, or pit.
   10. Access Control Equipment, Software, Hardware, Programming:
      a. Exclusive of elevator traveling cables.
      b. Termination points within elevator systems in control room and car.
   11. Upgrades to Control/Dispatching systems: (not to include software updates).

B. Notwithstanding any other agreement or provision to the contrary, under no circumstances will either party be liable for any indirect, special, or consequential damages of any kind.

1.19 REMOVAL OF PARTS

A. No parts or components required for the performance of Services on the vertical transportation equipment or required for its operation may be removed from the site without written approval from Purchaser. This does not include renewal parts stocked on the job by Contractor, but does include parts and components that were installed with and are a part of the elevator installation, and parts delivered to the property and paid for by Purchaser, which shall remain its sole property until installed on the equipment.

1.20 MACHINE ROOMS

A. Contractor shall place and keep in the machine rooms Underwriter's Laboratory rated metal parts cabinets. No open storage of parts or supplies shall be permitted.

B. Machine rooms and parts cabinets shall be kept clean and neat at all times. Floors shall be professionally painted on a continual basis, and maintained clean and free of dirt, debris, carbon dust, rags, parts, or other items.

1.21 WIRING DIAGRAMS

A. Wiring diagrams, as provided by Owner, shall be kept neatly folded and stored, except where mounted on boards, and shall be copied and replaced by the Contractor if damaged or unreadable.

B. For each elevator, Contractor shall maintain Property's complete set of straight-line wiring diagrams, showing "As-Built" conditions and any changes or modifications to circuits resulting from control modifications, parts replacement, or equipment upgrades. This includes all manuals supplied by a third party controller manufacturer or as part of a non-proprietary specification requirement for a modernization or new installation. Purchaser may reproduce these original or modified as-built drawings, manuals, and shall retain sole possession of this set of drawings or books in the event that the Contract is terminated, or if Purchaser's set of drawings or manuals cannot be located at that time.

1.22 MAINTENANCE CONTROL PROGRAM

A. Contractor shall prepare and provide a Maintenance Control Program (MCP) in compliance with the more stringent requirement of ASME A17.1 2013, or the AHJ Code in effect. Instructions for locating this written program shall be posted on the controller cabinets, at least one per elevator, as required by ASME A17.1 2013. Documentation of the MCP must be kept in a visible location in each machine room. When accepted by Purchaser, Contractor's preventive maintenance schedule, including the Maintenance Control Program, and this procedure shall become Section 143250 Appendix H to this Agreement.

B. Contractor, on Purchaser's behalf, shall conspicuously post written Maintenance Control Program (MCP) and work log in each machine room or instructions for locating the MCP in or on the car controllers. Contractor shall maintain preventive maintenance history and testing logs in accordance with the MCP either in the machine room, building management office, or electronically within unit computer control system. Data shall be accessible by Purchaser via manual logweb access and hard copy printout at all times. Log or electronic printout shall include all entries for routine preventive maintenance, repairs, tests, callbacks, and Supervisor's inspection. Entries shall include date work is completed, Mechanic's or Supervisor's name, brief description of work completed, including unit number and number of units serviced, repaired, or inspected, and the approximate time required for work excluding travel time to and from property. Purchaser shall be allowed to inspect and copy log or electronic printout and maintenance history and schedule at any time.

1.23 SPECIAL CONDITIONS

A. Performance Requirements: Equipment must be maintained to perform in compliance with the following standards, as detailed in Section 143250 Appendices A and B.
   1. Callback frequency.
   2. Callback response time.
   3. Mean time between callbacks.
   4. Availability.
   5. Maintenance actions
   6. Annual repair time accrued.

B. Should Contractor require remote monitoring of the equipment to facilitate its maintenance program, all related installation and maintenance costs shall be at Contractor's expense.

C. Equipment manufacturer's electronic diagnostic devices required to facilitate services, including fixed and handheld devices purchased by Purchaser, shall be maintained and upgraded by Contractor during the term of this Agreement and shall remain Purchaser's property at the expiration or cancellation of the contract.

D. Local inspection fees with regard to operation of equipment covered by this Agreement shall be paid by Purchaser. Fees for re-inspection due to Contractor's failure to expeditiously eliminate deficiencies covered by Services shall be paid by Contractor.

E. Purchaser may provide information to enable Contractor to render Services hereunder, or Contractor may learn information about Property or develop such information from Purchaser. Contractor agrees:
1. To treat, and to obligate Contractor's employees, subcontractors, and suppliers to treat as confidential all such information whether or not identified by Purchaser as confidential.
2. Not to disclose any such information or make available any reports, recommendations and/or conclusions which Contractor may make on behalf of Purchaser to any person, firm or corporation or use the same in any manner, whatsoever, without first obtaining Purchaser's written approval, except to the extent necessary in connection with performing Services or when required by law.

F. Contractor shall not, in the course of performance of this Agreement, or thereafter, use or permit the use of Purchaser or Property Manager's name or the name of any affiliate of Purchaser or Property Manager, or the name, address or any picture or likeness of or reference to the Property in any advertising, promotional or other materials prepared by or on behalf of Contractor without the prior written approval of Purchaser and Property Manager, as applicable.

1.24 PURCHASER'S RESPONSIBILITIES

A. Provide clear, safe, and convenient access to the Property and to elevator equipment rooms and pits.

B. Maintain car lighting, telephone lines to controller terminals, equipment room electrical switch gear, and electrical feeders to elevator controllers and Firefighters' Control Room.

C. Maintain equipment room heating and air conditioning systems. Temperature range 60°-90° F, non-condensing.

D. Maintain fire alarm initiating devices in elevators, lobbies, machine rooms, hoistways, etc.

E. Prohibit storage of Property equipment or supplies in elevator equipment rooms and obstruction of equipment room access corridors and doors.

F. Maintain standby power generator systems and related switch gear and feeders.

G. Maintain equipment rooms, hoistways, and pits in a code-compliant and dry condition.

H. Coordinate with Contractor in regard to Purchaser's required equipment retrofits, such as elevator security systems, new car interior finishes, car interior CCTV systems, etc.

I. During building construction and/or retrofit, make provisions to limit infiltration of dust and debris into elevator equipment and equipment spaces.

END OF SECTION

APPENDIX A -
EQUIPMENT ID, SCHEDULE, PERFORMANCE REQUIREMENTS, AND PRICING

Pines Point Apartment, Pembroke Pines, Florida						Performance Requirements (Stopping Accuracy = ±¼")		
Car ID	Group ID	Make	Type	Capacity	№ of Stops	Speed	Door Open Time (±.1)	Door Close Time (±.1)
601	A	Mowery	Hydraulic	4500 lbs	6	125 fpm	2.2 sec.	5.6 sec.
601	B	Mowery	Hydraulic	2500 lbs	5	125 fpm	2.0 sec.	3.2 sec.
401	C	Mowery	Hydraulic	4500 lbs	6	125 fpm	2.2 sec.	5.6 sec.
401	D	Mowery	Hydraulic	2500 lbs	5	125 fpm	2.0 sec.	3.2 sec.

APPENDIX B -
KEY PERFORMANCE INDICATORS

	Measured unit or building performance
≤ 4	Callbacks per unit per year
≥90 days	Mean Time Between Callbacks
≥99.5%	Equipment Availability
>24 team hours	Accrued repairs hours per unit per year
≤1	Not more than 1 entrapment per unit per quarter

The Contractor must provide the following information to the Purchaser on a monthly basis.

J. Callback log containing:
   1. Service Provider number.
   2. Date and time call was place.
   3. Date and time technician arrived.
   4. Date and time unit was returned to service.
   5. Callback identifier for calls placed due to misuse of equipment or vandalism.
   6. Callback identifier for calls placed due to entrapment.

K. Maintenance log containing:
   1. Service Provider number.
   2. Date of maintenance action.
   3. Description of maintenance.

APPENDIX C -
DEFINITIONS

The words or phrases shown below, which appear in this Agreement, are defined as follows.

A. AHJ: Authority Having Jurisdiction

B. Pro-Active: Acting in anticipation of future problems, needs, or changes.

C. Full: Complete, especially in detail, number, or duration; all that is wanted, needed, or possible.

D. Preventive: To anticipate or act ahead of; to keep from happening.

E. Maintain/Maintenance: Keep in an existing state. Preserve from failure or decline.

F. Timely Replacement: Adequate inventory of commonly used spare parts and other components for elevators available within 4 hours.

G. Tenant Sensitive Items: Anything concerning the elevators that tenants can see, hear, or feel.

H. Callback: Any request by Property personnel for elevator service assistance, and those requests which elevator industry jargon would describe as a “callback.”

I. Mean Time Between Failures: The average time between out of service and return to service. This is calculated as the total time out of service / number of out of service events. In the context of this Agreement, refers to Mean Time Between Callbacks.

J. Repair Time Total: Cumulative time for all repairs over the last twelve months or a set calendar twelve-month period.

K. Availability: Considers equipment down time vs. maximum equipment up time or usage time. This is calculated as “maximum availability - down time/maximum availability - 100” and is expressed as a percentage. The higher the percentage, the better the performance is. This percentage is only calculated vs. the time in the building or facility when the equipment is required to support building activity. The evaluation considers actual equipment availability vs. potential 100% availability.

L. Entrapments: An out of service elevator with passengers in the cab requiring the Contractor or other emergency personnel to release the passengers.

M. Rebuild: To repair, especially to dismantle, rewind, machine and or reassemble with new parts.

N. Fabricate: To construct or manufacture from prepared, standard, or custom components.

APPENDIX D -
EXTENT AND SCOPE OF SERVICES

A. Pro-Active Full Preventive Maintenance: Contractor shall regularly and systematically, on a continuous basis, examine, clean, lubricate and adjust the vertical transportation equipment and provide unlimited callback service during regular working hours and, as conditions warrant, in accordance with accepted industry standards and the applicable manufacturer's published specifications and technical field notes, including those published internally within the manufacturer's organization, repair or replace all portions of the equipment, except those specifically excluded, including but not limited to the work and coverage described hereinafter.

B. Elevators:
   1. Basic Elevator Scope: The services shall include all work and materials expressly required under this Agreement or reasonably inferred, whether or not expressly stated herein, including, but not limited to the following:
      a. Hoist machines, including worms, gears, thrust bearings, drive sheaves, drive sheave shafts and shaft bearings, tachometers, brake assemblies and pulleys, and all other components and parts of the machine and brake;
      b. Hoist motors and power conversion devices, including motor windings, field coils, rotating elements (including armatures and commutators), brushes, brush holders, motor bearings, and all other related components and parts;
      c. Controllers, selectors and dispatching equipment, including all micro-processor and/or solid state components, relays, resistors, capacitors, condensers, transformers, contacts, leads, dashpots, timing devices, computer devices, encoders, tach generators, steel selector tapes (or cables), mechanical and electrical driving equipment, and all other related components and parts; 3rd party controllers (smart rise)
      d. Governors, including governor sheave shaft assemblies, bearings, contacts, governors' jaws, and all other related components or parts;
      e. Rope brake devices, secondary braking devices,
      f. Car and counterweight safeties, including actuating mechanisms, jaws, and all other related components and parts;
      g. Hoistway equipment, including deflector or secondary sheaves and sheave bearings, car and counterweight guide rails (excluding replacement), top and bottom limit switches, counterweights and counterweight guide shoes including rollers or sliding gibs, inductors, cams, tapes and all other related components and parts;
      h. Hoistway entrance equipment, including hoistway door interlocks, hangers, hanger covers and tracks, hoistway door drive assemblies including vanes, drive blocks, clutches, pick-up assemblies and bearings, bottom door guides, auxiliary door closing devices (including cables, sheaves, and arms), door restrictor devices, and all other related components and parts;
      i. Car and hoistway door gibs, including their attachments to the door panels.
      j. Car equipment, including car guide assemblies, guide rollers or sliding car guides, car door restrictors, car top exhaust fan or blowers, car top 2:1 sheaves, load weighing or sensing switches, car top inspection stations, car top and bottom lights, car frames, car platforms, and all other related components and parts;
      k. Car door operators, including door drive chains, sheaves or belts, car door hangers, hanger covers and rollers, car door contacts, all door protective devices (including screen type detectors, proximity edges, mechanical safe edges, and light rays), and all other related components and parts;

l. Pit equipment, including car and counterweight buffers, tape sheave assemblies, governor rope pit tension sheave assemblies, compensating rope sheave assemblies or other pit mounted compensation guides, pit lights, and light fixtures including re-lamping (bulbs furnished by Purchaser), and all other related components and parts;
m. Alarm bells, emergency stop switches, emergency car lights, and batteries;
n. Car operating panels and their attachments to return panels, hall call pushbutton stations, car, and corridor signals and fixtures (including lighted surrounds or buttons), visual and audible signaling devices, remote status panels and switches, and all other related components and parts;
o. Hoist, compensating, and governor ropes or belts and their fastening means, and all other similar or related components and parts;
p. Seismic Devices, including seismic switches and contacts, derailment devices, and all other related components and parts.
q. Hydraulic: Elevator pump, motor, motor windings, roped hydraulic cables, governors, plunger single or multi-stage, all plunger packings, V-belts, strainers, valves, mufflers, Victaulic fittings, seals, pit oil return units, emergency return unit, oil coolers, emergency return unit and battery.

2. Additional Elevator Scope of Work:
a. Treat all motor windings, as needed, with proper insulating compound that has been approved by the motor manufacturers. Replace any cracked or badly worn field coil windings.
b. Keep all car tops, pits, and hoistways clean and free from dirt, oil, lint, debris, and stored items, and maintain each machine room in clean, neat condition.
c. Renew all wire ropes or hoisting belts as often as is necessary to maintain an adequate factor of safety. Maintain equal tension on all hoisting ropes or belts, and, where appropriate, shorten any hoisting device as necessary to provide continued safe operation and maintain normal traction.
d. Keep all wire ropes, hoisting belts, and guide rails clean and free from dirt, lint, rust, or accumulated grease, and keep rail shanks properly painted.
e. Repair or replace conductor cables and hoistway and machine room elevator wiring to prevent shutdowns and provide uninterrupted operation of elevator signals and uninterrupted elevator operation.
f. Disassemble machine brakes annually, unless otherwise agreed in writing, check for and replace worn parts, clean all retained parts, reassemble, lubricate, and adjust for proper operation.
g. Affix by stencil painting, and maintain the appropriate elevator numbers on the car crossheads and on all equipment components in the machine rooms and pits, including hoist machines, motor generators, governors, control cabinets, buffers, and compensation sheave assemblies. These numbers shall be a minimum of 1½" high except on the governor or compensation sheave assembly, which may be less if a suitable flat surface of 1½" is not available.
h. Repair damage to car and hoistway door finish when caused by improper adjustment or maintenance of associated door equipment.
i. Replace burned out light tubes or bulbs, furnished by Purchaser, in all machine room and pit light fixtures. Replacement of car light bulbs or tubes shall be Purchaser's responsibility when accessibility is possible using standard hand tools from inside elevator cab.
j. Maintain the emergency telephone, telephone buttons, button contacts, speakers, and wiring from the machine room junction box, in a fully operational condition. Also maintain wiring for the car telephones from the cars to the machine room junction boxes.
k. 24/7 monitoring of the emergency communication devices per code requirements.
l. Maintain, in fully operational condition, the complete Elevator Status or Monitoring Panels in the main lobby Security Desk, and the complete elevator panel in the Fire Command Center, including all lenses, lights, switches, and all associated wiring from the panels to the machine room junction boxes.
m. Maintain, in fully operational condition, Elite type elevator position indicators.

n. Any panel that includes integral elevator information within the display.

o. Maintain the emergency telephone buttons, button contacts, speakers, and wiring to the machine room junction box, in a fully operational condition. Also maintain wiring for the car telephones from the cars to the machine room junction boxes.

p. Maintain, in fully operational condition, the complete Elevator Status or Monitoring Panels in the main lobby Security Desk, and the complete elevator panel in the Fire Command Center, including all lenses, lights, switches, and all associated wiring from the panels to the machine room junction boxes.

3. Additional Services:

a. Cleaning:

1) Contractor shall clean elevator equipment, machine rooms, and pit floors at regular intervals sufficient in frequency to maintain a professional appearance, prevent tracking of dirt, oil, grease, or carbon dust from car tops, pits, or machine rooms onto carpeted areas, and to preserve the life of the equipment.

2) Contractor shall not be responsible for cleaning any equipment made necessary by events beyond its reasonable control or as a result of improper janitorial or building maintenance functions. Unusual conditions, such as on-going construction or “build-out” in the building may be reviewed with Purchaser to determine responsibility for cleaning.

b. Painting:

1) Paint all elevator machine room, hoistway, and pit equipment and all car tops at intervals frequent enough to maintain a professional appearance, prevent rusting, and preserve the equipment. Car tops, and floors in machine rooms, machinery spaces, and pits shall be maintained and painted with a low VOC paint including the color additive “Deck Gray” or other suitable color if approved by Purchaser.

2) All paint shall be suitable for the purpose intended and shall be high quality. Application of the paint shall, in all circumstance, comply with current ASME, OSHA, and applicable local codes. Contractor shall schedule all painting procedures with Purchaser.

c. Lubrication:

1) Lubricate the equipment at intervals recommended by the equipment manufacturer or as dictated by the use of the equipment. All lubricants shall be suitable for the purpose intended and shall meet or exceed the minimum requirements specified by the manufacturer of the equipment to which the lubricant is applied.

2) Lubricants, cleaning fluids and all combustible liquid shall be stored in metal cabinets in the machine room and shall be disposed of in accordance with OSHA and EPA guidelines. MSDS data sheets shall be posted as required.

d. Adjustment: Adjust the equipment as necessary:

1) To the specifications found in this agreement.

2) When required to maintain performance standards specified in this Agreement.

3) When necessary to preserve the useful life of a part or assembly.

4) When necessary to prevent or eliminate Tenant Sensitive items from becoming adversely noticeable to building’s tenants.

5) Additionally, Contractor shall check and adjust the elevator dispatching systems and make necessary tests at such intervals as are required to ensure all systems are operating properly. If required to complete such system checks, this work shall be completed during overtime at no additional cost to Purchaser.

e. Repairs and Replacements: Make repairs and/or replace all worn, damaged, or broken parts or components. Parts or components requiring repair shall be rebuilt to “as new” condition. Parts or components shall be replaced:

1) When worn beyond normal adjustment limits.

2) When necessary to ensure continued normal operation.
3) When necessary to extend the useful life of the elevators or any of their components.
4) When necessary to continue safe, dependable operation in accordance with ASME A17.1 and A17.2 Code.
5) When necessary to continue performance of the equipment in accordance with its original design.
6) When necessary to maintain the performance standards specified in this Agreement, including the elevator performance, smoothness, and quietness of operation.
7) When more than one elevator requires repair, Purchaser, upon consultation with Contractor, shall establish priorities of accomplishment.

f. Manufacturers' Parts and Lubricants: In performing the Services, Contractor agrees to provide parts used by manufacturers of the equipment for replacement or repair, and to use lubricants obtained from and/or recommended by the manufacturer of the equipment. Equivalent parts or lubricants may be used if approved in writing by Purchaser.

g. Adequate Parts and Parts Storage:
1) Contractor shall maintain an adequate inventory of spare parts and components to permit timely replacement and repairs without delay. All parts, materials, lubricants, rags, cleaning fluids, combustible liquids, and other materials and supplies shall be kept and stored in U.L. rated metal cabinets, provided by Contractor, properly secured, in each machine room, unless code required clearances would be violated by the presence of such cabinets. All materials and supplies kept in these cabinets shall be neatly arranged, and cabinet doors shall be left in the fully closed position after each visit.
2) Cabinets shall be sufficient in number and size to store all parts, materials, and supplies out of sight. No parts, materials, or supplies shall be stored on top of cabinets, on the floors, or any other place where they are visible.

h. Prompt Corrective Action: When, as a result of an examination, a need for corrective action is apparent and the corrective action is within the scope of Contractor's responsibility, Contractor shall proceed immediately to make such replacements, repairs, and/or corrections. If Contractor reasonably believes the corrective action is not within the scope of Contractor's responsibility, and no safety or potential safety problem exists, Contractor shall deliver a written report to Purchaser within seven days of the examination. If a safety or potential safety problem exists, Contractor shall immediately take corrective action at the least possible expense to Purchaser, regardless of scope of responsibility, and make a prompt written report to Purchaser.

APPENDIX E -
CODE-MANDATED TESTS

A. Contractor shall schedule, coordinate, and complete statutory Category 1, 3, and 5 tests and other equipment tests including but not limited to:

B. Annual no load slow speed test of car and pressures.
   1. Monthly firefighters' service operational tests.
   2. Annual pressure relief tests on hydraulic elevators.
   3. Annual standby power operation tests on elevators.
   4. Monthly operational tests: battery pack car emergency lighting, monthly car emergency communication device, and battery pack car lowering devices or car rescue devices.

C. Contractor shall schedule, coordinate, and complete all statutory tests. Contractor shall schedule said tests in the presence of local enforcing authority and/or persons designated by Purchaser. Scheduling difficulties shall not exempt Contractor from performing tests in compliance with applicable Code or regulatory requirements.

D. Contractor shall make "Periodic Inspections and Tests" in accordance with the more stringent of the requirements of ASME A17.1 or the AHJ.

E. Contractor shall provide not fewer than five business days' prior notification to Purchaser of its intention to perform Category 5 rated speed, rated load tests such that a representative of Purchaser may witness the tests. Written reports of all "Periodic" tests shall be submitted to Purchaser. The Agreement Price shall include all such required tests during regular hours.

F. The Elevator Contractor must assist with periodic inspection and testing of Standby Power Operation in accordance with the more stringent of ASME A17.1 or the AHJ. Purchaser shall conduct tests during regular hours. Should Purchaser require tests during overtime hours, the additional costs for tests performed in overtime shall be paid by Purchaser in accordance with Section 003100 Item 1.7 of this Agreement. If the elevators systems fail to work correctly during the testing procedure the elevator contractor shall make necessary corrections and be present at the next test to assure proper operation at no charge to the customer. The base hours spent providing this assistance during this overtime testing may be credited against the minimum hours required by Appendix A of this Agreement.

G. Category 1 and Category 3 tests shall be performed during regular hours. Category 5 tests shall also be scheduled during regular working hours. Should Purchaser require tests during overtime hours, the additional costs for tests performed in overtime shall be paid by Purchaser in accordance with Section 003100 Item 1.7 of this Agreement.

H. Contractor shall affix metal tags for all Category 1 and 5 tests in accordance with ASME A17.1-2004 or later, adopted by the AHJ.

I. Contractor shall complete and submit all documentation required of elevator service provider by AHJ.

J. Contractor is responsible for ensuring all equipment included under Agreement is free and clear of all violations whether those violations are the result of AHJ-required testing or other inspections.

K. Contractor's failure to execute statutory tests mandated by either national Codes or local jurisdictions or regulations within thirty calendar days of required time constraint shall make the Contractor responsible for any fines assessed by the AHJ. In the event the AHJ places the elevator out of service or levies a fine because of

missed statutory tests, no additional costs shall be paid by Purchaser. To prevent missed required testing, the contractor shall schedule said tests in a timely manner with the building management.

L. Before performing tests of the elevators, Contractor shall take all reasonable steps to verify that the equipment is in a safe condition for testing, shall check appropriate clearances, shall check basic operation of safety devices, and shall adhere to best practices in making the tests, including all safety procedures in general use by the Contractor or published by the Contractor or manufacturer of the equipment.

M. Contractor shall be responsible for damages to elevator components as a result of any AHJ/code-required test if damage would have been prevented through proper maintenance of equipment or safety devices. See Section L above.
1. This includes, but is not limited to, machines, buffers, sheaves, ropes, safety devices.
2. Interior finishes are EXCLUDED from the contractor's responsibility.

APPENDIX G -
CONTRACTOR'S PREVENTIVE MAINTENANCE
SCHEDULE AND MAINTENANCE CONTROL PROGRAM

Contractor to insert MCP Here

APPENDIX H -
SAMPLE MAINTENANCE LOG

SAMPLE MAINTENANCE LOG				
Date	Mechanic	Time of Arrival	Time of Departure	Description of Service

APPENDIX I -
SAMPLE CALLBACK LOG

CALLBACK LOG

Date	Unit №	Time of Call	Person Reporting Issue	Time Mech. Arrived	Date/Time Unit Back into Service

Description of the Problem:

Resolution Description from Mechanic:

Date	Unit №	Time of Call	Person Reporting Issue	Time Mech. Arrived	Date/Time Unit Back into Service

Description of the Problem:

Resolution Description from Mechanic:

Q14

The clean look of large vertical panels with aluminum accent lines adds visual interest to cab interior and gives the Q14 a modern flare.

Request a Catalog

Specifications | **Reviews (0)**

Specifications

Want to know more? Take a look at our specification documents.

Adhesive
Existing Cab Field Survey
Existing Cab Field Survey Ceiling Survey 2
Wilsonart Fire Data Sheet
MDF Fire Data Sheet
Formica Fire Data Sheet

MATERIAL SAFETY DATA SHEET

========== SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: F-SUPER 100 +

RECOMMENDED USE: Adhesive

COMPANY NAME: CHOICE BRANDS ADHESIVES
ADDRESS : 666 REDNA TERRACE
CINCINNATI, OH 45215

EMERGENCY PHONE : 800-424-9300 (CHEMTREC)
INFORMATION PHONE : 513-772-1234 / 800-330-5566

DATE PRINTED : 4/6/2011
DATE REVISED : 03/11/11

========== SECTION II - HAZARD IDENTIFICATION

DANGER! Non-flammable liquid. Irritant by inhalation, ingestion, skin contact, eye contact.

ROUTES OF ENTRY
Inhalation, skin absorption, ingestion.
INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Breathing high concentrations of vapors may cause irritation of the nose and throat or signs of nervous system depression (i.e. - headache, nausea, drowsiness, dizziness, vomiting, loss of coordination and fatigue).

EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE
May cause mild eye irritation. Direct contact with liquid or vapors may cause stinging, tearing, redness, swelling, and eye damage.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
This material may cause mild skin irritation. Prolonged or repeated contact or exposure to vapors may cause redness, burning, and drying and cracking of the skin.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
Ingestion may cause irritation of the digestive tract, nausea, vomiting, and signs of nervous system depression.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
Pre-existing eye, skin, or respiratory disorders may be aggravated by exposure to this product.

========== SECTION III - COMPOSITION / INFORMATION ON INGREDIENTS

REPORTABLE COMPONENTS	CAS NUMBER	VAPOR PRESS.	WT. %
* Dichloromethane OSHA PEL: 25 ppm ACGIH TLV: 50 ppm TWA	75-09-2	349.1	70 - 90%
* Toluene OSHA PEL: 200 ppm ACGIH TLV: 50 ppm TWA	108-88-3	22.4	1 - 7%
Mineral Spirits	8052-41-3	3.1	1 - 7%

OSHA PEL: Not established.
ACGIH TLV: Not available

DICHLOROMETHANE is a suspected human carcinogen.

* Indicates toxic chemical(s) subject to the reporting requirements of 313 of Title III.

========== SECTION IV - FIRST AID MEASURES

EMERGENCY AND FIRST AID PROCEDURES:

SKIN: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and wash affected areas thoroughly with mild soap. If irritation develops, seek medical attention.

EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention.

INGESTION: Get medical attention. If vomiting occurs, keep head lower than hips to prevent aspiration.

========== SECTION V - FIRE FIGHTING MEASURES

FLASH POINT(°F): N/A METHOD USED: TCC
FLAMMABLE LIMITS IN AIR (% BY VOL): LOWER: 0.70 UPPER: 19.00

EXTINGUISHING MEDIA: Carbon dioxide, Dry chemicals, Foam.

SPECIAL FIREFIGHTING PROCEDURES
May produce toxic fumes if burning. The use of self-contained breathing apparatus is recommended for fire fighters. Water may be unsuitable as an extinguishing medium, but helpful in keeping adjacent containers cool; avoid spreading the liquid with water used for cooling.

========== SECTION VI - ACCIDENTAL RELEASE MEASURES

Stop spill/release if it can be done without risk. Wear appropriate protective equipment including respiratory protection as conditions warrant and stay upwind. Prevent material from entering sewers, storm drains, or other natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material. Immediate clean-up of any spill is recommended. Notify fire authorities and appropriate federal, state, and local agencies.

========== SECTION VII - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid extremes of heat or cold. DO NOT STORE IN DIRECT SUNLIGHT. Keep product containers closed when not in use. Use and store material in well-ventilated

areas away from open flames, heat, hot metal surfaces, and other potential sources of ignition. Store only in approved containers. Personal contact and inhalation should be avoided. Wash hands after use. Do not eat, drink, or smoke in work area.

========== SECTION VIII - EXPOSURE CONTROLS / PERSONAL PROTECTION

See Section III for exposure limits of hazardous ingredients.

RESPIRATORY PROTECTION:
Use approved NIOSH respiratory protection if TLV is exceeded or if overexposure is likely.
VENTILATION:
Mechanical ventilation.
PROTECTIVE GLOVES:
Impermeable gloves.
EYE PROTECTION:
Wear safety glasses or goggles to protect against exposure.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:
May use impermeable apron as needed, eye washes, and safety showers.

========== SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Yellow liquid.
ODOR: Characteristic odor.
pH: Not available.
ODOR THRESHOLD: Not available.
MELT/FREEZE POINT: No data.
BOILING POINT(°F): 104
FLASH POINT(°F): 40
EVAPORATION RATE: Faster than nBuAc.
FLAMMABILITY (SOLIDS)N/A.
LOWER FLAM. LIMIT: 0.70
VAPOR DENSITY: Heavier than air.
UPPER FLAM. LIMIT: 19.00
VAPOR PRESSURE: Refer to Section III for vapor pressure values.
SPECIFIC GRAVITY: 1.2808
WEIGHT PER GAL.: 10.6646 lb/gl
SOLUBILITY IN WATER: Insoluble.
PARTITION COEFFICIENT (n-octanol/water): No data.
AUTO-IGNITION TEMP.(°F): No data.
DECOMPOSITION TEMP. (°F): No data.
VOLATILE (WT.%): 86.3399%
VOC CONTENT: 48 g/l
(STANDARD CALCULATION METHOD)
VOC CONTENT LESS WATER & EXEMPT COMPOUNDS: 245 g/l

========== SECTION X - STABILITY AND REACTIVITY

STABILITY:
Stable.

CONDITIONS TO AVOID:
Avoid extremes of heat or cold.

INCOMPATIBILITY (MATERIALS TO AVOID):
Incompatible with alkali metals, halogens, and strong acids or bases.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:
Carbon monoxide, carbon dioxide, smoke, and other unidentified organic compounds may be formed during combustion.

HAZARDOUS POLYMERIZATION:
Will not occur.

========== SECTION XI - TOXICOLOGICAL INFORMATION

See Section II for additional information regarding health risks.

CARCINOGENICITY: NTP CARCINOGEN: Yes.
IARC MONOGRAPHS: No.
OSHA REGULATED: No.

REPRODUCTIVE TOXICITY: No data.
MUTAGENICITY: No data.
STOT-single exposure: No data.
STOT-repeated exposure: No data.
ASPIRATION HAZARD: No data.

METHYLENE CHLORIDE?: Methylene chloride is a suspected human carcinogen.

========== SECTION XII - ECOLOGICAL INFORMATION

AQUATIC TOXICITY: ACUTE AND PROLONGED TOXICITY TO FISH: No data.
ACUTE TOXICITY TO AQUATIC INVERTEBRATES: No data.
ENVIRONMENTAL FATE AND PATHWAYS: No data.

========== SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable local, state, and federal regulations. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

========== SECTION XIV - TRANSPORTATION INFORMATION

NOTE: The assignment of Proper Shipping Name is in part a function of the size of the product container and the transport mode. For example, the Proper Shipping Name for a bulk container can differ significantly from the Proper Shipping Name for the same product packaged in a non-bulk container. This can also be true for products shipped via different modes of transportation (i.e. ground, air, ocean). The descriptions provided here are intended to provide some guidance. However, these descriptions may not apply to your package size or mode of shipment.
The U.S. Code of Federal Regulations, 49 CFR - Transportation, regulations, and the policies established by some transporters, require that the shipper properly classify and assign a Proper Shipping Name, and label, mark and package the material properly. Therefore, the user of this information is cautioned to consult with applicable regulations, and with qualified advisors prior to the repackaging and/or reshipment of this or any other product which contains this product.

SMALL QUANTITY (1 gallon or less):
ORM-D; CONSUMER COMMODITY

DOT (ROAD, RAIL, WATER):
PROPER SHIPPING NAME: ADHESIVES, NOT REGULATED

IMDG (ROAD, RAIL WATER):

PROPER SHIPPING NAME: ADHESIVES, NOT REGULATED

========== SECTION XV - REGULATORY INFORMATION

NFPA CODES: H F R P
2 1 0 B

CALIFORNIA PROPOSITION 65
WARNING! This product contains the following substance(s) known to the state of California to cause birth defects or other reproductive harm: TOLUENE; DICHLOROMETHANE;

WHMIS:

========== SECTION XVI - OTHER INFORMATION

The information contained herein is based on the data available to us and is believed to be correct. However, CHOICE BRANDS ADHESIVES makes no warranty, expressed or implied, regarding the accuracy of these data or the results to be obtained from the use thereof. CHOICE BRANDS ADHESIVES assumes no responsibility for injury from the use of the product described herein.

FORMICA® LAMINATE BY FORMICA GROUP / FIRE-RATED LAMINATE TECHNICAL DATA

RECOMMENDED APPLICATION

Formica® Brand Fire-Rated Laminate grades are suited for interior surfaces where design, appearance, quality, durability, resistance to stain, resistance to heat from ordinary sources, and low flame spread and smoke development ratings are required. These grades are classified by Underwriters' Laboratories®, Inc., and carry labels specifying fire ratings in accordance with data developed by the UL723/ASTM E-84 Steiner tunnel test method. The Classification may be found in UL Building Materials Directory, Laminated Plastic (BSMV), File R4540.

Grade 50/HGF: Formica Brand Fire-Rated Laminate 50/HGF is intended for application to interior horizontal or vertical surfaces.

Grade 32/VGF: Formica Brand Fire-Rated Laminate 32/VGF is intended for application to interior vertical surfaces.

Grade 89/BGF: Formica Brand Fire-Rated backing sheet 89/BGF is intended for application to interior horizontal or vertical surfaces as a balancing sheet for applications where the decorative surface is Grade 50/HGF.

Grade 87/BLF: Formica Brand Fire-Rated Laminate 87/BLF is intended for application to interior vertical surfaces as a balancing sheet for applications where the decorative surface is Grade 32/VGF.

PRODUCT DESCRIPTION

Melamine-impregnated decorative surface papers are combined with special fire retardant phenolic-treated kraft paper and consolidated in a press at high pressures. The sheet back is sanded to maintain a uniform thickness and facilitate bonding.

FABRICATION AND ASSEMBLY

LIMITATIONS

Formica Brand Fire-Rated Laminate is designed for interior use only. Do not adhere directly to plaster, drywall (gypsum board), or concrete. Do not use in areas exposed to temperatures exceeding 275°F (135°C). Finished panel width for Grade 32/VGF should not exceed 24" (60.9cm) maximum or 16" (40.6cm) maximum in areas of prolonged exposure to dry conditions. Contact adhesives are not recommended for use with Grade 32/VGF. Grade 50/HGF can be bonded to metal substrates using contact adhesive; finished panel widths should not exceed 24" (60.9cm) maximum or 16" (40.6cm) maximum where relative humidity is expected to be less than 35% for sustained periods.

STORAGE

Fire-Rated Laminate should be stored horizontally with a caul board or other protective sheet placed on top to protect the material from possible damage. The material should be protected from moisture, and should never be stored in contact with the floor or an outside wall. Optimum conditions for storage are approximately 75°F (24°C), and 45% to 55% relative humidity.

PRECONDITIONING

Prior to fabrication, allow both the Fire-Rated Laminate and substrate to acclimate for at least 48 hours at the same ambient conditions. Optimum conditions are approximately 75°F (24°C), and relative humidity of 45% to 55%. Provisions should be made for the circulation of air around the materials.

SUBSTRATES

In order to maintain the UL Classifications listed in File R4540, Fire-Rated Laminate must be bonded to an appropriate substrate such as Fire-Rated Particleboard (FRPB) or Inorganic Reinforced Cement Board (IRCB), bearing the Classification mark I(A) of Underwriters' Laboratories, Inc. for flame spread and smoke development. The substrate should be sanded smooth, clean, free of oil or grease, and uniform in thickness.

Grade 50/HGF laminate can be bonded to metal substrates using contact adhesive (see recommendations below, under Adhesives). Edge-restraining moldings are recommended around the perimeter of the panel assemblies. A trim molding or cover plate is also recommended at all cutouts to prevent "peaking." The molding should cover the perimeter of the cutout by at least 3/4" (19.1mm).

FORMICA® LAMINATE BY FORMICA GROUP / FIRE-RATED LAMINATE TECHNICAL DATA CONTINUED

ADHESIVES

In order to maintain the UL® Classifications listed in File R4540, Fire-Rated Laminate must be bonded with Chempoint Cascophen® G1131A/G1131B resorcinol adhesive. Maximum hot press temperature is 180°F (82°C).

When bonding Grade 50/HGF laminate to metal substrates using contact adhesive, use Formica® Brand #155 (flammable solvent-base) or #125 (non-flammable solvent-base) contact adhesives. *Do not use water-based or SBR types of contact adhesive.*

ASSEMBLY

Material, equipment, and workmanship should conform to the industry standard practices, conditions, procedures, and recommendations as specified by ANSI/NEMA LD3-2005, Annex A, Architectural Woodwork Quality Standards, DLPA (Decorative Laminate Products Association) and ANSI 161.2-1979 standards.

Fire-Rated Laminate can be sawed, drilled, routed, and fabricated similarly to standard HPL. Carbide-tipped cutting tools are recommended.

Fire-rated panel assemblies should be laminated with the appropriate fire-rated backing sheet to minimize warpage.

All inside corners of cutouts must be radiused as large as possible, 1/8" (3.18mm) minimum, to avoid stress cracking. The edges and corners should be routed, sanded, or filed smooth and free of chips or nicks. Panels fabricated using metal substrates, which are more dimensionally stable than wood-based materials, should be installed in a framing system which captures the perimeter of the panel yet allows for the normal dimensional movement of the laminate. This is to protect the panel edge and prevent edge lifting or separation from the substrate, which can occur under dry conditions. This is particularly important for mineral-based substrates, which have a low internal bond strength. Fire-Rated Laminate must be bonded to mineral-based substrates with Chempoint Cascophen® G1131A/G1131B resorcinol adhesive. Maximum hot press temperature is 180°F (82°C).

Panels installed in a framing system which may trap water at the edge of the panel should be edge-sealed, prior to installation, with a suitable sealer as recommended by the substrate manufacturer.

TECHNICAL DATA

Performance compliance of Formica Brand Fire-Rated Laminate:

ANSI/NEMA STANDARDS PUBLICATION LD3-2005

PHYSICAL PROPERTIES	LD3 TEST	FORMICA® BRAND FIRE-RATED LAMINATE 50/HGF	32/VGF
Appearance	**3.1**	No ABC Defects	No ABC Defects
Light Resistance	**3.3**	Slight	Slight
Cleanability	**3.4**	20 (max.)	20 (max.)
Stain Resistance	**3.4**		
Reagents 1-10		No Effect	No Effect
Reagents 11-15		Moderate	Moderate
Boiling Water Resistance	**3.5**	No Effect	No Effect
High Temperature Resistance	**3.6**	Slight	Slight
Ball Impact Resistance in	**3.8**	45 (min.)	20 (min.)
mm		1143 (min.)	508 (min.)
Radiant Heat Resistance – sec	**3.10**	75 (min.)	50 (min.)
Dimensional Change	**3.11**		
Machine Direction – %		0.50 (max.)	0.70 (max.)
Cross Direction – %		0.90 (max.)	1.2 (max.)

CODES AND SPECIFICATIONS

FORMICA® BRAND HORIZONTAL FIRE-RATED, GRADE 50/HGF

- U.S. Coast Guard Certificate of Approval No. 164.112/139/0
- NEMA LD3-2005
- U.S. Federal Mobile Home Construction and Safety Standard, Part II, 3280.203(a)
- U.S. Federal Motor Vehicle Safety Standard, No. 302
- NSF Standard 35 for work contact surfaces, non-work contact surfaces, and splash zones
- International Organization of Standardization, ISO 4586-2
- City of New York, Board of Standards and Appeals, MEA No. 331-86M

FORMICA® LAMINATE BY FORMICA GROUP / FIRE-RATED LAMINATE TECHNICAL DATA CONTINUED

FORMICA® BRAND VERTICAL FIRE-RATED, GRADE 32/VGF

- U.S. Coast Guard Certificate of Approval No. 164.112/139/0
- NEMA LD3-2005
- U.S. Federal Motor Vehicle Safety Standard, No. 302
- NSF Standard 35 for splash zones and non-work contact surfaces
- International Organization of Standardization, ISO 4586-2
- City of New York, Board of Standards and Appeals, MEA No. 329-86M

FORMICA® BRAND HORIZONTAL FIRE-RATED BACKING SHEET, GRADE 89/BGF

- U.S. Coast Guard Certificate of Approval No. 164.112/139/0
- NEMA LD3-2005
- International Organization of Standardization, ISO 4586-2
- City of New York, Board of Standards and Appeals, MEA No. 334-86M

FORMICA® BRAND HORIZONTAL FIRE-RATED BACKING SHEET, GRADE 87/BLF

- U.S. Coast Guard Certificate of Approval No. 164.112/139/0
- NEMA LD3-2005
- International Organization of Standardization, ISO 4586-2
- City of New York, Board of Standards and Appeals, MEA No. 333-86M

TESTED IN ACCORDANCE WITH UL723/ASTM E-84

Thickness 0.025" - 0.054" (0.64mm - 1.38mm) (Includes Grades 32, 50)

FACER	FLAME SPREAD	SMOKE DEVELOPED
Unbonded	0	125
Bonded IRCB*	0	65
Bonded FRPB*	0	300

Meets Class A

Thickness 0.021" - 0.050" (0.53mm - 1.265mm) (Includes Grades 87, 89)

BACKER	FLAME SPREAD	SMOKE DEVELOPED
Unbonded	10	0
Bonded IRCB*	0	0
Bonded FRPB*	10	0

Meets Class A

*Bonded with Chempoint Cascophen® G1131A/G1131B adhesive.
IRCB = Inorganic Reinforced Cement Board
FRPB = Fire-Rated Particleboard

TESTED IN ACCORDANCE WITH CAN/ULC-102

Thickness 0.025"- 0.054" (0.64mm - 1.38mm) (Includes Grades 32, 50)

FACER	FLAME SPREAD	SMOKE DEVELOPED
Bonded IRCB*	0	45
Bonded FRPB*	5	130

Thickness 0.021" - 0.050" (0.53mm - 1.265mm) (Includes Grades 87, 89)

BACKER	FLAME SPREAD	SMOKE DEVELOPED
Bonded IRCB*	5	5
Bonded FRPB*	15	10

*Bonded with Chempoint Cascophen® G1131A/G1131B adhesive.
IRCB = Inorganic Reinforced Cement Board
FRPB = Fire-Rated Particleboard

SIZES

ALL GRADES FIRE-RATED LAMINATE

Sheet widths: 48" (121.9cm), 60" (152.4cm)
Sheet lengths: 96" (243.8cm), 120" (304.8cm), 144" (365.8cm)

NOMINAL THICKNESS

Grade 50/HGF — 0.045" ± 0.004" (1.1mm ± 0.10mm)
Grade 32/VGF — 0.029" ± 0.004" (0.7mm ± 0.10mm)
Grade 89/BGF — 0.051" ± 0.004" (1.3mm ± 0.10mm)
Grade 87/BLF — 0.026" ± 0.003" (0.7mm ± 0.08mm)

COLORS, PATTERNS, AND FINISH

Fire-Rated Laminate is available in a broad selection of designs and colors in finish 58, 42, 43, 46, NT, RD on a factory order basis.

Samples are available from Formica Corporation specification representatives or directly from Formica Corporation. Call 1-800-FORMICA™ for ZIP-CHIP™ service.

HOW TO SPECIFY

Surface (and appropriate backing sheet) shall be Formica Brand Fire-Rated Laminate from Formica Corporation, Cincinnati, Ohio.

COLOR NUMBER
COLOR NAME
GRADE
FINISH
SIZE

USE AND CARE

Formica Brand Fire-Rated Laminate may be cleaned with a damp cloth and mild detergent.

If in doubt about the suitability of a particular cleaner or detergent, check with its manufacturer. Use of abrasive cleaners, powders, scouring pads, steel wool, sandpaper, etc., can damage the finish of the decorative surface.

Acid or alkaline-based cleaners, compounds, etc., will mar, etch, corrode, and permanently discolor the decorative surface of Fire-Rated Laminate. Never use these materials on Fire-Rated Laminate, nor allow bottles, rags, etc., contaminated with them to contact the surface. Accidental spills or splatters from these harsh materials should be wiped off immediately, and the area cleaned thoroughly with a damp cloth.

EXAMPLES OF THESE MATERIALS ARE:

drain cleaners
coffeepot cleaners
ceramic cooktop cleaners
chlorine bleach
some countertop cleaners
rust removers
metal cleaners
tub and tile cleaners
oven cleaners
toilet bowl cleaners

LIMITED WARRANTY

Formica Corporation expressly warrants that, for a period of one (1) year from the date of first sale, Fire-Rated Laminate will be reasonably free of defects in materials and workmanship, and that when properly handled and fabricated, will conform, within accepted tolerances, to applicable manufacturing specifications. This limited warranty only applies to Fire-Rated Laminate which is stored, handled, fabricated and installed in the manner recommended by Formica Corporation. Due to the variety of uses and applications to which Fire-Rated Laminate may be put, **FORMICA CORPORATION CAN MAKE NO WARRANTY THAT THIS PRODUCT IS SUITABLE FOR ANY PARTICULAR PURPOSE AND CAN MAKE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, OTHER THAN THOSE SET FORTH ABOVE.**

Buyer's exclusive remedy for any loss or claim resulting from the use or inability to use this product shall be replacement of the defective Fire-Rated Laminate, or at the option of Formica Corporation, return of the product and refund of the purchase price. **IN NO EVENT SHALL FORMICA CORPORATION BE LIABLE IN EITHER TORT OR CONTRACT FOR ANY LOSS OR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES.**

This limited warranty gives the purchaser of Fire-Rated Laminate specific legal rights. Other rights may be available which vary from state to state.

Any information or suggestion concerning applications, specifications or compliances with codes and standards is provided solely for your convenient reference and without any representation as to accuracy or suitability. Formica Corporation disclaims any legal responsibility. The user must verify and test the suitability of any information or products for the specific application.

IMPORTANT NOTICE

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which Formica Corporation assumes legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. **NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.**

MANUFACTURER

Formica Corporation
10155 Reading Road
Cincinnati, Ohio 45241-5279

TECHNICAL SERVICES

Technical assistance may be obtained through your local Formica® Brand Products Distributor or from Formica Corporation trained representatives in sales offices throughout the country. To assist these representatives, Formica Corporation maintains a sales technical services staff in Cincinnati, Ohio. For technical assistance, contact your distributor or sales representative; write the company directly at Formica Corporation Technical Services Department, 10155 Reading Road, Cincinnati, OH, 45241; call (513) 786-3048 or 1-800-FORMICA™; or fax (513) 786-3195. In Canada, call 1-800-363-1405. In Mexico, call (525) 530-3135.

For warranty information, please visit www.formica.com or call 1-800-FORMICA™.

GreenGuard Environmental Institute
Formica® high-pressure laminate (HPL) is GreenGuard Indoor Air Quality Certified under the GreenGuard Standard for Low-Emitting Products.

Wilsonart
ENGINEERED SURFACES
2501 Wilsonart Drive
P.O. Box 6110
Temple, TX 76503-6110

1. Manufacturer

Wilsonart LLC
2501 Wilsonart Drive
P.O. Box 6110
Temple, Texas 76503-6110
Phone: (254) 207-7000; (800) 433-3222
Fax: (254) 207-2384
Web Site: www.wilsonart.com

2. Product Description

Recommended Uses

Wilsonart® Fire-Rated Laminate is recommended for interior application where fire codes specify or the environment suggests a fire-resistant and smoke-resistant surface.

It may be applied as decorative surfacing for casework and cabinets, wainscoting, interior doors, and wall panel and divider systems. This laminate is particularly appropriate for surfacing furniture in public places such as airports, hotels, office buildings and institutions such as hospitals and schools. Fire-Rated Laminate can offer a Class I or A fire rating, provided fire-retardant adhesives and substrates are used.

- **Vertical Surface (VGF) Type 604**: Intended to surface walls in public spaces and corridors, front panels on commercial casework and other applications where a functional, durable, decorative surface must absorb somewhat less impact than a comparable horizontal surface.
- **General Purpose (HGF) Types 605 and (SGF) 607**: Produced for both horizontal and vertical applications where the surface must perform under constant use.
- **Fire-Rated Backer Type 264**: A stabilizing backer sheet for applications where the decorative surface is Vertical Surface Type 604.
- **Fire-Rated Backer Type 266**: A stabilizing backer sheet for applications where the decorative surface is General Purpose Type 605 or 607.

Product Composition

The decorative surface is composed of melamine resin-treated decorative surface papers. Special kraft core sheets, used to obtain the desired thickness, are impregnated with phenolic resin.

Basic Limitations

Wilsonart® Laminate is intended for interior use only, and should be protected from continuous exposure to direct sunlight, extremes in humidity and temperatures greater than 275°F (135°C). It is not structural material and must be bonded to a suitable substrate.

Wilsonart® Fire-Rated Laminate should not be used as direct covering for plaster or concrete walls, or for gypsum wallboard. It should not be exposed to flame, molten metal, metallic sparks or intense, direct sunlight. Nor should it be used as cutting surfaces.

Pattern and Color Availability

Wilsonart® Fire-Rated Laminate is available in most Standard Line (DG1) patterns.

Please note the patterns that are NOT available in Fire-Rated Laminate.

- Digital Print Laminate: Virtual Design Library and Wilsonart By You designs are NOT available.
- Non-promoted, factory-order designs are NOT available.

Please verify Fire-Rated Laminate pattern availability by type, size and finish by checking Pattern Availability at www.wilsonart.com.

Finishes

- #07 Textured Gloss - A fine textured finish with a sheen level indicative of a waxed wood, polished stone, or other moderately reflective materials. #07 finish features AEON™ ENHANCED SCRATCH & SCUFF-RESISTANT PERFORMANCE TECHNOLOGY, and carries a premium upcharge. Recommended for horizontal and vertical applications. *Nominal Glossometer Reading = 42*
- #38 Fine Velvet Texture - A smooth textured finish with moderate reflective value. Recommended for horizontal and vertical applications. *Nominal Glossometer Reading = 14*
- #60 Matte - A textured finish with a moderate reflective quality. Recommended for horizontal and vertical applications. *Nominal Glossometer Reading = 10*

NOTE: Nominal Glossometer Readings are made at a 60° angle of incidence.

Sheet Sizes

48" x 96"	(1219mm x 2438mm)
48" x 120"	(1219mm x 3048mm)

Sheet Thicknesses

Type	Typical Wilsonart Thickness	Weight PSF
Vertical Surface Type 604 (VGF)	0.032" ± 0.005" (0.81mm ± 0.13mm)	0.274#
General Purpose Type 605 (HGF)	0.048" ± 0.005" (1.22mm ± 0.13mm)	0.438#
Specific Purpose Type 607 (SGF)	0.059" ± 0.005" (1.5mm ± 0.13mm)	0.480#
Backer Type 264	0.030" ± 0.004" (0.76mm ± 0.10mm)	0.223#
Backer Type 266	0.050" ± 0.005" (1.27mm ± 0.13mm)	0.359#

Note minimum sheet order requirements: 2 sheets by size, finish and product type

3. Technical Data

Physical Properties of Fire-Rated Laminate

ISO 4586 Test	Typical Wilsonart Type 604 (VGF)	ISO 4586-3 VGF	Typical Wilsonart Type 605 (HGF)	ISO 4586-3 HGF	Typical Wilsonart Type 607 (SGF)	ISO 4586-3 HDF
Thickness	0.032" ± 0.005" (0.8mm ± 0.12mm)	N/A	0.048" ± 0.005" (1.2mm ± 0.12mm)	N/A	0.059" ± 0.005" (1.5mm ± 0.12mm)	N/A
Surface Wear Resistance (cycles)	Meets or Exceeds 400	350 (min.)	Meets or Exceeds 400	350 (min.)	Meets or Exceeds 400	350 (min.)
Boiling Water Resistance	No effect	Slight Effect (Gloss) No Effect (Other Finishes)	No effect	Slight Effect (Gloss) No Effect (Other Finishes)	No effect	Slight Effect (Gloss) No Effect (Other Finishes)

High Temperature Resistance	Slight effect	Slight Effect (Gloss) No Effect (Other Finishes)	Slight effect	Slight Effect (Gloss) No Effect (Other Finishes)	Slight effect	Slight Effect (Gloss) No Effect (Other Finishes)
Radiant Heat Resistance	205 seconds	≥ 200 sec.	205 seconds	≥ 200 sec.	220 seconds	≥ 200 sec.
Stain Resistance Reagents 1-10 Reagents 11-15	No effect Slight effect	No effect Moderate effect	No effect Slight effect	No effect Moderate effect	No effect Slight effect	No effect Moderate effect
Light Resistance	Slight effect	Slight effect (min.)	Slight effect	Slight effect (min.)	Slight effect	Slight effect (min.)
Dimensional Stability Machine Direction Cross Direction	0.40% 1.00%	1.10% (max.) 1.40% (max.)	0.30% 0.80%	1.10% (max.) 1.40% (max.)	0.30% 0.80%	0.50% (max.) 0.90% (max.)
Impact Resistance	35" (889mm)	23.5" (600mm)	65" (1651mm)	31.5" (800mm)	75" (1905mm)	39.3" (1000mm)
Cleanability (cycles)	10	20 (max.)	10	20 (max.)	10	20 (max.)
Appearance	No ABC defects	No ABC defects	No ABC defects	No ABC defects	No ABC Defects	No ABC defects

Note: Since Fire-Rated backer sheets are not intended to be exposed to light, wear or everyday use, no physical property tests are in current use.

Typical Fire Test Data

Test data for Wilsonart Fire-Rated Laminate is obtained by the Steiner Tunnel Test method of the American Society for Testing Materials (ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials). This procedure is cataloged by Underwriters Laboratories, Inc. as UL 723.

Typical Flame Spread and Smoke Developed Properties

NEMA Type	Wilsonart® Product	Unbonded	Bonded to Incombustible Cement Board	Bonded to Fire-Rated Particleboard
VGF	604	15/15	15/0	15/20
HGF	605	15/15	15/0	15/25
SGF	607	15/25	15/0	15/35
BKV	264	15/0	15/0	20/10
BKH	266	20/0	15/0	10/15

Note: Adhesive to attain Flame Spread and Smoke Developed figures for bonded laminates (above) is resorcinol. Fire-rated particleboard is Duraflake, with a UL rating of 25/25, or comparable material. The above values are CUL (Canadian Underwriters Lab) approved.

Model Code Designations used to determine flame spread classification

Flame Spread Classification (Maximum Rating)	International (IBC)	Life Safety (NFPA 101)
25	A	A
75	B	B
200	C	C

Reference: Architectural Woodwork Quality Standard, 8th Edition, Version 1.0 – 2003

All Model Codes regulate the generation of smoke by interior finish material. In all cases they specify a maximum smoke development rating of 450.

4. Codes and Certifications

General Fire Code Compliance
Test data for code compliance is from the UL 723 Tunnel Test method. This procedure has been cataloged under the following designations:

American Society for Testing Materials	ASTM E 84
American Society for Testing Materials	ASTM E 162
American Society for Testing Materials	ASTM E 662
American National Standards Institute	ANSI No. 2.5
National Fire Protection Agency	NFPA No. 255
Underwriters Laboratories, Inc.	UL No. 723

This test data is the basis for fire codes written by various responsible groups, including:

BBC	Basic Building Code (Building Officials Conference of America. Used in Midwest and Northeast.)
NFPA	National Fire Protection Agency (Building Exits Code, Section #101.)
SSBC	Southern Standards Building Code (Southern Building Codes Congress. Used primarily in the South.

Many local codes, especially in densely populated areas, have been patterned after these. Examples include the cities of Los Angeles and San Francisco and the Port Authority of New York. Approvals include:

New York City, Department of Buildings, Materials and Equipment Acceptance
(Types 264, 266, 604, 605 & 607) MEA 167-87M

General Standards
Fire-Rated Laminate conforms to ANSI/NEMA LD3-2005 for VGF, HGF and SGF (Types 604, 605 and 607, respectively).

NSF International (NSF) #35, "Laminated Plastic for Surfacing for Food Service Equipment." All solid colors and printed patterns in Basic Types 604, 605 and 607, with #60 finish comply.

The UL GREENGUARD® Environmental Institute™ has awarded its GREENGUARD® Indoor Air Quality Certification to Wilsonart Laminate. All Wilsonart Laminate product types were tested under the stringent GREENGUARD Standards for low-emitting products. All GREENGUARD Indoor Air Quality Certified products ensure minimal impact on the indoor environment. For a copy of the certificate, visit www.greenguard.org.

Specific Product Standards
Fire-Rated Laminate meets the following federal codes:

Aircraft Interiors
U.S. Federal Test Method, Federal Aviation Administration, DOT, Part 25.853, Airworthiness Standards: Transport Category Airplane (Interior Finish). Fire-Rated Laminate Types 604, 605 and 607 comply with parts A and C.

Military/Ships
U.S. Military Standard MIL-P-17171E (SHIPS) Plastic Laminate and U.S. Military Standard 1623D (SHIPS), “Fire Performance Requirements and Approval Specifications for Interior Finished Materials and Furnishings - Naval Shipboard Use.” Fire-Rated Laminate Types 605 and 607 comply with both of these standards.

Fire-Rated Product Type	U.S.C.G. (46 CFR 164.012)	U.S.C.G. (IMO FTP Code)	Canadian Board of Steamship Inspection
Type 604	164.012/29/0	164.112/8/0	G1-162
Type 605	164.012/105/0	164.112/9/0	G1-166
Type 607	164.012/30/0	164.112/10/0	G1-163
Type 264	164.012/46/0	164.112/11/0	G1-161
Type 266	164.012/106/0	164.112/12/0	G1-165

Types 605 and 607 also appear on the U.S. Department of the Navy "Approved Habitability Materials List 9640, SER 05M1.11/1148," (Revision K, May 1996), Pages 3 and 4, paragraphs 1.5 and 2(b), for use on bulkhead sheathing, and on NAVSEA Drawing #804-5000991.

Mobile Homes
U.S. Federal Register August 9, 1984, Housing and Urban Development Mobile Home Construction and Safety Standard (24CFR), 3280.203. Fire-Rated Laminate Types 604, 605, 607, 264 and 266 comply.

Motor Vehicles/Interiors
U.S. Federal Motor Vehicle Safety Standard (FMVSS) 302, "Flammability of Interior Materials." Fire-Rated Laminate Types 604, 605 and 607 comply.

Branded Cleaner and Sanitizer Resistance for Wilsonart® Fire-Rated Laminate per ISO 4586-2 Method 31 (B)
No effect was exhibited except as noted (* or **) on the following:

1. Beckart Environmental (Stabilized Chlorine Dioxide Mixed with Water at 3000ppm)
2. Benefect®
3. Claire® Germicidal Cleaner (Country Fresh Scent)
4. Claire® Disinfectant Spray Q (Country Fresh Scent)
5. Clean Republic – All Purpose Everyday Cleaner (Hypochlorous Acid – 0.003% Solution)
6. Clorox® Anywhere® Hard Surface Sanitizing Spray*
7. Clorox® Clean-Up (Cleaner & Bleach)
8. Clorox® Disinfecting Bleach w/6% Sodium Hypochlorite (24:1/Water:Bleach)
9. Clorox® Disinfecting Spray
10. Clorox® Disinfecting Wipes
11. Clorox Healthcare® Bleach Germicidal Cleaner *
12. Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant
13. Clorox Healthcare® Fuzion® Cleaner Disinfectant*
14. Clorox Healthcare® VersaSure® Cleaner Disinfectant Wipes
15. Clorox® Total 360 Disinfectant Cleaner
16. Diversey™ Expose® II 256
17. Diversey™ Oxivir 1
18. Diversey™ Oxivir Tb Wipes
19. Diversey™ Stride® Floral Neutral Cleaner
20. Diversey™ Virex® II 256
21. Fabuloso® Complete (Multi-Purpose Cleaner)
22. Lysol® Professional Disinfectant Spray
23. Microban® 24 Hour (Multi-Purpose Cleaner)
24. PDI Sani-Prime® Germicidal Spray
25. PDI Super Sani-Cloth® Germicidal Disposable Wipes
26. Purell® Advanced Hand Sanitizer Gel
27. Purell® Food Service Surface Sanitizer
28. Purell® Professional Surface Disinfectant
29. Purell® Healthcare Surface Disinfectant
30. Simple Green® Concentrated (All-Purpose Cleaner)
31. Spic and Span® Everyday (Antibacterial Cleaner)

Test procedure: Listed materials were placed in contact with Wilsonart® Fire-Rated Laminate surface under 1"
(25.4mm) diameter watch cover glass for 16 hours duration prior to evaluation for effect. The branded cleaners and sanitizers listed above were cleaned with water only.
* Causes slight change of gloss or color.
** Causes slight damage, with degree of damage proportionate to length of exposure and concentration.

Branded Cleaner and Sanitizer Resistance for Wilsonart® Fire-Rated Laminate per BIFMA HCF 8.1-2014 (Section 6 / Modified)
No effect was exhibited except as noted (* or **) on the following:

1. Beckart Environmental, Inc. (Stabilized Chlorine Dioxide Mixed with Water at 3000ppm)
2. Benefect®
3. Claire® Germicidal Cleaner (Country Fresh Scent)
4. Claire® Disinfectant Spray Q (Country Fresh Scent)
5. Clean Republic – All Purpose Everyday Cleaner (Hypochlorous Acid – 0.003% Solution)
6. Clorox® Anywhere® Hard Surface Sanitizing Spray
7. Clorox® Clean-Up (Cleaner & Bleach)
8. Clorox® Disinfecting Bleach w/6% Sodium Hypochlorite (24:1/Water:Bleach)
9. Clorox® Disinfecting Spray
10. Clorox® Disinfecting Wipes
11. Clorox Healthcare® Bleach Germicidal Cleaner
12. Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant
13. Clorox Healthcare® Fuzion® Cleaner Disinfectant
14. Clorox Healthcare® VersaSure® Cleaner Disinfectant Wipes
15. Clorox® Total 360 Disinfectant Cleaner
16. Diversey™ Expose II 256
17. Diversey™ Oxivir 1
18. Diversey™ Stride® Floral Neutral Cleaner
19. Diversey™ Tb Wipes
20. Diversey™ Virex II 256
21. Fabuloso® Complete (Multi-Purpose Cleaner)
22. Lysol® Professional Disinfectant Spray
23. Microban® 24 Hour (Multi-Purpose Cleaner)
24. PDI Sani-Prime® Germicidal Spray
25. PDI Super Sani-Cloth® Germicidal Disposable Wipes
26. Purell® Advanced Hand Sanitizer Gel
27. Purell® Food Service Surface Sanitizer
28. Purell® Professional Surface Disinfectant
29. Purell® Healthcare Surface Disinfectant
30. Simple Green® Concentrated (All-Purpose Cleaner)
31. Spic and Span® Everyday (Antibacterial Cleaner)

Test procedure: Listed reagent materials were placed in contact with Wilsonart® Fire-Rated Laminate surface with a one-inch square 100% cotton cloth completely saturated and covered with a 2”
(50.8mm) diameter watch cover glass for 15 minute duration. The reagents listed above were removed with clean cloth and the area was then cleaned with clean cloth and distilled water only. The surface area was allowed to dry for 1-hour prior to evaluation for effect.
* Causes slight change of gloss or color.
** Causes slight damage, with degree of damage proportionate to length of exposure and concentration.

Resistance of Furniture to UV Lights for Wilsonart® Fire-Rated Laminate per BIFMA HCF 8.1-201X Section 9 (Alternate Method per ASTM G155 using ISO 4586-2.33 conditions)

Wilsonart® Fire-Rated Laminates 604, 605, and 607 conforms to BIFMA – Healthcare Furniture Design Guidelines for Cleanability , Section 9 Resistance to Furniture to UV Lights. Wilsonart Fire-Rated Laminates 604, 605, and 607 meet or exceed the acceptance level for surface evaluation.

5. Installation: Fabrication and Assembly Recommendations

Wilsonart® Fire-Rated Laminate must be bonded to a substrate of reliable quality and appropriate fire rating, such as particleboard, incombustible cement board or plywood with one A-face. Bond with adhesives, and follow the techniques recommended by the adhesive manufacturer. Permanent adhesives are recommended such as specialized PVAs, phenol/resorcinol, resorcinol, and epoxy. Contact cement, such as Wilsonart Adhesives, also may be used.

Take care to ensure an appropriate moisture balance between the laminate and the substrate prior to fabrication. The face and backing laminates and the substrate should be conditioned in the same environment for 48 hours before fabrication.

Recommended conditioning temperature is about 75°F (24° C). Laminates should be conditioned at 45% to 55% relative humidity.

To avoid stress cracking, do not use square-cut inside corners. All inside corners should have a minimum of 1/8" (3.18mm) radius, and all edges should be routed smooth.

Fabricating for Fire Rating Concerns
Flame Spread and Smoke Developed data for products fabricated with Wilsonart® Fire-Rated Laminate vary with the choice of substrate and adhesive, as well as with pressing conditions. In general, these factors range from most to least fire-retardant, as shown below:

Substrate	Adhesive	Pressing Conditions
Incombustible	Resorcinol	Hot pressed/cold
Fire-Rated Particleboard	Phenol/Resorcinol	Cold pressed/long
Conventional Particleboard*	Casein	Cold pressed/short
Conventional Plywood	Contact	Nip rolled

**45 lb. cu. ft. density, industrial grade*

Methods
Assembled pieces should meet the specification of KCMA (Kitchen Cabinetmakers Manufacturers Association) ANSI-161.2-1998 (revised) and "Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program" guidelines of the Architectural Woodwork Institute where applicable. Drill oversized holes for screws or bolts. Screws or bolts should be slightly countersunk into the face side of a laminate-clad substrate.

6. Warranty

7. Maintenance

8. Technical Services

For samples, literature, questions or technical assistance, please contact our toll-free Hotline at (800) 433-3222, Monday through Friday, 8 am –5 pm, CST.

Specification Form:

Surface shall be Wilsonart® Fire-Rated Laminate, produced by Wilsonart LLC, Temple, Texas 76503-6110.

Type: See Fire-Rated specific types under Product Description/Product Definition

Surface
Color Number: _____ Color Name: _____

Finish
Number: _____ Name: _____

Edge Trim
Color Number: _____ Color Name: _____

Adhesive
Name: _____ Grade/Type: _____
Brand: Wilsonart® Adhesive

Material shall equal or exceed performance standards set by the American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) LD3-2005 for high-pressure laminate. Fabrication shall comply with "Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program" guidelines of the Architectural Woodwork Institute.

Wilsonart® Fire-Rated Laminate Technical Data
Revised: August 1, 2020

SECTION 1 : COMPANY AND PRODUCT IDENTIFICATION

Company: **Choice Brands Adhesives**
666 Redna Terrace
Cincinnati, OH 45215
Emergency Contact Number: 800-424-9300 (CHEMTREC)
Information Telephone Number: 513-772-1234

CHOICE BRANDS ADHESIVES, LTD.

Product Name F-SUPER 100 PLUS

Recommended Use: Adhesive

SECTION 2 : HAZARDS IDENTIFICATION

Hazard Classifications: Acute Toxicity - Inhalation: Category 5
Skin Irritation: Category 2
Eye Damage: Category 2B
Carcinogenicity: Category 1A,1B
Reproductive Toxicity: Category 2
STOT Repeated Exposure: Category 2
Aspiration: Category 1

GHS Signal Word: DANGER!

Pictograms:

Hazard Statements:
May cause respiratory irritation.
Causes skin irritation.
Causes eye irritation.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

Precautionary Statements:
Keep away from heat/sparks/open flames/hot surfaces – no smoking.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Avoid release to the environment.
Use personal protective equipment as required.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lens, if present and easy to do. Continue rinsing.

Potential Health Effects

Principal Routes of Exposure Inhalation, skin absorption, eye contact

Acute Effects

Eyes:	Contact with eyes may cause irritation. Direct contact with liquid or vapors may cause stinging, tearing, redness, swelling, and eye damage.
Skin:	May cause skin irritation and/or dermatitis. Prolonged or repeated contact or exposure to vapors may cause redness, burning, and drying and cracking of the skin.
Inhalation:	Breathing high concentrations of vapors may cause irritation of the nose and throat or signs of nervous system depression (i.e. – headache, nausea, drowsiness, dizziness, vomiting, loss of coordination and fatigue).
Ingestion:	Ingestion may cause irritation of the digestive tract, nausea, vomiting, and signs of nervous system depression.
Chronic Effects	Avoid repeated exposure. May cause blood damage. Repeated contact may cause allergic reactions in very susceptible persons.
Aggravated Medical Conditions	Pre-existing eye, skin, or respiratory disorders may be aggravated by exposure to this product.

SECTION 3 : COMPOSITION INFORMATION

Chemical Designation	CAS No.	% by Weight
Methylene chloride	75-09-2	70 - 90%
Toluene	108-88-3	1 - 7%
Mineral spirits	8052-41-3	1 - 7%

Any remaining ingredients should be considered a proprietary blend of non-hazardous substances, or materials below threshold reporting limits.

SECTION 4 : FIRST AID MEASURES

General Advice	Show this safety data sheet to the doctor in attendance
Eyes:	Flush with plenty of cool water for at least 15 minutes, holding eyelids apart for thorough irrigation. If irritation persists, get immediate medical attention.
Skin:	Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash affected areas thoroughly with mild soap. If skin irritation persists, get immediate medical attention.
Inhalation:	Move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen and get immediate medical attention.
Ingestion:	Do not induce vomiting – seek immediate medical attention. If vomiting occurs, keep head lower than hips to prevent aspiration.
Notes to Physician	Treat symptomatically

SECTION 5 : FIRE FIGHTING MEASURES

Extinguishing Media:	Carbon dioxide, dry chemicals, foam. Water may be helpful in keeping adjacent containers cool; avoid spreading the liquid with water used for cooling. Water-based sprinkler systems may help contain larger fires.
Specific Hazards arising from the Chemical	Closed containers may rupture if exposed to fire or extreme heat. May produce toxic fumes if burning.
Special protective Equipment:	Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Use personal protective equipment. Remove all sources of ignition.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.
Methods for Clean-up	Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.
Other Information	None known

SECTION 7 : HANDLING & STORAGE

Handling:	Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Wear appropriate personal protective equipment. Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from open flames, hot surfaces and sources of ignition.
Storage:	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from extremes of heat or cold. Keep in properly labeled containers.

SECTION 8 :EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Hazardous Components	OSHA PEL	ACGIH TLV
Methylene chloride	25	50
Toluene	200	20
Mineral spirits	Not established	100

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eyes/Face:	Safety goggles or glasses, or full face shield.
Skin:	Protective gloves and impervious clothing.
Respiratory Protection:	In operations where exposure limits are exceeded, use a NIOSH-approved respirator that has been selected by a technically qualified person for the specific work conditions.
Hygiene Practices:	Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling. When using, do not eat, drink or smoke.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow liquid.
Odor:	Characteristic odor.
Odor Threshold	No data
VOC (g/L)	48
VOC (g/L) less exempt & water	240

Non-volatile (wt%)	13.92
Specific Gravity (g/l)	1.280
Bulk Density (lb/gal):	10.66
Solubility in Water	Insoluble
pH	Not available
Viscosity	Not available
Evaporation rate :	Faster than nBuAc
Vapor Pressure (mmHg):	Not available
Vapor Density :	Heavier than air
Boiling Point:	104.0°F [40.0 °C]
Freezing/Melting Point:	Not Determined
Flammability (solids):	No data
Partition Coefficient (n-octonal/water)	No data
Auto-ignition Temp:	No data
Decomposition Temp:	No data
Explosive Properties:	No data
Oxidizing Properties:	No data
Flash Point:	Not applicable
Flammable Limits:	Lower: N/A ; Upper: N/A

SECTION 10 : STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions. Hazardous polymerization does not occur.
Conditions to Avoid:	Keep away from open flames, hot surfaces, static electricity and sources of ignition. Avoid extremes of heat or cold.
Materials to Avoid:	Incompatible with strong acids and bases, alkali metals, halogens, and strong oxidizing agents.
Hazardous Decomposition Products:	Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide, carbon dioxide, smoke, and other unidentified organic compounds may be formed during combustion.
Possibility of Hazardous Reactions:	None under normal conditions of use.

SECTION 11 : TOXICOLOGICAL INFORMATION

Reproductive Toxicity:	No data	Acute Toxicity:	No data
Mutagenicity:	No data	Irritation:	No data
STOT-single exposure:	No data	Corrosivity:	No data
STOT-repeated exposure:	No data	Sensitisation:	No data
Aspiration Hazard:	No data	Typical Routes of Entry:	Inhalation, skin absorption, eye contact

Chronic Toxicity / Carcinogenicity

The information below indicates whether each agency has listed any ingredient as a carcinogen:

Component	IARC	NTP	OSHA
Methylene chloride	Listed	Not listed	Listed

SECTION 12 : ECOLOGICAL INFORMATION

Aquatic Toxicity:	Acute and prolonged Toxicity to Fish:	No data
	Acute Toxicity to Aquatic Invertebrates:	No data
	Environmental Fate and Pathways:	No data
Persistence and Degradability:	No data	
Bioaccumulative Potential:	No data	
Mobility in Soil:	No data	
Other Adverse Effects:	No data	

SECTION 13 : DISPOSAL CONSIDERATION

Waste Disposal Method

Dispose of in accordance with all applicable local, state, and federal regulations. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

SECTION 14 : TRANSPORT INFORMATION

55-GALLON DRUM CONTAINERS OR LESS

REGULATION	**DESCRIPTION**
DOT	
Proper Shipping Name	Unregulated
Hazard Class	
UN-No	
Packing Group	

Pictograms:

ICAO / IATA	Contact the preparer for further information.
IMDG/IMO	Contact the preparer for further information.

SECTION 15 : REGULATORY INFORMATION

US TSCA: Yes – All components are listed or exempt

OSHA Regulatory Status: Not hazardous

SARA 313

Section 313 OF Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). If listed below, this product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Designation	**Cas No.**	**Weight %**
Methylene chloride	75-09-2	70 – 90%
Toluene	108-88-3	1 - 7%

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPS) (see 40 CFR 61)

Chemical Designation	**Cas No.**	**Weight %**
Methylene chloride	75-09-2	70 – 90%
Toluene	108-88-3	1 - 7%

State Regulations

California Proposition 65

This product contains the following substance(s) known to the state of California to cause cancer or reproductive harm:

Chemical Name	**CAS Number**
Methylene chloride	75-09-2
Toluene	108-88-3

SECTION 16 : OTHER INFORMATION

NFPA is a Health, Flammability and Reactivity rating: **210B**

4 – SEVERE HAZARD, **3** – SERIOUS HAZARD, **2** – MODERATE HAZARD, **1** – SLIGHT HAZARD, **0** – MINIMAL HAZARD, ***** – Chronic Hazard

Date issued: 8/21/2015 VER Primary

The above Information is based on the present state of our knowledge of the product at the time of publication. It is given in good faith. No warranty is implied with respect to the quality or the specification of the product and the user must satisfy his self that the product is entirely suitable for his purposes.

******* END OF SAFETY DATA SHEET *******