PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 78 00 - Closeout Submittals.

1.2 REFERENCES

.1 American Institute of Steel Construction (AISC)

.1 AISC Manual 14th Edition.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB 1.40-97, Anti Corrosive Structural Steel Alkyd Primer.

.2 CAN/CGSB-1.59-97, Alkyd, Exterior, Gloss, Enamel.

.3 Canadian Standards Association (CSA International)

.1 CSA Z271-10 Safety Code for Suspended Elevating Platforms.

.4 Green Seal Environmental Standards

.1 Standard GS-03-97, Anti-Corrosive Paints.

.2 Standard GS-11-10, Architectural Paints.

.5 South Coast Air Quality Management District (SCAQMD), California State

.1 SCAQMD Rule 1113-11, Architectural Coatings.

1.3 DESIGN REQUIREMENTS

.1 Design platform for rated load of 273 kg between protection guards or toe guards and sides/ends of platform.

.2 Provide platform speed under full load of 10.67 m/min.

1.4 PERFORMANCE REQUIREMENTS

.1 Provide roof car containing hoisting and control equipment with outriggers from which ropes and cables are led over sheaves to point over platform.

.2 Include steps, guard rails, brackets, dummy guide tracks, interlocks, or special attachments to ensure that the vertical guides are accurately aligned and to ensure that it can be safely boarded by workers.

.3 Mechanically prevent overturning of car by wind action or over-tension of hoisting ropes.

.4 Obtain power for hoisting and driving equipment through flexible cables plugged into electrical outlets on roof.

.5 Fabricate platform from aluminum or other metal inherently resistant to elements and suspend platform from roof car.

.6 Design equipment to clear parapets and columns, and provide access to glazed areas.

.7 Design equipment to ensure curtain wall finishes and roofing will not be marred, scored, or otherwise damaged during operation of equipment.

.8 Mullions which provide continuous guidance for the platform are existing on each curtain wall.

.9 Check clearance conditions and ensure that they respect existing tracks.

.10 Anchor points are existing.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Provide product data in accordance with Section 01 33 00 - Submittal Procedures.

.1 Submit manufacturer's printed product literature, specifications, and datasheet, and include product characteristics, performance criteria, physical size, finish, and limitations.

.3 Provide shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

.1 Shop drawings: submit drawings stamped and signed by professional engineer registered or licensed in Canada.

.2 Indicate general arrangement of equipment including:

.1 Details of the compatible trolley raceway installed on the roof.

.2 Details of the platform and of the guidance system.

.3 Reactions at points of support.

.4 Weights of principal components.

.5 Location of feeder extension on roof.

.6 Cable stabilizer attachments and anchorage.

.4 Quality Control Submittals:

.1 Manufacturer's Instructions: installation instructions provided by the manufacturer.

.2 Manufacturer's Field Reports: submit manufacturers prescribed field reports.

.5 Closeout Submittals:

.1 Provide maintenance data for powered platform maintenance for incorporation into maintenance manual specified in Section 01 78 00 - Closeout Submittals.

.2 Include:

.1 Description of platform system's method of operation and control including motor control system and special or non-standard features provided.

.2 Instructions for lubrication, adjustment, and equipment care, including detailed technical descriptions of operations, adjustments, and settings of electrical circuits and mechanical equipment.

.3 Replacement parts lists.

.4 Legible schematic wiring diagrams covering electrical equipment as supplied and installed, including changes made in final work, with symbols listed corresponding to identity or markings on equipment.

1.6 MAINTENANCE

.1 Furnish complete maintenance of platform equipment for a period of twelve (12) months from the date of the Final Certificate of Completion.

.1 Include systematic monthly examinations, adjustments, and lubrication. Service equipment immediately prior to first use in spring.

.2 Repair or replace electrical and mechanical parts of platform equipment as required due to defect and normal wear and tear.

.3 Use only genuine standard parts produced by equipment manufacturer.

.4 Perform work by competent personnel under supervision and under direct employment of platform manufacturer.

.5 Schedule work during regular trade working hours with Departmental Representative.

.6 Provide proof of successful experience in complete maintenance of specified platform. Maintain locally adequate stock of parts for replacement or emergency purposes and provide qualified men to ensure fulfillment of this service without undue loss of time in reaching job site.

.7 Provide emergency call-back service at all times at no extra charge.

.8 Register with designated building personnel at time of inspections.

1.7 DELIVERY, STORAGE, AND HANDLING

.1 Packing, shipping, handling, and unloading:

.1 Deliver, store, and handle materials in accordance with Section 01 00 10 - General Instructions.

.2 Waste Management and Disposal:

.1 Separate waste materials for reuse/recycling in accordance with Section 01 00 10 - General Instructions.

PART 2 - PRODUCTS

2.1 COMPONENTS

.1 Use major powered platform components from one manufacturer or combine with products from another manufacturer provided such items are designed and produced under co-ordinated specifications to ensure safe and smooth system operation.

.2 Use major components which have performed satisfactorily together under conditions of normal use in no less than two (2) other platform installations of similar design and for a period of at least one (1) year, and provide names and addresses of owners or managers of buildings in which proposed combination of major components have so performed.

.3 Provide and install all other components/accessories such as, but to limited to, electrical controls, interlocks, and attachments for a complete, safe, and efficient suspended powered platforms system.

2.2 POWER SUPPLY

.1 Power supply: 208 V, 1 phase, 30A, 3 wire, 60 Hz.

2.3 BILINGUAL MARKINGS AND DESIGN

.1 Engrave identification and instructions on car operating panels and on signal equipment in both English and French except where design is such that inference is obvious and readily understood. Submit markings and designs to Departmental Representative for approval.

2.4 CYLINDER LOCKS

.1 Provide cylinder locks with bronze cylinder of at least five (5) pin tumblers.

.2 Provide three (3) white-bronze keys for each lock and deliver to Departmental Representative. Provide brass identification tag on each key with stamped legend as directed by Departmental Representative.

2.5 FINISH

.1 Clean and paint metal surfaces of powered platform including galvanized and inaccessible surfaces, but not including stainless steel or aluminum surfaces, bearings, gear contact surfaces, or other wearing surfaces.

.2 Apply shop coat of primer in accordance with CAN/CGSB 1.40 on steel, and allow to dry completely before shipment.

.3 Once set up, paint metalwork in accordance with CAN/CGSB-1.59 except stainless steel and aluminum.

2.6 LUBRICATION

.1 Provide means of lubricating bearings which require periodic lubrication.

.2 When used, provide grease fittings to fit same gun.

.3 Use grease cups of automatic feed compression type.

.4 Arrange points of lubrication to be easily visible and accessible.

2.7 PLATFORM WALKWAY SYSTEM

.1 Platform walkway systems are existing. The new swingstages must be allowed to move through the existing walkway system.

2.8 PLATFORM

.1 Fabricate platform entirely of non-corrosive metal or combination of metals inherently resistant to corrosive elements;

.2 Dimensions of new platforms shall be the same as the existing platforms;

.3 Construct platform of truss, beam, or equivalent construction. Provide platform with minimum net width of 0.75 m;

.4 Fabricate guide shoe brackets or castings of material which will resist shear and tensile loading. Do not use cast iron;

.5 Use guide shoe material which will not mar guide mullions;

.6 Use materials which will consistently withstand severe local weather extremes;

.7 Aluminium high strength material construction;

.8 Four line system for a live load capacity of 273 Kg;

.9 "C" stirrups platform with duel wire rope hoist complete with duel rollers driven by direct shaft and mounted on sideway on the hoists;

.10 Operating speed of the platform during ascent or descent: 10.6 m/min.;

.11 Provide multiple layered winding drum hoists located below the platform deck or approved traction hoists with wire winders. Each drum shall automatically level-wind its accumulated suspension wire rope. For traction hoists the winders shall be integral to the hoist, separate motor driven winders shall not be accepted. Each drum or winder shall have a capacity to contain a single length of 7.94 mm wire rope, long enough to negotiate the full height of the building, at all intended working stations;

.12 Motor 1 phase, 230V nominal, 30A complete with top primary break, and centrifugal break;

.13 Platform must have dog-line inside of the platform for harnesses;

.14 Platform hoist must be equipped with manual decent in case of emergency;

.15 Hoist UL rated;

.16 Platform 762 mm wide;

.17 Platform designed with a safety factor of 4:1;

.18 Wire rope with a 10:1 breaking strength;

.19 Platform complete with wind anemometer, fire extinguisher, and water buckets;

.20 Platform has to be equipped with side & front bumper rollers.

.21 Platform control must have hourly meters without possibility of reset;

.22 All controls and electrical devices on the platform must be waterproof CSA type 4;

.23 Control for lowering, raising, and positioning of the platform shall be located on the platform;

.24 Safety features:

.1 Emergency stop push button mushroom type, lockable with contact in open position. When pressed it must immediately cut power to all electric control.

.2 Low limit safety device which will immediately stop the lowering of the stage when it comes into contact with an obstacle;

.3 High limit safety device which will automatically stop the stage when it reaches the upper position;

.4 Overload safety device to ensure the platform cannot be operated when the stage is overloaded.

.5 Slack wire rope safety device to ensure that the wire rope is under tension. If the tension fails, the sensor shall halt further lowering of the hoist.

.6 Safety device over-speed detection to interrupt power to the hoist in case of excessive descent and equipped with a reset button;

.7 Angular analogue switch which interrupts the operation of a hoist in the event that the angle of inclination of the bridge exceeds 15 deg.

.8 Provide two tie-in guides for mullion.

2.9 CONTROL EQUIPMENT

.1 Operate control circuit at 120 V maximum.

.2 Control for lowering, raising, and positioning of the platform shall be located on the platform.

.3 Provide door with cylinder lock.

.4 Construct cabinet and door of sheet steel minimum 1.9 mm thick.

.5 Provide constant pressure, up and down pushbuttons, and emergency stop button on platform.

.6 Provide inching button which must be pressed in conjunction with correct operating button at upper or lower 0.9 m of travel and stabilizer pickup zone.

.7 Incorporate time delay circuit before operation of inching button becomes operative to ensure car reaches stationary position before inching.

.8 Obtain incoming power from roof receptacles through spring reel capable of accommodating entire length of cable. Provide protection against overdraw as roof car reaches limit of reel capacity.

.9 Design control transmitter self-contained with provision for insertion of external safety interlock circuits.

.10 Provide battery, means for recharging battery, and means to indicate charged condition.

.11 Mount control receiver adjacent to normal power controller of machinery.

.12 Use isolated relay contacts in output of control receiver connected to terminal board for external connections to power controller of machine.

.13 Use plug-in or modular devices for working components of control receiver.

.14 Use only highest grade industrial solid state and electronic components.

.15 Design equipment to function satisfactorily within temperature range -18 degrees C to 58 degrees C.

2.10 DAVITS

.1 Davits shall be designed to support 273 kg live load, in addition to the mass of the bridge itself and its cables.

.2 Provide two-piece, tip-up, mechanically raised, rotatable, high profile aluminum davits with trolleys. Suspension trolleys must be duel eyes with seal bearings, and trolley positioning locking mechanism.

.3 Unless designated for ground rigging, davits shall be designed to allow workmen to mount the platform on the roof surface, raise the platform above the parapet or guard railings, and then translate the platform outboard while standing in the platform.

.4 The davits shall be provided with stainless steel bearings and seals to prevent the entrance of moisture, plus a means for re-lubrication.

.5 All davits shall be provided with a winch for mechanical rising and wheels for movement about the roof.

.6 Design davits to be used with the existing davit sockets.

.7 Design davits boom length and platform such that a 1.52 m platform can be transferred from ground to the roof.

.8 Mast and boom must be aluminum where possible and steel parts must be hot dip galvanized.

2.11 SOURCE QUALITY CONTROL

.1 Tests, Inspection:

.1 Subject welds to radiographic or other non-destructive inspection as required by Departmental Representative.

.2 Inspection and testing will be carried out by a firm designated by Departmental Representative.

.3 Departmental Representative will pay costs of tests as specified in Section 01 00 10 – General instructions.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 ROOF PROTECTION

.1 Protect roofing, insulation, and other portions of building, as required, from damage during installation. Repair damage to approval of Departmental Representative.

3.3 FIELD QUALITY CONTROL

.1 Site Tests:

.1 Perform and meet tests required by Departmental Representative.

.2 Include:

.1 Full load run test: run platform continuously for fifteen (15) minutes with full rated load with roof car located at one window washing positions selected by Departmental Representative. During test run, stop platform at every floor in both directions of travel for standing period of 30 seconds per floor. In addition, make three complete horizontal runs with platform in its uppermost normal position to check track switches, turntables, and interlocks. In final run, stop roof car at each of window washing positions and raise and lower platform to check proper alignment and operation of interlocks.

.2 Speed test: check that speed of roof car and speed of platform with rated load are within ten (10) percent of specified speeds.

.3 Safety devices: test safety devices.

.3 Supply instruments to carry out specified tests.

.4 Submit to Departmental Representative test and approval certificates issued by jurisdictional authorities.

.2 Manufacturer's Field Services:

.1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

3.4 CLEANING

.1 Proceed in accordance with Section 01 00 10 – General Instructions.

3.5 DEMONSTRATION

.1 Instruct designated accommodation maintenance personnel in care, adjustment and operation of powered platforms.

.2 Provide competent instructor for no less than two (2) eight (8)-hour days after completion and acceptance of work.

.3 Forward statement Departmental Representative countersigned by accommodation personnel confirming these instructions have been provided.

END OF SECTION