SECTION 14240

ELEVATOR CONTROL REPAIR AND REPLACEMENT

PART 1 SCOPE

1.01 SUMMARY OF WORK

A. Provide all necessary labor and material to replace controls for (1) one hydraulic passenger elevator.
B. Replace power controllers, hoist way equipment, door operators, and related hardware.
C. New controller "microprocessor based".
D. New car and hallway fixtures.
E. Install all new wiring throughout elevator car & hoist way.
F. New FCU infrared sensing edge for door protection.
G. New power unit to include new Maxton UC-4 valve, new piping, new muffler and installation of a new seismic shut off valve in pit, as required
H. Install a new, all inclusive, GAL MOVFR complete door package (details provided below)
I. This work will bring the elevator up to the current ASME A17.1-2004 elevator code.
J. Present hoist ways, equipment room, and electrical power are existing and shall be reused.

K. Installation and workmanship shall be done in first class manner and quality. All labor and materials shall be in accordance with ASME A17.1-1996 Safety Code for elevators, State of California and City of Los Angeles.

L. All work shall be performed in accordance to meet the requirements as set forth by the City of Los Angeles Department of Building and Safety and/or the State of California Division of Industrial Safety, Elevator Division.

M. All equipment installed shall be non-proprietary. No hand held or otherwise remote devices will be necessary to program the elevator controls.

N. All necessary permits and inspection fees perform tests as required by governing authorities, will be arrange and paid by the contractor. Including DOSH inspection.

O. All work that pertains to the above will be corrected if called by the Elevator Inspector.

P. All materials replaced, unused or not required in the modification, will be removed and disposed by the contractor.

A. **Elevator Controller:** Remove the existing elevator controller and install a new Smart Rise microprocessor controller to include the following:

- New "Non-Proprietary" microprocessor
- New "*Emergency Battery Lowering"* feature
- New vane type mag switches
- New hoist way mechanical limit switches
- New machine room, car, and hatch wiring
- New motor starter for longer motor life
- Phase I & II fire recall service with alternate floor capability
- Interface to *"Voice Annunciator"*
- Reduced torque closing for door equipment
- All required State inspections upon completion

B. **Pump and tank unit - submersible:** Remove existing pump unit. Install new unit, including new motor, pump, valve and hydraulic oil, custom built to match existing operation, as manufactured. Install all new piping and an over speed valve.

C. **Door Protection:** Install new infrared sensing edge designed to prevent the elevator door from closing in the event of an obstruction.

D. **Battery Lowering:** When normal power is lost, an auxiliary contact mounted on the mainline switch shall alert the controller to the loss of normal power. In this case, the elevator shall lower to the main egress landing, open its doors and shut down.

E. **Car Operating Stations:** Replace with a new car push button station to include standard, illuminating push buttons raised 1/8" to meet California handicapped codes with adjacent braille tags threaded from behind with contrasting backgrounds. Panel shall include all required fire service features, engraved "No Smoking" and fire service instructions. Panels shall be a stainless steel #4 finish and installed with an applied application at ADA required height. New car panels shall come complete with a push-to-talk speakerphone, intercom grille for two-way communication, a permit holder, a rechargeable emergency light unit and all code required fire service features. Panels shall include a digital floor position indicator with a 2" L.E.D. display of the floor and direction of travel with an accompanying automatic verbal announcement.

F. **Hall Call Stations:** Replace with new stations at each landing. Stations shall be complete with lighted mechanical push buttons to match new C.O.P. fixtures, engraved "In case of fire…" verbiage and will be mounted to meet A.D.A. and local handicapped code requirements. New cover plates will be a stainless steel #4 surface at all typical floors and the main lobby landing shall be a stainless steel #4 finish and will be applied with tamper proof fasteners. The designated "LOBBY" landing will include an integral fire key switch.

    - Owner furnished contractor installed Chicago 1848 call button for each floor.

G. **Car Directional Lantern:** Install a directional lantern to meet ADA requirements, stainless steel #4 finish.

H. **Complete MOVFR II door package:** Remove the existing Two speed, side slide elevator door equipment (both front and rear opening). Installed in its place will be a new, complete G.A.L. door package to include the following:

- MOVFR master power operator.
- Two speed, side slide , car door hanger with 3¼" non-metallic rollers.
- Retractable zone lock door clutch.
- Two speed, side slide , hatch door hanger with 3¼" non-metallic rollers – (1) per opening.
- Auxiliary spring door closer – (1) per opening.
- Type mo hatch door interlock – (1) per opening.

I. Additional Features:

Jamb Braille: New at all floors per A.D.A. requirements.

1.02 EQUIPMENT INCLUDED

A. Install a new elevator control system manufactured by Motion Control Engineering or Elevator Research & Manufacturing.

B. The controls shall be micro-computer-based, state of the art large scale integrated circuits. 100% field programmable with diagnostic station built on the computer board, with the following features:

a) Pump motor and valve protection timer.

b) Door motor protection timer.

c) Stuck-button protection timer.

d) A.D.A. and handicapped provisions.

e) Fireman's Phase I and II provisions.

1.03 HOISTWAY EQUIPMENT

New hoistway equipment includes: top of car inspection station per code; new traveling cable and landing system.

1.04 CAR AND HATCH DOOR EQUIPMENT

A. Door Operator –

Install new GAL MOVFR automatic power door operator, complete and in place.

B. Door Hangers –
Install car door header hanger and door track. The track will be heavy duty cold rolled steel with adjustable mounting.

C. Car Door Clutch (California Code) –
Car door retractable clutch. The retractable arm will pick up when elevator doors are closed to provide adequate clearance when passing landing doors.

D. Electronic Safety Edge –
Install a new infra-red entrance detector screen. The edge uses a special intense grid of invisible infra-red beams (94 beams) to create a screen across the elevator entrance. Anything that interrupts the screen will cause the doors to automatically open without impact or physical contact.

E. Hoistway Door Track Hangers –
New hoistway door tracks and hangers shall be provided and installed

F. Door Closers –
Each hoistway door will be equipped with either a spring loaded reel closer or sill mounted bar closer as required by the Elevator Code.

G. Door Locks –
Each hoistway door will be equipped with an approved elevator door interlock. This unit will electrically and mechanically provide a temper-proof lock to prevent the doors from being opened when the elevator is away from the landing.

1.05 ELEVATOR INTERIOR

A. Walls
1. Install new fire rated Pionite plastic laminate on three walls using flat wall application. (Color & style chosen by District.) All seams and corners covered with a #4 satin finish stainless steel molding that sits on top of a 5 inch high, #4 satin finish stainless steel vented base on two walls.

B. Handrails
1. Install two new 1 ½" round #4 satin finish stainless steel handrails on two walls that meet A.D.A. requirements. Both handrails will have bends towards the walls on each end.

C. Flooring
1. Install new commercial grade flooring by Serenbe. (Color & style chosen by District.)

D. Ceiling
1. Reinstall existing ceiling

1.06 ELEVATOR CAB AND HALLWAY FIXTURES

A. Elevator Cab Operating Panel-COP - Minimum devices required as follows:

1. Position indicator, digital display
2. Emergency light
3. Passing chime
4. Engraving: Capacity, No Smoking
5. Floor call push buttons, illuminating; one for each floor served
6. Emergency stop switch-keyed
7. Emergency alarm bell
8. Door open and door close buttons
9. A.D.A. speaker phone
10. Grill and phone push button to activate
11. 3-position light/fan key switch
12. Fire service key switch-fire jewel and phone II fire instructions
13. Inspection key switch
14. Loading key switch
15. Tamper proof mounting screws
16. Cover plate stainless steel No. 4 brushed
17. Call cancel push button

B. Hall Push Button Stations – Minimum devices required as follows:

1. Lobby, two push-buttons and fireman's return key switch
2. Single push button with access at top and bottom floors
3. Cover plate-stainless steel #4 brushed

Note: At the top of each fixture, engraved fire code: "IN CASE OF FIRE USE STAIRWAY FOR EXIT. DO NOT USE ELEVATOR."

C. Door Jamb Marking

Each hoistway entrance will contain two jamb plates with raised characters and Braille installed at 60 inches above floor.

1.07 WORK BY OTHERS

The following items must be performed by School District or others, not included in the scope of contractor's work:

A. Provide ventilation and cooling equipment to maintain the elevator machine room ambient temperature between 60 degrees and 95 degrees Fahrenheit.

B. Provide a smoke detector system, located as required with wiring from sensing devices to each elevator controller.

C. Do any required cutting and all required patching and pointing of walls, floors or partitions.

D. Provide a safe and dry on-site storage area for elevator materials..

E. Elevator emergency telephone. Outside telephone lines to end in elevator equipment room on the side of the controller cabinet with wire ending in a RJII box.

F. 120 volt, 15 amp car light and alarm circuit to elevator equipment room with switch mounted in a lockable 2 x 4 handy box.

G. All pits that extend more than 3 feet below the sill of the access door shall have a fixed vertical ladder of non-combustible material. ASME A17.1-1996-106.1d.

PART 2 GENERAL

A. Inspections

In addition to the code required inspections which will be the responsibility and paid by the contractor, the owner reserves the right to make inspections whenever necessary to ascertain that the requirements of this contract are being fulfilled. The owner will be responsible to pay for those inspections.

B. Warranty

The contractor shall warrant the work performed to be free from defects in material and workmanship for one (1) year from the date of substantial completion.

C. Each bidder shall visit site of proposed work, examine all site physical characteristics (accessibility, approaches, transportation facilities, obstructions, improvements, utilities locations, relationship of proposed work to adjoining private or public work) and fully acquaint himself/herself with conditions relating to the project and labor so that he/she may understand facilities, difficulties, and restrictions attending the execution of work under the contract.

D. Contractor shall notify the user, in writing, before submitting his/her bid, of any discrepancies; and shall make bid conform to intent of contract documents, without additional cost or expense to District, and assume all responsibility for failure to do so.

E. The failure or omission of any bidder to receive or examine any contract document, form, instrument, addendum, or other document or to visit the site and acquaint himself/herself with conditions there existing, shall in no way relieve any bidder

from any obligation with respect to his/her bid to the contract. Submission of bid shall be taken as prima facie evidence of compliance with this section.

F. Schedule

Work shall be scheduled during normal days and hours as long as it does not interfere with normal activities of the school or administration offices.

When those activities are found to be adversely affected by the project, the schedule shall be adjusted to after normal hours or week ends.

Before starting work, contractor will submit a schedule for approval. No work shall start before the approval of this schedule.

G. References

Contractors will be required to submit a list of similar jobs they have performed with references.

END OF SECTION