

**2.02 EQUIPMENT: CONTROLLER COMPONENTS**

- A. Controller: A microcomputer based control system shall be provided to perform all of the functions of safe elevator operation. The system shall also perform car and group operational control.
  1. All high voltage (110V or above) contact points inside the controller shall be protected from accidental contact when the controller doors are open.
  2. Controller shall be separated into two distinct halves; Motor Drive side and Control side. High voltage motor power conductors shall be routed so as to be physically segregated from the rest of the controller.
  3. Field conductor terminations points shall be segregated; high voltage (>30 volts DC and 110 VAC,) and low voltage (< 30 volts DC.
  4. Controllers shall be designed and tested for Electromagnetic Interference (EMI) immunity according to the EN 12016 (May 1998): "EMC Product Family Standards for lifts, escalators, and passenger conveyors Part 2 - immunity"
  5. Controller shall be located inside the wall next to the top landing entrance frame. Emergency access shall be provided through an access panel in the entrance frame secured by a key lock.
  6. A separate control room or cabinet should not be required.
- B. Drive: A Variable Voltage Variable Frequency AC drive system shall be provided. The drive shall be set up for regeneration of AC power back to the building grid.

**2.03 EQUIPMENT: MACHINE AND GOVERNOR**

- A. Machine: AC gearless machine, with a synchronous permanent-magnet motor, dual solenoid service and emergency disc brakes, mounted at the top of the hoistway.
- B. Governor: The governor shall be a tension type car-mounted governor.
- C. Buffers, Car and Counterweight: Polyurethane type buffers shall be used.
- D. Hoistway Operating Devices:
  1. Emergency stop switch in the pit
  2. Terminal stopping switches.
- E. Positioning System: Consists of an encoder, reader box, and door zone vanes.
- F. Guide Rails and Attachments: Guide rails shall be Tee-section steel rails with brackets and fasteners. Side counterweight arrangements shall have a dual-purpose bracket that combines both counterweight guide rails, and one of the car guide rails to building fastening.
- G. Coated-Steel Belts: Polyurethane coated belts with high-tensile-grade, zinc-plated steel cords and a flat profile on the running surface and the backside of the belt. All driving sheaves and deflector sheaves should have a crowned profile to ensure center tracking of the belts. A continuous 24/7 monitoring system using resistance based technology has to be installed to continuously monitor the integrity of the coated steel belts and provide advanced notice of belt wear.
- H. Governor Rope: Governor rope shall be steel and shall consist of at least eight strands wound about a sisal core center.
- I. Hoistway Entrances:
  1. Frames: Entrance frames shall be of bolted construction for complete one-piece unit assembly. All frames shall be securely fastened to fixing angles mounted in the hoistway and shall be of UL fire rated steel.
  2. Sills shall be extruded aluminum.
  3. Doors: Entrance doors shall be of metal construction with vertical channel reinforcements.
  4. Fire Rating: Entrance and doors shall be UL fire rated.
  5. Entrance Finish
    - Baked Enamel from manufacturers standard selection.
  6. Entrance marking plates: Entrance jams shall be marked with 4" x 4" (102 mm x 102 mm) plates having raised floor markings with Braille located adjacent to the floor marking. Marking plates shall be provided on both sides of the entrance.
  7. Sight Guards: Black sight guards will be furnished with all doors.

**2.04 EQUIPMENT: CAR COMPONENTS**

- A. Carframe and Safety: A carframe fabricated from formed or structural steel members shall be provided with adequate bracing to support the platform and car enclosures. The car safety shall be integral to the carframe and shall be Type "B", flexible guide clamp type.
- B. Cab:
  1. Steel cab shell with rigidized stainless steel, vertical, removable panels.
  2. Brushed Stainless Steel finished base plate located at top and bottom.
- C. Car Front Finish: Charcoal EW-4. **CAR FRONT & DOOR COLOUR FINISH ONLY AVAILABLE IN SATIN STAINLESS STEEL**
- D. Car Door Finish: Charcoal EW-4.
- E. Ceiling Type: Paint Black Flush Metal Ceiling with 4 LED lights
- F. Emergency Car Lighting: An emergency power unit employing a 6-volt sealed rechargeable battery and totally static circuits shall be provided to illuminate the elevator car in the event of building power failure.
- G. Fan: A one-speed 120 VAC fan will be mounted to the structural ceiling to facilitate in-car air circulation, meeting A17.1 code requirements. The fan shall be rubber mounted to prevent the transmission of structural vibration and will include a baffle to diffuse audible noise. A switch shall be provided in the car-operating panel to control the fan.
- H. Handrails: Handrails shall be provided on the Side walls of the car enclosure. Handrails shall be Round Handrail (DH-156) with a Brushed Steel Finish
- I. Threshold: Extruded Aluminum
- J. Emergency Exit Contact: An electrical contact shall be provided on the car-top exit.
- K. Guides: The car shall have 3" diameter roller guides at top and bottom and the counterweight shall have slide type guides at the top and the bottom.
- L. Platform: The car platform shall be constructed of metal. Load weighing device shall be mounted on the belts at the top of the hoistway.
- M. Zoned Certificate frame- Provide a Certificate frame with a satin stainless steel finish.

**2.05 EQUIPMENT: SIGNAL DEVICES AND FIXTURES**

- A. Car Operating Panel: A car operating panel shall be provided which contains all push buttons, key switches, and message indicators for elevator operation. The car operating panel shall have a satin stainless steel finish.
  1. A car operating panel shall be furnished. It shall contain a bank of round stainless steel, mechanical LED illuminated buttons. Projected mounting to the panel and marked to correspond to the landings served. All buttons to have raised numerals and Braille markings with these options:
    - a. Vandal-Resistant, Projecting satin stainless steel button with blue LED illuminating center jewel
  2. The car operating panel shall be equipped with the following features:
    - a. Raised markings and Braille to the left hand side of each push-button.
    - b. Car Position Indicator at the top of and integral to the car operating panel.
    - c. Door open and door close buttons.
    - d. Inspection key-switch.
    - e. Elevator Data Plate marked with elevator capacity and car number.
    - f. Help Button: The help button shall initiate two-way communication between the car and a location inside the building, switching over to another location if the call is unanswered, where personnel are available who can take the appropriate action. Visual indicators are provided for call initiation and call acknowledgement.
    - g. Landing Passing Signal: A chime bell shall sound in the car to signal that the car is either stopping at or passing a floor served by the elevator.
    - h. In car stop switch (toggle or key unless local code prohibits use)
    - i. Firefighter's hat
    - j. Firefighter's Phase II Key-switch
    - k. Call Cancel Button
- B. Car Position Indicator: A digital, LED car position indicator shall be integral to the car operating panel.
  1. Hall Fixtures: Hall fixtures shall be provided with necessary push buttons and key switches for elevator operation. Hall fixtures shall feature:
    - a. Stainless Steel Hall Position Indicators at all floors
  2. Integral Hall fixtures shall feature:
    - a. Round stainless steel, mechanical buttons marked to correspond to the landings.
    - b. Hall fixtures to be located in the entrance frame face. Therefore, separate wiring and installation of electrical boxes inside the wall for the hall buttons are not required.
    - c. Buttons shall be in vertically mounted fixture. Fixture shall be satin stainless steel finish.
  3. Button Options:
    - a. Projecting button with blue illuminating halo.
    - b. Vandal-Resistant, Projecting satin stainless steel button with blue LED illuminating center jewel
- C. Car Lantern and Chime: A directional lantern visible from the corridor shall be provided in the car entrance. When the car stops and the doors are opening, the lantern shall indicate the direction in which the car is to travel and a chime will sound.
- D. Access key-switch at top floor in entrance jamb.
- E. Access key-switch at bottom floor in entrance jamb.

**Part 3 - EXECUTION**

**3.01 PREPARATION**

- A. Take field dimensions and examine conditions of substrates, supports, and other conditions under which this work is to be performed. Do not proceed with work until unsatisfactory conditions are corrected.

**3.02 INSTALATION**

- A. Installation of all elevator components except as specifically provided for elsewhere by others.

**3.03 DEMONSTRATION**

- A. The elevator contractor shall make a final check of each elevator operation with the Contract Administrator present prior to turning each elevator over for use. The elevator contractor shall determine that control systems and operating devices are functioning properly.

**Painting**

**Quality Assurance**

1. Conform to latest MPI requirements for interior painting Work including preparation and priming.
2. Materials (primers, paints, coating, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with MPI Painting Specification Manual
3. Only paint materials listed in the MPI Approved Products List (APL) are acceptable for us on this Project.
4. Clean and prepare surfaces in accordance with MPI Paining Specification Manual requirements. Refer to MPI Manual in regard to specific requirements.

**Colours**

1. Contract Administrator will provide Color Schedule after Contract Award.
2. Color schedule will be based upon the selection of four base colours and two accent colours.
3. Selection of colours will be from manufacturers full range of colours.
4. Where specific products are available in a restricted range of colours, selection will be based on the limited range.
5. Paint gloss shall be defined as the sheen rating of applied paint, G3 Egg Shell finish.

**Execution**

1. Perform preparation and operations for interior painting in accordance with MPI Painting Specifications Manual except where specified otherwise.
2. Apply paint materials in accordance with paint manufacturer's written application instructions
3. Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Contract Administrator damages, defects, unsatisfactory or unfavorable conditions before proceeding with Work.
4. Projection:
  - a. Protect existing building surfaces and adjacent structures from paint splatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Contract Administrator.
  - b. Protect items that are permanently attached such as Fire Labels on doors and frames.
  - c. Project factory finished products and equipment.
  - d. Protect passing pedestrians and general public about the building.
  - e. Removal of electrical cover plates, light fixtures, surface hardware on doors, bath accessories and other surface mounted equipment, fittings and fastenings shall be done prior to undertaking any painting operations by Contractor. Items shall be securely stored and re-installed after painting is completed by Contractor.
  - f. Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.

**Roofing Materials**

1. Dimensional Lumber
  - This shall be construction grade spruce of the dimensions as outlined under the Description of Work
2. Plywood Sheathing
  - This shall be ½" Standard Grade spruce plywood
3. Drywall Sheathing
  - This shall be ½" roof grade drywall
4. Drywall & Insulation Fasteners
  - These shall be #12 Dekfast screws with Senti XP coating and 2 7/8" Hexagonal Galvalume Steel Stress Plate for all Deck Types as manufactured by SFS Stadler or approved equal in accordance with B7. Fasteners shall penetrate STEEL DECKING a minimum of ¾" and wood a minimum of 1".
5. Vapour Barrier
  - This shall be 1 ply Soprema Elastophene Flam 2.2 or IKO Modiflex MF-95-FF base.
6. Roofing Insulation
  - Expanded Polystyrene Type II with a minimum slope of 3/16" per foot and a minimum thickness of 1.5". This shall be as manufactured by Plastifab Ltd. or AMC Insulation Corp. Slopes are to be as per the attached Drawings.
  - 2" Soperma Colgrip A polyisocyanurate insulation with acrylic facer, IKO Isotherm 3. Paper facers will not be accepted.
  - Note: Minimum average thermal value is to be no less than R-25. Adjust sloped foam insulation or polyisocyanurate thickness as required to ensure minimum average R-25.
7. Insulation Adhesive
  - This shall be Weather-Tite One Step Foamable adhesive as manufactured by Millennium Products incorporated. This is distributed by Roofmart and Soprema. Adhesive shall be applied to obtain a minimum 90 m.p.h. wind uplift rating or as otherwise indicated within the Description of Work.
  - Adhesive can be used only in areas with excessive conduit. Any such areas must first be confirmed by the Contract Administrator.
8. Pourable Sealer
  - This is to be a two component pourable EPDM sealer. This is to be used to fill all pitch boxes or as otherwise specified.
9. Recovery Board
  - This shall be Soprema 1/8" Sopraboard or IKO Protecto Board.
10. Modified Bitumen Membrane
  - This shall be the following:
    - Soprema Sopralene Flam 180 base sheet with a Sopralene Flam 250 Gr. Cap sheet; IKO Torchflx 180 FF with an IKO Torchflex 250 cap.
- Stripping:**
  - Soprema Sopraflash Flam Stick self-adhering base sheet with a Sopralene Flam 180 Gr, cap sheet; IKO Armourbond Flash with IKO Torchflex 180 cap.
11. Modified Primer
  - This is to be the primer recommended by the membrane manufacturer being used.
12. Rubberized Mastic
  - This shall be Polyroof as manufactured by Tremco Ltd., or approved equal in accordance with B7. All exposed rubberized asphalt shall be coated with aluminum paint.
13. Caulking
  - This shall be Tremco Dymonic FC
14. Aluminum Paint
  - This shall be Tremco Double Duty
15. Metal Flashing
  - The base and cap flashing shall be a minimum of 24 gauge in thickness. Metal is to be prefinished and is to be chosen from the standard in stock range of Stelco 8000 series of colors.
16. Accessories
  - All nails, bolts, screws and other fasteners etc. shall be as recommended by the manufacturer of the materials for which they are to be used.
17. Splash Pads
  - Splash Pads shall be 51" natural #45-41001 as manufactured by Barkman Concrete Ltd.

**Windows**


Windows shall be SILEX Fibreglass Windows 2100 Series Picture with the following product specifications:

1. Frame
  - These shall be Series 2100 factory-assembled fiberglass windows with outward-opening sash installed in frame. 3 ¾" Pultruded Fiberglass Closed Back Frame completely filled with laser die cut Polystyrene, PBT corner key reinforced Mechanical Joint Corners, sealed with silicone sealant and are independently tested to AAMA 101/LS.2, CSA 101/LS.2/A400-05 standards.
2. Weather-Stripping
  - The three seal design conforms to the rain screen principle.
    - Single foam filled weather stripping on sash.
    - Dual foam filled weather stripping on frame.
3. Glazing
  - a. Float Glass
  - b. Type: Dual or Triple insulated Low-E coated with Argon
4. Glazing Method
  - The glass is held in place by a removable Interior glass stop. Double-sided closed cell foam tape on the frame. The glazing cavity is edge drained to the exterior with concealed drainage holes. The glazing cavity is also edge vented to the exterior through concealed vent holes. The glass stop provides rain screen principal to keep water out.
5. Installation
  - Installation shall be performed by experienced installers in accordance with manufacturer instructions and CSA A-440.4 Standards. Window shall be plumb and square after installation is complete and sealed to both interior and exterior wall with a high quality sealant around the perimeter of the frame. If perimeter cavity is to be foamed, additional anchorage may be required to prevent bowing. It shall be the responsibility of the installers to make all necessary final adjustments to ensure normal and smooth operation.
  - Align window frame plumb and level, free of warp or twist. Maintain dimensional tolerances, aligning with adjacent Work.
  - Coordinate attachment and seal or air and vapour barrier materials
  - Install perimeter type sealant, backing materials, and installation requirements to maintain continuity of thermal barrier. Apply sealants to ends of sill for watertight seal.

NOTES:

1	ELEVATOR DOOR & CAR FINISH REVISED	MMK 2014.10.06
No.	REVISION/DESCRIPTION	BY DATE

SEAL



DRAWN	CHECKED	DESIGNED	APPROVED
DATE 2014.07.11	USER	APPROVAL	

THE CITY OF WINNIPEG  
PLANNING, PROPERTY AND  
DEVELOPMENT DEPARTMENT  
MUNICIPAL ACCOMMODATIONS DIVISION  
3-65 GARRY STREET, R3C 4K4

PROJECT  
**ST. VITAL LIBRARY  
NEW ELEVATOR INSTALLATION**

6 FERMOR AVENUE  
SHEET TITLE  
**ELEVATOR SPECIFICATIONS, (CONT)  
PAINTING SPECIFICATIONS,  
ROOF & WINDOW SPECIFICATIONS**

SCALE AS SHOWN PROJECT No: SHEET No: **A10R1**