PROJECT MANUAL

CONSTRUCTION DOCUMENTS

PROJECT:

ELEVATOR MODERNIZATION

SANTA CLARA COUNTY OFFICE OF EDUCATION

1290 RIDDER PARK DRIVE

SAN JOSE, CA 95131

OWNER:

SANTA CLARA COUNTY OFFICE OF EDUCATION

BUSINESS, FACILITIES & OPERATIONS DIVISION

ELEVATOR CONSULTANT:

JE SELLEN CONSULTING, LLC

414 NICORA PLACE

SONOMA CA 95476

MAY 2025

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ELEVATOR PREVENTIVE MAINTENANCE

PART 1 - PREVENTIVE FULL MAINTENANCE SPECIFICATION

1.1 GENERAL REQUIREMENTS

A. Contract duties shall include all labor, materials, supplies, tools, equipment, parts, and safety equipment required or reasonably inferred, whether specifically identified by the Agreement.

B. Contract duties shall be performed to the standard of quality established by the National Elevator Industry, Inc. Part 7 Maintenance Guidelines.

C. Contractor shall submit a Maintenance Control Program (MCP) as recommended by the equipment manufacturer and as required by ASME A17.1 Section 8.6 for all equipment included under Contract Duties. Routine maintenance procedures shall include identifiable weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including required equipment tests. When accepted by Owner, Contractor's Maintenance Control Program (MCP) shall become **SCHEDULE A** to this exhibit.

D. Coordinate and follow the directives of Owner with respect to scheduling Duties and any required deliveries at times specified in the Agreement.

E. Contract Duties shall be performed:

1. In compliance with all applicable Code requirements and legal statutes as required by the local Authorities Having Jurisdiction (AHJ's).
2. Per the original equipment manufacturer's specifications.
3. In compliance with Owner's work rules, policies, regulations, and requirements.
4. In compliance with Owner's requirements for cleanup using containers supplied by Contractor.
5. Diligently and in a premium, complete and skillful manner, free of neglect, defect or deficiency.
6. In such manner as to minimize interference or disruption to the Owner, Owner's officers, detainees or guests.

F. Initiate, maintain, and supervise all safety precautions and programs relating to Services and comply with all applicable safety laws. Take all reasonable precautions for safety of Owner, Owner's tenants, Owner's employees, Contractor's employees, and other persons on or about Property.

G. Repair any damage to the Property and adjacent areas caused by performance of Services to the Owner's satisfaction.

1.2 SERVICES

A. Regularly and systematically, but under no circumstances less than once monthly for hydraulic elevators, examine, clean, lubricate, adjust, and as conditions warrant, repair, or replace all covered vertical transportation equipment. Maintain machine rooms, hoistways, pits, car tops and equipment in these areas in a clean condition.

B. Scheduled repairs performed under Contract Duties may each serve as one maintenance visit.

C. Callbacks will not be included in satisfying the maintenance visit frequency requirements.

D. Provide 24-hour monitoring of elevator emergency telephones.

E. Check and adjust individual elevator and group operational systems at recommended intervals to ensure all control circuits and time settings are properly adjusted to minimize system response time to registered car and hall calls and maximize car and/or group operational performance.

F. Lubricate equipment at intervals recommended by original equipment manufacturer, or more frequently, as indicated by equipment use, premature wear or adverse environmental conditions.

G. Paint equipment at intervals to maintain a consistent professional appearance, prevent corrosion, and preserve the equipment. Floors in machine rooms, machinery spaces, and pits shall be painted in a color approved by the Owner. All paint shall be suitable for the purpose intended, of high quality, and shall not emit noxious odors while curing. Schedule all painting procedures with Owner.

H. Provide and install replacement lamps as required for adequate and code-compliant lighting of machine rooms and pits.

I. Repair damage to car and hoistway door finish when caused by misalignment, improper adjustment or neglected maintenance of elevator door equipment. Equipment to be maintained to achieve or restore and sustain proper alignment under all door operating conditions and speeds.

J. Expeditiously complete required repairs, replacements, and adjustments to the covered equipment, identified during examination or testing of the equipment.

K. Make immediate repairs to any condition that presents a safety hazard.

L. Submit a written report to the Owner for any work required for safe operation and performance of the equipment, which the Contractor believes is not included in the scope of Contract Duties. Report shall include pricing, schedule and special conditions of the work in executable form.

1.3 TESTING

A. Schedule, coordinate, complete, document, report and record all equipment tests required by Code or local AHJ including, but not limited to:

7. Monthly Firefighters' Emergency Operation tests.

8. Monthly operational tests: battery pack car emergency lighting, and car emergency communication devices.

9. Annual no load pressure tests shall be performed whether or not required by AHJ.

10. 5-year full load governor and safety tests.

11. Annual standby power operation tests on elevators.

12. Testing of earthquake protection devices and operations.

B. Provide with a minimum of five (5) working days prior notification of tests so that a Representative of the Owner may witness all tests. Submit written reports to Owner within ten (10) working days of completion of tests, confirming findings including corrective actions required and taken. Affix and maintain governmental jurisdiction number designations on all unit equipment in the machine rooms and pits including hoist machine, pump unit, controller, car crosshead, electrical disconnect switches, buffers, etc.

C. Affix metal tags to the tested devices and provide Owner with written and legible documentation clearly indicating the type of test, date of test, and applicable Code rule.

D. Failure to execute tests mandated by Code or local jurisdictions within 30 calendar days of receipt of Preliminary Orders shall subject Contractor to a penalty equal to one hour of mechanic's straight time labor as identified in this agreement, per day for each unit and for each infraction, beginning on the 30th day after receipt of written violations and continuing until Owner receives written notification from Contractor of completion of required test and such notification is submitted to required AHJ. Contractor shall schedule said tests in the presence of local enforcing authority and/or other persons designated by Owner. Scheduling difficulties shall not exempt Contractor from performing tests in compliance with applicable Code or regulatory requirements.

1.4 PARTS AND MATERIALS

A. Contractor shall maintain on site an adequate supply of replacement parts including spare motors, circuit boards, electrical contacts, fixtures, to make routine repairs to elevators in a timely fashion. Starting spare parts inventory, identifying owner as Contractor or Owner shall be listed in **SCHEDULE C.**

B. All materials, parts, and supplies incorporated in execution of the work shall be:

13. New.

14. Of best quality and suitable for their intended uses.

15. Obtained from or recommended by original manufacturers of equipment for replacement or repair, including parts redesigned by and recommended as replacement parts by the original equipment manufacturers. Equivalent parts may be used if approved by Owner in writing.

C. Parts requiring repair shall be rebuilt to "like new" condition.

D. Lubricants shall be suitable for purpose intended and shall meet or exceed minimum requirements specified by original equipment manufacturer of equipment to which the lubricant is applied.

E. Materials shall be delivered and stored at the Property which are intended to become part of the completed Contract Duties shall pass to Owner upon installation.

F. Provide metal cabinets of suitable size for storage of materials in each machine room. No open storage of materials shall be permitted. Contractor shall stock cabinets with adequate renewal parts and lubricants to maximize beneficial usage of equipment covered by this Agreement.

G. Lubricants, cleaning fluids and all combustible liquids shall be stored in a metal cabinet in machine room and shall be disposed of in accordance with Federal or local jurisdiction guidelines. A metal can with lid shall be provided in each machine room for temporary storage of oily rags.

H. Proration of equipment or materials shall not be allowed.

I. Consideration shall be given regarding obsolescence of systems, materials, or parts only when both the original equipment manufacturer(s) and after-market elevator industry suppliers no longer manufacture or rebuild required parts or assemblies and make them available at commensurate prices. Rebuilt parts and/or assemblies are acceptable when documentation is provided indicating parts and/or assemblies meet all design requirements of the original part and/or assembly.

J. Do not remove parts or equipment required by this agreement from the Property without written approval of Owner. This does not include renewal parts stocked on site by Contractor, which shall remain Contractor's sole property until installed on the equipment. Replace job stock of parts and materials as utilized.

1.5 HOURS OF SERVICE

A. Regular preventive maintenance and emergency callback services shall be performed between the hours of 8:00 a.m. and 5:00 p.m. Monday through Friday, unless otherwise noted in this Agreement.

B. Provide overtime callback service at no additional cost under the following conditions:

16. Passenger entrapments.

17. Group failure.

18. Multiple cars out of service.

C. While any elevator is out of service to be modernized, all other elevators under this Contract shall receive 24/7 callback coverage

D. Contractor's service center shall assign, dispatch and acknowledge callbacks within 10 minutes of receipt of service request from the Owner. After call has been dispatched, technician shall arrive at the Property within the following time frames, with reasonable consideration regarding uncontrolled conditions of traffic and time of day. Standby

technician for overtime calls shall be located within 30 miles of the Property and able to respond within these timeframes during normal conditions:

19. During the hours identified above Contractor's technician shall arrive at Property in response to an Owner-initiated callback request within sixty (60) minutes of the call being dispatched.

20. During the hours identified above Contractor's technician shall arrive at Property in response to a Owner-initiated callback in which there is a passenger entrapment within thirty (30) minutes of the call being dispatched.

21. Outside of the hours identified above Contractor's technician shall arrive at the Property in response to an Owner initiated callback request within two (2) hours of the call being dispatched.

22. Outside of the hours identified above Contractor's technician shall arrive at the Property in response to an Owner-initiated callback request in which there is a passenger entrapment within sixty (60) minutes of the call being dispatched.

23. Owner, at its sole discretion, may reduce monthly amount by $300/occurrence for Contractor's repeated failure to meet callback response time.

24. All calls placed to the Contractor prior to 3pm Monday through Friday shall be responded to without overtime cost regardless of when the mechanic arrives onsite.

E. Where the Mean Time Between Failures (MTBF) which necessitate or result in a callback for any given elevator falls below ninety (90) days, indicative of a chronic problem, Contractor shall escalate response by:

25. Notifying Owner that they are aware of the condition and are escalating.

26. Immediately dispatch a Superintendent, Adjuster, Repair Crew or other Service Technician as required to facilitate restoration of service.

F. When responding to a regular-time callback, and particularly if a Technician unfamiliar with the building is assigned the call, there shall be a maximum one-hour threshold for trouble-shooting. If the cause has not been determined and the technician is not actively engaged in remedy of the problem within one hour of arrival, another Service Technician shall join or replace the responding technician. If another hour passes without restoration of service, the callback shall be escalated as described for MTBF callbacks in item D.

G. Callback is defined as any request for service or assistance by Owner or Owner's representative when any unit is malfunctioning or not available for beneficial usage due to equipment shutdown or malfunction.

H. Maintenance billing shall be suspended for any unit that is shut down for more than 72 hours continuously due to equipment failure until the unit is repaired and available for beneficial usage by the Owner, excluding scheduled equipment repairs.

I. Coordinate and schedule with the Owner removal of units from beneficial usage to complete Contract Duties, unless removal is necessitated for emergency repair or adjustment. Owner agrees to permit Contractor to remove units (no more than one at a

time) from service for a reasonable time during hours identified above to perform Contract Duties.

1.6 ADDITIONAL CONDITIONS

A. Upon arrival at the property, Contractor employees shall report to the Owner's designated personnel and sign into the Owners log book indicating name, arrival time, purpose of visit, (callback, scheduled maintenance, repair, etc.). Upon completion of Contract Duties, complete the log book to include a brief description of work accomplished, including car and/or group designation, and time of departure. Log book provided by Owner.

B. Conspicuously post Preventive Maintenance Schedule and work log in each machine room. At Contractors option and is acceptable to Owner, Contractor shall electronically track preventive maintenance history, testing, callbacks, etc., within unit computer control system. Data shall be accessible by Owner via manual log or web access and hard copy printout at all times.

C. Contractor's record of performance of Contract Duties shall serve as prima facie evidence of compliance with maintenance visit frequency and tasking as prescribed by the MCP. Periods without complete and compliant records shall be construed to be devoid of required maintenance and a pro-rata credit of payments due for the neglected units and period under the Agreement shall be required.

D. Maintain a complete set of straight line wiring diagrams in good condition. Wiring diagrams shall be updated and noted with "as built" conditions including any changes or modifications to circuits resulting from control modifications, parts replacement or equipment upgrades made by Contractor. Owner shall be allowed to reproduce these "as built" drawings and retain sole possession of these drawings in event Agreement is cancelled. If Agreement is cancelled, Owner will withhold final payment due Contractor until all as built/as modified sets of wiring diagrams are delivered to Owner.

E. Equipment manufacturer's electronic diagnostic devices required to facilitate Contract Duties, including fixed and hand-held devices and their software, shall be maintained and upgraded by Contractor during the term of this Agreement.

F. Annual re-inspection fees by local AHJ shall be paid by the Owner. Fees for re-inspection due to Contractor's failure to correct cited deficiencies covered by Contract Duties shall be paid by Contractor.

G. Owner may provide information to enable Contractor to render Contract Duties hereunder, or Contractor may learn information about Property or develop such information from Owner. Contractor agrees:

27. To treat, and to obligate Contractor's employees, suppliers, and subcontractors to treat as confidential all such information whether identified by Owner as confidential.

28. Not to disclose any such information or make available any reports, recommendations and/or conclusions which Contractor may make on behalf of Owner to any person, firm or corporation or use the same in any manner,

whatsoever, without first obtaining Owner's written approval, except to the extent necessary in connection with performing Contract Duties or when required by law.

H. Contractor shall not, in the course of performance of these Contract Duties, or thereafter, use or permit the use of Owner's name or the name of any affiliate of Owner, or the name, address or any picture or likeness of or reference to the Property in any advertising, promotional or other materials prepared by or on behalf of Contractor without the prior written approval of Owner.

1.7 EQUIPMENT PERFORMANCE REQUIREMENTS

A. Equipment listing, type, and individual car performance requirements are identified in **SCHEDULE B** of this Exhibit. Equipment performance requirements indicated are the minimum standard and are not the sole criteria for judging Contractor's performance. Consistent failure to meet performance requirements shall be grounds for cancellation of this Agreement.

B. Elevators shall be maintained to provide a quiet and comfortable car ride with smooth acceleration, deceleration, and accurate stopping. Door operation shall be smooth and quiet.

1.8 EXCLUSIONS

The following are excluded from the Agreement:

A. Installation of new attachments or performance of newly mandated tests recommended or directed by the local AHJ, or insurance companies, subsequent to the date of this Agreement. In the event of new or retroactive requirements, required by such Authorities, Contractor shall provide written notice and proposal to Owner within ten (10) working days of effective date.

B. Callbacks, repairs, modifications, adjustments, or replacements required due to negligence, vandalism, accident, or misuse of the equipment by anyone other than the Contractor, its employees, subcontractors, or other causes beyond the Contractor's control except ordinary wear.

C. Repair or replacement of Property items, such as hoistway or machine room walls, floors, car interior finishes, car finish floor material, hoistway entrance frames, car and hoistway door panels, car and hoistway door sills, signal fixture faceplates, and fire alarm initiating devices except when caused by improper adjustment or maintenance of elevator door equipment.

D. Mainline and auxiliary disconnecting means, fuses and electrical feeders to equipment control panels in machine rooms.

E. Lamps for normal car illumination.

F. Failure or fluctuations of property electric power, air conditioning or humidity control

G. Callbacks, repairs, adjustments, or any other work required due to water or other material into machine room, hoistway, car enclosure, or pit.

H. Improper loading of elevators in excess of its rated car capacity or load classification by the Owner, Owner's employees, tenants, or outside vendors.

Above exclusions shall apply except to the extent that they arise out of or are caused by the negligence, breach of contract, or breach of statutory duty of the Contractor, his employees, agents, sub-Contractors, or others for whom he is responsible.

1.9 OWNER'S RESPONSIBILITIES

A. Annual re-inspection fees by local AHJ.

B. Provide clear, safe, and convenient access to Property and equipment rooms.

C. Maintain car lighting, telephone lines to controller terminals, equipment room electrical switch gear and electrical feeders to unit controllers.

D. Maintain equipment room heating and air conditioning systems.

E. Maintain fire alarm initiating devices in elevator lobbies, machine rooms, hoistways, etc.

F. Prevent unauthorized access to, or storage of Property or other Contractors' equipment or supplies in designated elevator equipment rooms, and obstruction of equipment room access corridors and doors.

G. Maintain equipment rooms, hoistways, and pits in Code compliant dry condition.

H. Coordinate with Contractor regarding equipment retrofits such as security systems, new car interior finishes, car interior TV systems, etc.

I. During Property construction and/or modernization, make provisions to limit infiltration of dust and debris into equipment and equipment spaces.

1.10 CONTRACTOR'S EMPLOYEES

A. Contractor shall employ only qualified, careful, and efficient employees in conformity with best industry practices for execution of required Contract Duties under this agreement.

B. Contractor shall be responsible for the supervision and execution of Contract Duties by its employees.

C. An annual onsite condition review shall be conducted by the Contractor's designated supervisor to ensure that all Contract Duties are being properly performed. The Contractor shall schedule the review with the Owner and provide the supervisor's name. Supervisor shall have the authority to act as Contractor's agent and shall provide Owner with written summary of findings within ten (10) working days after completion of site review.

D. Contractor shall employ a sufficient number of trained and capable employees, possessing experience with the same or similar equipment, to properly, adequately, safely, and promptly provide Contract Duties. Owner shall not be charged for time spent

by inexperienced or untrained Contractor employees in failed attempts to trouble-shoot problems. All matters pertaining to employment, training, supervision, compensation, promotion and discharge of Contractor's employees are the responsibility of the Contractor, who is in all respects the employer, and Owner shall have no liability with respect thereto.

E. Contractor warrants that any of its employees dispatched to the Property are properly qualified and will apply the NEII standard of care in the performance of Contract Duties. If Owner, in Owner'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 Contract Duties, interfering with operation of Property, disturbing or annoying any occupants, other Contractors or subcontractors then at Property, or that such actions or conduct is otherwise detrimental to Owner, then upon receipt of Owner's written notice, Contractor shall immediately provide qualified replacement persons.

F. Contractor shall not engage any subcontractors or other parties to perform Contract Duties unless first approved in writing by Owner. Owner'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.

1.11 OWNER'S RIGHT TO AUDIT CONTRACT DUTIES

B. Owner reserves the right to audit and/or test the equipment at any time to verify that Contract Duties are being fulfilled. Any deficiencies noted shall be submitted to the Contractor in writing for correction within thirty (30) working days at the Contractor's expense.

A. A qualified vertical transportation consultant acceptable to both parties may be retained by Owner to review proposals and invoices for work identified as outside the scope of Contract Duties, perform equipment audits of Contract Duties and, where necessary, to mediate disputes. Contractor agrees to accept determinations of the consultant as final.

END OF SECTION 14 01 20

SCHEDULE A

(Contractor's MCP)

SCHEDULE B

ELEVATOR PERFORMANCE REQUIREMENTS

ELEV. No.	FLOOR TO FLOOR TIME	DOOR OPEN TIME	STOPPING ACCURACY
South 1 & 2, North A	12.5 Seconds	2.1 Seconds	± 1/8”
North B	15.5 Seconds	3.5 Seconds	± 1/8”

- Floor to floor performance time is measured from start of door closing at one floor until the car is stopped at the next typical successive floor and doors are ¾ opened for center opening doors and ½ open for side opening doors, in either direction under any loading conditions. Based on a typical floor height of 12’-0”.
- Door open time is measured from start of doors opening until doors are fully opened.
- Door close time is measure from start of door closing until doors are fully closed
- Door closing force shall be no more than 30 lbs. Door closing force is measured with the doors at rest between 1/3 and 2/3 closed.
- Car stopping accuracy shall be measured under all loading conditions.
- The rated car speed shall vary no more than 10% in the up direction or 15% in the down direction under any loading conditions
- Horizontal and vertical acceleration within cars during all riding and door operating conditions shall not exceed 20 (geared) mg peak to peak in the 1 - 10 range. Measurement criteria ISO804.
- Acceleration and deceleration shall be constant and not exceed 3 feet/second^2 with an initial ramp between 0.5 and 0.75 seconds.
- Sustained jerk shall not exceed 6 feet/second^3.
- Mean Time Between Failures (MTBF) for any single elevator shall not be less than ninety (90) days.
- Measured noise levels in a moving car outside the leveling zone shall not exceed 55 dBA under any condition including car ventilation blower or fan on highest speed. Measured noise levels in car within the leveling zone or when car is stopped shall not exceed 60 dBA. There shall be no discernible sound in the elevator car from hoist machine, suspension means, sheaves, counterweight, pump unit, electrical power conversion units, platforms, car enclosure walls, or car and counterweight guide assemblies unless it is mutually determined by Contractor and Owner that such sounds are attributable to the design of the equipment

SCHEDULE C –SPARE PARTS INVENTORY

(Contractor's spare parts inventory to be inserted here.)

SECTION 14 24 23

HYDRAULIC ELEVATOR MODERNIZATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes modernization of four (4) hydraulic elevators, in two separate common hoistways, including but not limited to:

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

2. 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.

3. Unless specifically identified as “Reuse,” “Retain,” or “Recondition,” provide new equipment. All retained equipment to be reconditioned to “like new” condition and shall meet all performance requirements of this specification.

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

5. New equipment shall include, as a minimum, all features and functions of existing equipment unless designated for alteration or omission herein.

B. Related work required by this section:

1. Hoistway and Pit

a. Fire caulking at pipe openings in machine rooms and hoistways.

b. Wall block outs and fire rated closure for control and signal fixture boxes which penetrate walls.

c. Protect open hoistways and entrances during construction per OSHA Regulations.

d. Remove sprinkler in overhead.

e. Patch lobby walls as necessary where fixtures are modified.

2. Machine Room – Modifications as required for Code approved enclosure.

3. Electrical Service, Conductors, and Devices

a. Lighting and GFCI convenience outlets in pit and machine room

b. Fused 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

c. 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

d. Fire alarm initiating devices in each elevator lobby and each machine room to initiate firefighters’ return feature. 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. All piping and wiring in public spaces to be discrete.

C. Related work not required by this section:

1. Updates to or replacement of the existing life safety and fire alarm system, which shall be performed by and coordinated with the current FLS maintenance contractor, including all required connections and testing.
2. Electrical work as prescribed by specification.
3. Provision and installation of in-car flooring, other than facilitation and supervision.
4. Removal of sprinklers from all upper hoistways and/or pits as allowed by AHJ; cap or re-route lines outside elevator spaces.

D. Within sixty (60) days of award, determine and confirm maximum allowable cab finishes weight within compliance of Code requirements, or identify specific changes to the equipment that are required to bring the elevator to compliance.

E. Prior to removing each car from service, conduct full-load leak-down test to confirm and document that there is no underground leak in the elevator's jack cylinder or hydraulic system piping.

1.2 DEFINITIONS

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

B. Defective Elevator Work: Operation or control system failure, including excessive malfunctions; performances below specified ratings; excessive wear; unusual deterioration or aging of materials or finishes; unsafe conditions; need for excessive maintenance; abnormal noise or vibration; and similar unusual, unexpected, and unsatisfactory conditions.

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

D. Substantial Completion: The work shall be considered Substantially Complete when the last elevator has been inspected and permit issued by the State of California Elevator Division, and has been put into operation for its intended use.

E. Non-Proprietary: Systems that can be installed, adjusted, and repaired using on-board diagnostic features, and product manuals, and which do not require proprietary tools or manuals, do not have volatile or time-limited memory, and allow unlimited access.

1.3 SUBMITTALS

A. General: Upon contract award, provide a submittal schedule itemizing all submittals to be provided and dates for the same.

B. Performance: Submit PMT readings for all elevators prior to modernization to establish baseline for ride quality. Submit new PMT readings for all elevators after completion of modernization to confirm ride quality complies with specified requirements.

C. Car Weights: Provide documentation of weights of all cars prior to modernization.

D. Product Data: Include capacities, sizes, performances, operations, safety features, finishes, and similar information. Include product data for the following specified components:

1. Hydraulic power unit.
2. Hydraulic control and rupture valves.
3. Door operator and related equipment.

4. Door protection device.
5. Microprocessor controller.
6. Guide shoes.
7. Signal fixtures.
8. Entrance jamb floor identification plates.

E. Shop Drawings: Show plans, elevations, sections, and large-scale details indicating machine room layout, lobby elevations, relationships with other construction, and locations of equipment and signals.

1. Include large-scale layout of car control station and hall fixtures.
2. Include electrical requirements based on the speed and capacity specified to include maximum and average power demands. Design for existing electrical power supply.
3. Include elevator equipment heat output for design of machine room cooling.
4. Indicate any variations from existing conditions.

F. Samples: For exposed finishes of cars, hoistway doors and frames, and signal equipment; 3-inch- square samples of sheet materials; and 4-inch lengths of running trim members.

Submit samples of push buttons, position indicators, in-car Braille, and floor identification jamb plates.

G. Post Installation:

1. Operation and Maintenance Data: Provide Owner's Manuals with operation and maintenance instructions to include manufacturers' contact information, manufacturer's reference and serial numbers, operating instructions, recommended spare parts lists, maintenance recommendations and schedules.
2. Inspection and Acceptance Certificates and Operating Permits: As required by authorities having jurisdiction for normal, unrestricted elevator use.

1.4 PERMIT, TESTING, 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.

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 Construction Documents and site conditions for compatibility with its product prior to submittal of quotation.

B. Review existing structural, electrical provisions, and mechanical provisions for compatibility with Contractor's products. Purchaser will not pay for change to structural, mechanical, electrical, or other systems required to accommodate Contractor's equipment.

C. Site Condition Inspection:

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

a. Conduct full-load 24-hour leak-down test on both elevators to verify or eliminate immediate need for cylinder replacement.

b. Forward written record and photos of results to Owner and Consultant prior to continuation.

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

1.6 QUALITY ASSURANCE

A. Compliance with Regulatory Requirements: All components and work shall comply with the most stringent applicable provisions of the following codes, laws and/or authorities, including revisions and changes in effect:

1. CCR Title 8, Elevator Safety Orders.
2. Guide for Inspection of Elevators, Escalators, and Moving Walks, ASME A17.2.
3. National Electrical Code, NFPA 70.
4. Local Fire Authority.
5. Requirements of all other codes, ordinances and laws applicable within the governing jurisdiction.
6. Life Safety Code, NFPA 101.

B. Accessibility Requirements: Comply with the Americans with Disabilities Act (ADA) and California Building Code, Title 24.

C. Where conflicts occur between authorities, statutes or regulations, the more stringent, as determined solely by the Consultant, shall apply.

1.7 DESIGN CRITERIA

A. Provide equipment to fit within the existing spaces and structural conditions.

B. Class A / Passenger loading.

C. Performance:

1. Contract Speed: within 5% of the specified speed under any loading conditions
2. Floor-to-floor performance time: Measured from the start of doors closing at one floor until doors are ¾ open and the car is stopped at the next successive floor in either condition under any loading condition, based on 12’-0” floor height:

   South 1 & 2, North A: 12.5 seconds

   North B: 14.5 seconds

3. Door Open Time: From start of opening to fully opened:

   South 1 & 2, North A: 2.1 seconds

   North B: 3.1 seconds

4. Door Close Time: From start of closing to fully closed:

   All: 4.0 seconds

5. Door Dwell Times: Comply with accessibility requirements and provide separate adjustable timers for car and hall calls with initial settings as follows:

   a. Hall Calls: 5.0-6.5 seconds

b. Car Calls: 5.0-6.5 seconds

c. Interrupted Door Beam: 1.0-1.5 seconds

6. Nudging: Adjustable with initial setting of 20 seconds. If doors fail to close after the set time, doors close at reduced speed and pressure and activate nudging buzzer

7. Leveling: Within 1/8-in. under any loading condition in either direction. Level into floor at all times; do not overrun floor and level back.

D. Operating Qualities: The Owner's Representative will judge riding quality of car and enforce the following requirements. Make all necessary adjustments.

1. Starting and stopping shall be smooth and comfortable. Slowdown, stopping and leveling shall be without jars or bumps.

2. Full Speed Ride: Free from vibration and sway.

E. Sound Control:

1. Vibration: Sound isolate all equipment from building structure to prevent objectionable noise and vibration transmission to occupied building spaces including; hydraulic power unit, controller, piping,

2. Airborne Noise: Maximum acoustical output level of:

a. 85 dBA measured inside machine room

b. 65 dBA measured inside elevator car during all sequences of operation

c. 70 dBA measured in elevator lobbies

F. Motor Control: Operate at plus or minus 10% of normal feeder voltage plus or minus 3% of normal feeder frequency without damage or interruption of elevator service. Include protective devices to prevent damage in over- or under-voltage conditions and loss or reversal of phase.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle materials, components, and equipment in manufacturer's protective packaging.

B. Store materials, components, and equipment off the ground, under cover, and in a dry location as directed by Owner.

C. Handle according to manufacturer's written recommendations to prevent damage, deterioration, or soiling.

1.9 COORDINATION

A. Coordinate installation of sleeves, block outs, and items that are embedded in concrete or masonry for elevator equipment. Furnish templates and installation instructions and deliver to Project site in time for installation.

B. Coordinate sequence of elevator installation with other work to avoid delaying the Work.

C. Coordinate locations and dimensions of other work relating to the elevator including pit ladder, electrical service, electrical outlets, lights, and switches in pits and machine rooms.

1.10 WARRANTY

A. Material and workmanship shall comply in every respect with Construction Documents. Repair or replace defective components and correct deficient operation or workmanship which develops within one year from date of Substantial Completion of all work to satisfaction of the

Purchaser and Consultant at no additional cost, unless due to ordinary wear and tear, or improper use or care by Purchaser.

B. 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.

C. Retained Equipment: Check, clean, modify, repair, or replace all retained components and parts so that each component and its parts are in like new operating condition. Retained equipment must be compatible for integration with new systems.

D. All retained equipment shall be covered under the warranty provisions above. No proration of equipment or parts shall be allowed on preventive maintenance contract between the Contractor and Purchaser.

1.11 MAINTENANCE SERVICE

A. Interim Maintenance:

1. Provide full preventive maintenance service on all elevators beginning from contract award until Substantial Completion.

2. The work is considered substantially complete when the last elevator is completed, inspected, and placed into normal operation for the beneficial use by building tenants.

3. The cost for Interim Maintenance shall not be included in the elevator contract and shall be invoiced to and paid by the Purchaser monthly as building operating expense during the modernization period.

4. The cost of Interim Maintenance shall remain fixed during the term of the modernization work.

5. The scope of full maintenance service shall be as defined in the Elevator Preventive Maintenance Specification as included with these documents.

B. Warranty Maintenance:

1. Provide full preventive maintenance service for a period of one year beginning at Substantial Completion.

2. The cost for Warranty Maintenance shall not be included in the elevator contract and shall be invoiced to and paid by the Purchaser as building operating expense during the warranty period.

3. The cost of Warranty Maintenance shall remain fixed during the Warranty Period.

4. The scope of full maintenance service shall be as defined in the Elevator Preventive Maintenance Specification as included with these documents.

C. Contractual Maintenance:

1. Provide continuing full preventive maintenance service beginning at the end of the Warranty Maintenance period.

2. The scope of full maintenance service shall be as defined in the Elevator Preventive Maintenance Specification as included with these documents.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Approved Manufacturers: Elevator equipment shall be as manufacturer by one of the following:

1. Hydraulic Power Unit: Boremax, EECO, MCE, MEI, TKE, Otis, Schindler.

2. Controller: Elevator Controls Corp., MCE, TKE, Otis, Schindler, SmartRise, Alpha

3. Hydraulic valve: Maxton (no known equal)

4. Signal Fixtures: EPCO, Innovation, MAD, Otis, TKE, Schindler.

a. Push Buttons: Equal to PB-37 by Innovation.

5. Harmonic Door Operators: GAL, Otis, TKE, Schindler.

a. Door Closers: SmarTork (no known equal)

b. Door Gibs: Equal to The Enforcer by Sees.

B. Substitutions: Include major components from the above listed manufacturers only.

C. Substitution of products by other manufacturers will be considered by providing supporting documentation acceptable to the Consultant that the proposed substitutes are of equal or higher quality and performance characteristics than the specified products. Identify the source of all in the proposal.

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2.2 EQUIPMENT SUMMARY

Manufacturer	Otis	Otis	
Designation	South Elevators 1 & 2	North Elevator A	North Elevator B
Installation Date	1982	1990	1990
St of CA ID No.	74179-80 (Elev. 1 & 2)	96580 (Elev. A)	96581 (Elev. B)
Capacity *	2,500 lbs.	2,500 lbs.	4,000 lbs.
Speed	115 fpm	115 fpm	
Stops/Openings	3 in-line	3 in-line	
Power Unit	OTIS	OTIS	
Hydraulic Jack	In-Ground	In-Ground	
Mach. Location	Adjacent at first floor	Adjacent at first floor	
Control	Relay / Solid State	Relay / Solid State	
Operation	Duplex Collective	Duplex Collective	
Door Operation	SSCO	SSCO	2SSS
Door Size	42” w. x 84” h.	42” w. x 84” h.	48” w. x 84” h.
Clear Inside	78.5” w. x 50.5” d.	78.5” w. x 50.5” d.	63” w. x 95” d.

2.3 CONTROL SYSTEMS

A. General: Provide a non-proprietary microprocessor-based control system as required to perform the functions of elevator motion, car operation, and door control.

1. Include sleep mode that turns car lights and fan off when there is no demand; provide adjustable time period between normal operation and activation of sleep mode.
2. Include hardware required to connect, transfer, interrupt power, and protect motors against overloading. Properly shield each controller cabinet containing memory equipment from line pollution. Design system to accept reprograming with minimum down time.
3. Stop car within 1/8" above or below the landing sill. Maintain stopping zone regardless of load in car, direction of travel, or distance between landings.
4. Include hardware necessary to protect hoist motors and door operators. Software shall control group and simplex program operations.

B. Operation of Individual Elevators – Selective Collective Operation:

1. Design the control system to accept reprogramming with no shutdown of system.
2. Controllers containing memory equipment must be properly shielded from line feeder pollution.
3. Elevator operation shall be simplex selective cancellation collective automatic control in accordance with the following:

a. Car and landing calls in each direction of travel shall be answered in the order in which required floors are approached by the car, provided that the call is registered sufficiently in advance of the car's arrival to permit a stop to be made.

4. Fault Diagnostic System:

a. Provide a diagnostic system for microprocessor systems capable of determining faults most difficult to find. It shall constantly monitor the condition of all car computers. When variances occur from the normal mode, the change or fault shall be detected, the location of the elevator, time of day, number of times fault occurred, along with fault code message shall be stored on memory. This information shall be retrievable and shall be displayed on a CRT monitor in the machine room.

b. The data link required to monitor all car computers shall be permanent. Installation requiring disconnect/reconnect of data line in order to retrieve specific car data is unacceptable.

C. Security Operation: Provide hardware and software required to restrict access to the elevators during non-business hours as directed by the Owner. Include labor and wiring required for card reader unit provided by Owner. Mount reader units in hall call stations as directed and cross connect to control module in machine room. Elevator control systems shall facilitate system tracking of persons accessing secure floors via printout by passenger ID number, floor accessed, and time of entry.

D. Other Operations:

1. Door Hold Operation: Provide controls and a button within car operating panel that shall hold the doors open for an adjustable period of 30 to 90-seconds. The button shall illuminate when pressed, extinguish when door begins to close. A buzzer shall sound if another call for the elevator is placed during the holding period.

2. The following shall resume normal door operation:

a. Activation of door close button.

b. Activation of any floor button within the elevator.

3. Expiration of time period.

E. Independent Service: Provide controls for operation of each car from its pushbuttons only. Close doors by constant pressure on the desired destination floor button or door close button. Open doors automatically upon arrival at selected floor.

F. Firefighters' Service: Provide in accordance with Code requirements.

G. Remote Monitoring and Diagnostics: Equip each controller with standard ports, interface boards, and drivers to accept maintenance, data logging, fault finding diagnostic and monitoring computers, keyboards, modems, and programming tools. The system shall be capable of driving remote color CRT monitors that continually scan and display the status of each car and call.

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. Include door hold timer for Elevators 8 and 9.

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 5-year life

expectance. Include required transformer. Provide test button in service compartment of car operation panel. Provide lighting integral with portion of normal car lighting system.

J. Battery-Powered Lowering:

1. Upon loss of normal power, provide controls to automatically lower the car at inspection speed to the designated landing. If the car is at a floor, open the doors, and shut down. If the car is in motion between floors are lowered to the designated floor, open the doors, and shut down. If the car is in motion below the designated floor, lowered to the next lower floor, open their doors, and shut down. System includes rechargeable battery and automatic recharging system.

2. Upon restoration of normal power, the elevator shall automatically resume normal operation without manual reset.

2.4 WIRING - NEW

A. General: Use only copper conductors in metal conduit or galvanized duct. Provide 10% spare conductors in conduit, duct, and wire runs. No splices in wiring; connect wiring directly to terminal blocks in control cabinets or junction boxes. Tag spares inside controller cabinet.

B. Traveling cables: provide lighting, Communication, and control wiring circuits in traveling cables from machine room to car connection point. Include a minimum of four (4) spare pairs of shielded communication wires. Provide means to prevent cables from rubbing or chafing against hoistway, structural beams, elevator equipment, and the car.

C. Work light and plug receptacle: provide work light on top of car with lamp guard and plug receptacle.

D. Conduit: where provided use EMT type conduit. Include a flexible conduit to sound isolated equipment and components. All piping and wiring shall be discrete and not visible in public spaces, i.e. conduit required for smoke detectors in public lobbies.

2.5 FINISH MATERIALS

A. General: Provide the following materials for exposed parts of elevator car enclosures, car doors, hoistway entrance doors and frames, and signal equipment as indicated.

B. Stainless Steel: ASTM A 240/A 240M, Type 304 (Ferritic alloys may be accepted, subject to approval of representative samples)

Satin Finish: No. 4 (US 32D), grain to run in the longest dimension

C. Manufacturers' Nameplates:

1. 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.

2. 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.

2.6 MACHINE ROOM EQUIPMENT

A. General: Arrange equipment within the available elevator equipment spaces. Coordinate related electrical and mechanical work.

B. Power Unit: New compact dry or submersible type with isolated base.

1. Include motor, pump, and valves.

2. Tank capacity to be 25% more than required for normal jack displacement.

3. Isolate power unit to prevent noise and vibration transmission to building structure. Patch existing machine room floor as necessary

C. Hydraulic Control Valve: New hydraulic control valve to control starting, stopping, and accurate leveling.

D. Hydraulic Oil: Retain and recondition. Filter oil to meet specified requirements of the hydraulic control valve manufacturer. Test filtered oil as necessary and document to verify conformance with valve manufacturer specifications.

E. Sound Isolation Couplings and shut off valves: Provide no less than two sound isolation couplings between the power unit and hydraulic jacks. Provide manual shut off valves at power unit in machine room and in the pit.

F. Controller: As standard with approved manufacturer; overload relays in three legs of power circuit and in loop circuit; cabinets with NEMA-1 enclosures and doors arranged with locks or mechanical latches. Provide permanently marked symbols or letters identical to those on wiring diagrams adjacent to each component.

1. The controller wiring shall be carried out in a neat and workmanlike manner in accordance with relevant requirements of National Electric Code.

2. All external connections to the equipment on each controller shall be made by means of approved cable thimbles and/or solder less cable lugs, depending on the current to be carried.

3. Condenser activated or dash pot timers, motors or incandescent globes for dampening acceleration and deceleration steps are unacceptable.

4. Main contactors or starter switches shall be horsepower rated and are not to be mounted directly to the steel cabinets, to ensure quiet operation of controllers.

5. The controllers must be properly shielded from line feeder pollution.

2.7 HOISTWAY EQUIPMENT

A. Guide Rails: Retain existing guide rails, realign as required to provide smooth ride. Provide supplemental rail brackets and or backing as required by Code or to enhance car ride quality. Clean and remove all dust, dirt, and rust. Check and tighten all fastenings.

B. Guide Shoes: Provide new car roller-type guide shoes with neoprene tires, minimum ¾-in. wide x 6” diameter, fully adjustable and spring loaded to provide continuous contact with rail surfaces. Balance car to ensure equal guide shoe pressure on all wheels and not exceed manufacturer's recommendations.

C. Hydraulic Jack Assembly: Confirm results of full-load, leak-down test. If negative, retain and recondition as needed. Restore the surface finish of the piston using 220 grit emery cloth in an irregular pattern. Sand in horizontal pattern at no more than 45^0 angle. Provide new jack packing seal.

D. Pit Channels and Shut Off Valves: Retain and recondition pit channels. Provide ball valve in oil line adjacent to jack.

E. Buffers: Retain and recondition.

F. Earthquake Valve: Provide Code required earthquake rupture valve in pit.

G. Car Frame and Platform: Retain existing, check and tighten all fastenings. Reinforce as required to minimize deflection. Provide new black painted or galvanized apron.

H. Terminal Stopping: New normal and final limit devices.

I. 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

2.8 DOOR OPERATING EQUIPMENT

A. Door Operator: New, medium speed, heavy duty, harmonic drive machine, with dual drive arms (Elevators 1, 2 and A), capable of opening doors at no less than 2.5 fps. Reverse door direction upon interruption of infrared beams in no more than 2 ½-in. of movement. Provide solid state control with closed loop circuitry to constantly monitor and automatically adjust door operation based on velocity, position, and motor current. Maintain consistent, smooth, and quiet door operation at all floors, regardless of door weight or air pressure.

B. Door Panels: Recondition and retain existing.

C. Door Tracks: Recondition and retain existing. Clean and sand smooth for smooth quiet door operation

D. Door Hangers: Recondition and retain existing. Replace rollers and bearings for smooth, quiet door operation

E. Door Clutch: Provide new. Service and replace, linkage arms, drive blocks, and pickup rollers or cams to provide positive, smooth, quite door operation.

F. Door Closers: New door reel closers, helical grove type design by SmarTork.

G. Interlocks and gate switches: Provide new.

H. Door Gibs: New heavy-duty door gibs with fire tabs, equal to The Enforcer by Sees Inc. Minimum two gibs per door panel.

I. Restricted Opening Devices: New as required by Code to prevent opening of car doors outside the unlocking zone. Plunger type restrictors are not acceptable.

2.9 DOOR REOPENING DEVICES

A. Infrared Array: Provide new door reopening devices with uniform array of 36 or more microprocessor-controlled, infrared light beams projecting across car entrance. Interruption of one or more of the light beams shall cause doors to stop and reopen.

B. Nudging Feature: After car doors are prevented from closing for pre-determined adjustable time, through activating door reopening device, a loud buzzer shall sound and doors shall begin to close at reduced kinetic energy.

2.10 CAR ENCLOSURE

Reference Spec Section 14 27 00 Elevator Cab Interiors.

2.11 HOISTWAY ENTRANCES

A. General: Retain and recondition, provide new hardware as specified.

B. Frames: Retain and recondition existing.

C. Door Panels: Retain and recondition existing. New heavy-duty door gibs with fire tabs, equal to The Enforcer by Sees Inc. Replace door astragals.

D. Sills: Retain and recondition existing. Check, clean, and tighten fastenings.

E. Sill Supports, Struts, and Headers: Retain Existing – clean to remove all dirt, dust, and rust; check and tighten all fastenings.

F. Fascia, Toe Guards, and Hanger Covers: New 16-gage hanger covers and hoistway fascia where required, paint black.

G. Elevator 8 is the designated Medical Emergency Elevator, to receive code-compliant Star-Of-Life emblems at top of both side jambs.

H. Accessibility Floor Plates: Provide new raised braille and alpha characters, numerals or symbols similar to those for car stations of size required by governing authority. Locate on each entrance jamb at 60-in. above floor indicating floor designation. Provide white characters or symbols on black background, with mounting means similar to those on car panels. Braille designation shall be to the left of the raised character.

2.12 SIGNAL EQUIPMENT - NEW

A. General: Provide hall-call and car-call buttons which are internally illuminated with a white light over the entire surface of the button. Buttons shall light when activated and remain lit until call has been completed. Provide blue illuminating LED direction lanterns and position indicators with adjustable electronic tones for all audible devices. Locate and operate all devices in conformance with accessibility requirements.

B. Car Operating Panels: Provide main car operating panels in full-width swing returns, hinged and constructed of satin stainless steel.

1. Provide minimum ¾-in. diameter raised floor pushbuttons for destination floor car call registration.

2. Provide push button and plates in an oval design. Push buttons to be fully illuminating over the entire surface of the button. Locate floor buttons in a single row with the highest buttons at 48-in. Locate emergency push-to-call and alarm button at 35-in.

3. Provide Door Open, Door Close, and Door Hold buttons.

4. Identify floor buttons, alarm buttons, door open button, and door close button with Braille /tactile symbols. Configure plates per local building code accessibility standards.

5. Provide alarm button to ring bell located on the car. Illuminate button when activated.

6. Provide firefighters' operation panel behind a locked cover as required by Code.

7. Provide lockable service compartment in the auxiliary car operating panel, with hairline flush door, key removable in locked position only. Door material and finish to match car operating panel faceplate. Door shall contain an integral horizontal window, flush with door's outer surface, for displaying the elevator operating permit. Include the following toggle type switches with function and operating positions identified by permanent signage or engraved legend:

a. Inspection switch

b. Light switch

c. Three-position fan switch

d. Emergency light test button

e. 120-volt GFCI duplex outlet

f. Stop switch

8. Provide engraved and black painted capacity and elevator number on service cabinet door.

C. Car Position Indicator: Provide discrete digital position indicator with direction of travel arrows located in car operating panel.

D. Hall Direction Lanterns: New discrete digital display adjacent to entrance at each floor.

E. Emergency Communication System: Mount behind speaker pattern in car operating panel, above operating buttons. Provide system that complies with ASME A17.1 and the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)." On activation, system dials preprogrammed number of monitoring station and identifies elevator location to monitoring station. System provides two-way voice communication without using a handset and provides a red illuminating LED indicator to signal that indicate when system has been activated and when monitoring station has responded. Include video camera with text capability so operator can see inside the car and that hearing challenged can respond via text.

F. Hall Push-Button Stations: Provide flush mounted hall push-button stations at each landing with satin stainless-steel faceplates. Reuse existing fixture boxes and cutouts at typical floors. Enlarge opening as necessary to accommodate devices at the main floor. Pushbutton design to match buttons in car operating panel. Provide Firefighters' Phase I devices and instruction in main floor hall station.

G. Hall Position Indicator: Provide a 1-in. digital discrete type indicator with car direction arrows at main floor for both duplexes, integral with hall push button stations.

H. Hoistway Access Switches: Provide new key switches with satin stainless-steel faceplate in entrance jamb at top and bottom entrances.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Examine elevator hoistways, machine rooms, and other work areas for compliance with requirements for installation tolerances and other conditions affecting performance of the finished installation. Submit written report listing any deficiencies or discrepancies that will adversely affect the performance and installation. Do not proceed with work until conditions have been corrected.

B. Field Measurements: Verify dimensions before proceeding with the work.

3.2 INSTALLATION

A. General: Comply with manufacturer's written instructions and in compliance with requirements of AHJ or other regulatory agencies. Install all components in accordance with specifications and approved shop drawings. Finish work neat in appearance and free from defects. Make plain surfaces smooth and free from warps and buckles. Apply molded members straight and true. Make connections between components tight to eliminate possible vibrations.

B. Conduct full-load leak-down test on each elevator before removing them from service to modernize.

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

D. Welded Construction: Provide welded connections for installing elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment,

inspection, maintenance, and replacement of worn parts. Comply with AWS standards for workmanship and for qualifications of welding operators.

E. Sound Isolation: Mount rotating and vibrating equipment on vibration-isolating mounts designed to minimize transmission of vibrations to structure and thereby minimize structure-borne noise from elevator system.

F. Lubricate operating parts of systems as recommended by manufacturers.

G. Manufacturer's nameplates, trademarks, or other identifying symbols not allowed on surfaces visible to the public.

H. Leveling Tolerance: 1/8 -in. up or down, regardless of load and direction of travel.

3.3 FIELD QUALITY CONTROL

A. Acceptance Testing: On completion of elevator installation and before permitting use (either temporary or permanent) of elevators, perform acceptance tests as required and recommended by ASME A17.1 and by governing regulations and agencies.

B. Operating Test: Perform all testing as required by Code authorities and as required to demonstrate operation and performance in compliance with these specifications.

C. Advise Owner, Architect, and AHJ in advance of dates and times tests are to be performed on elevators.

3.4 FINAL CLEANING AND PAINTING

A. Clean all hoistways and elevator equipment and remove all rust, filings, welding slag, rubbish, loose plaster, mortar drippings, extraneous construction materials, dirt, and dust, including walls, building beams, sill ledges, and divider beams.

B. Restore all work areas and routes, including floors, walls, and ceilings, to their original condition.

C. 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 that will remain visible after the work is complete.

D. Paint machine room floor and pit floors with two coats of paint appropriate for these spaces.

3.5 FINAL REVIEW REQUIREMENTS

A. Final review and evaluation of the finished work will be conducted by the Consultant. Notify the Consultant in writing no less than five (5) days prior to the elevators being ready for review. Provide all labor, materials, and equipment necessary to aid in this review and evaluation.

B. The installation is considered ready for final review when all tests and inspections by AHJs and inspecting authorities have been completed, permits received, final adjusting of all equipment is finished, and elevators restored to regular operation.

C. Consultant will provide a written punch-list identifying any performance or material deficiencies not in compliance with the specifications. Final field review and evaluation will include the following characteristics or conditions at a minimum:

1. Performance evaluation will be conducted under full load and no-load conditions

2. Floor to floor and door performance times.

3. Elevator speed.

4. Ride quality including starting, acceleration, full speed ride, deceleration, stopping, and noise level.
5. Door operation, noise level, and closing pressure.
6. Testing of specified features and operations.

D. Provide the consultant with a completed punch-list verifying that all punch-list items have been addressed and corrected. Consultant will conduct a back-check to verify

3.6 PURCHASER'S INFORMATION

A. Owner's Manuals: Provide one neatly bound hard copy and one electronic copy of all manufacturer's information, parts lists, straight-line as-installed wiring diagrams, parts list, lubrication charts, operating instructions. Summary page at beginning of manual to identify and include specific information including; complete manufacturer information, model, serial number, for each major component to include but not limited to controller, door operator, signal fixtures, guide shoes.

B. Provide complete backup software for controller equipment installed on appropriate media. Backup shall be capable of full restoration of service following controller data loss.

END OF SECTION 14 24 23

SECTION 14 27 00 - ELEVATOR CAB INTERIORS

ELEVATOR CAB INTERIORS 14 27 00 – 1

PART 1 – GENERAL

1.1 SECTION INCLUDES A. Elevator interior finish system, including: 1. Rear wall panels 2. Side wall panels 3. Handrails 4. Corner/flat reveals 5. Panel binders 6. Protective pads 7. Suspended ceiling 8. Ceiling lighting 9. Flooring

1.2 RELATED SECTIONS A. Section 14 21 00 – Elevators

1.3 REFERENCES A. ASTM International (ASTM): 1. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials. 2. ASTM D2047 – Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces. 3. ASTM F1861 – Standard Specification for Rubber Floor Tile. 4. ASTM F1342 – Standard Test Method for Coefficient of Friction of Vinyl Floor Surfaces. 5. Other applicable ASTM standards as required for materials specified.

1.4 SUBMITTALS A. Submit per Section 01 33 00 – Submittal Procedures B. Product Data: Manufacturer product sheets for each proposed product C. Shop Drawings: Construction details, relationship with adjacent materials, installation and maintenance instructions D. Verification Samples: Two samples per finish, minimum size 2-1/2” x 1-1/2”

1.5 QUALITY ASSURANCE A. Manufacturer Qualifications: Minimum 10 years’ experience producing elevator cab interiors B. Installer Qualifications: Minimum 3 years’ experience installing elevator interiors

1.6 DELIVERY, STORAGE, AND HANDLING A. Deliver materials in original packaging, handle per manufacturer instructions B. Store in dry, secure location protected from sunlight and extreme heat C. Protect finished surfaces

1.7 PROJECT CONDITIONS A. Maintain temperature, humidity, and ventilation per manufacturer recommendations; do not install outside recommended limits

1.8 WARRANTY A. Manufacturer standard three-year warranty against defects and workmanship

ELEVATOR CAB INTERIORS 14 27 00 – 2

PART 2 – PRODUCTS

2.1 MANUFACTURERS / ACCEPTABLE PRODUCTS A. Non-proprietary – products equal in quality and appearance to SnapCab, FabACab, or similar. B. Bidders may propose cost-conscious alternatives meeting performance and durability requirements.

2.2 WALL PANELS AND SUSPENDED CEILING A. Wall Panel System: Interlocking removable panels with edge trim; provide ventilation and panel binders as needed B.

Suspended Ceiling: T-frame or island ceiling; removable panels for escape hatch access; LED-ready

2.3 MATERIALS

Component	Material Options	Notes / Cost Consideration
Wall Panels	HPL with phenolic backer, painted steel/aluminum, basic stainless steel	Durable, fire-rated per ASTM E84, cost-conscious alternatives
Ceiling	Laminate or aluminum panels	LED-ready, minimalistic, cost-conscious
Handrails	Stainless steel or aluminum, 1.5–2” flat profile	Surface-mounted; simple design
Protective Pads	Vinyl or rubber pads with hook/slot attachment	Pre-attached hooks preferred, optional color
Accessories	Corner guards, panel binders	Optional, functional only
Flooring	Rubber or vinyl sheet, VCT	Slip-resistant and ADA-compliant per ASTM D2047 / ASTM F1342, low-maintenance
Lighting	LED downlights, standard warm white (3000K), integrated dimmer	Emergency battery backup optional

ELEVATOR CAB INTERIORS 14 27 00 – 3

PART 3 – EXECUTION

3.1 PREPARATION A. Prepare surfaces per manufacturer instructions B. Protect elevator finishes, fixtures, and equipment

3.2 INSTALLATION A. Install per manufacturer instructions and adjacent material requirements B. Do not alter cab structure C. Ensure safe elevator operation is not affected

3.3 CLEANING AND PROTECTION A. Clean surfaces per manufacturer instructions B. Protect surfaces from damage by other trades

Competitive Bid Statement

Products shall be equal in quality, durability, and appearance to those offered by SnapCab, FabACab, or other recognized manufacturers. Bidders are encouraged to

propose cost-conscious alternatives that meet performance, safety, and durability requirements for a public-funded project.

END OF SECTION