ARCHITECTURAL SPECIFICATIONS

SECTION 08 38 16 – FLEXIBLE TRAFFIC DOORS:

PART 1 – GENERAL

1.1 RELATED SECTIONS:
1. ELECTRICAL POWER SUPPLY. SEE ELECTRICAL DRAWINGS.

1.2 SYSTEM DESCRIPTION
1. DESIGN REQUIREMENTS
   1.1. ROLLING DOOR TO HAVE NEWGEN® GUIDE AND CURTAIN LOK™ SYSTEM TO PROVIDE A NEAR AIRTIGHT SEAL AND KNOCK–AWAY FEATURE FOR EASY REASSEMBLY UPON IMPACT.
   1.2. AFTER ACCIDENTAL IMPACT, DOOR MUST BE CAPABLE OF RESET FROM GROUND LEVEL WITHOUT THE USE OF LADDERS, TOOLS OR LIFT EQUIPMENT.
   1.3. ROLLING DOOR SBR CURTAIN FOR SERVICE TEMPERATURE RANGE OF –40°F TO +180°F (–40°C TO +85°C).

1.3 SUBMITTALS
1. PRODUCT DATA
   1.1. SUBMIT MANUFACTURER'S PRINTED PRODUCT LITERATURE, SPECIFICATIONS AND DATA SHEET.
   1.2. SUBMIT TWO COPIES OF WHMIS MSDS MATERIAL SAFETY DATA SHEETS. INDICATE VOC'S:
      1.2.1. FOR CAULKING MATERIALS DURING APPLICATION AND CURING.
      1.2.2. FOR DOOR MATERIALS AND ADHESIVES.
2. SHOP DRAWINGS
   1.1. SUBMIT SHOP DRAWINGS.
   1.2. INDICATE EACH TYPE OF DOOR ARRANGEMENT OF HARDWARE, REQUIRED CLEARANCES, ELECTRICAL CHARACTERISTICS INCLUDING VOLTAGES, SIZE OF MOTORS, AUXILIARY CONTROLS AND WIRING DIAGRAMS.
   1.3. INDICATE ASSEMBLY DETAILS AND DIMENSIONS OF FABRICATION, REQUIRED CLEARANCES AND ELECTRICAL CONNECTIONS.
   1.4. MANUFACTURER'S INSTRUCTIONS:
      1.4.1. SUBMIT MANUFACTURER'S INSTALLATION INSTRUCTIONS.

1.4 WASTE MANAGEMENT AND DISPOSAL
1. DEVELOP CONSTRUCTION WASTE MANAGEMENT PLAN RELATED TO WORK OF THIS SECTION.
2. REMOVE FROM SITE AND DISPOSE OF PACKAGING MATERIALS AT APPROPRIATE RECYCLING FACILITIES.
3. DISPOSE OF CORRUGATED CARDBOARD POLYSTYRENE PLASTIC PACKAGING MATERIAL IN APPROPRIATE ON SITE BIN FOR RECYCLING IN ACCORDANCE WITH SITE WASTE MANAGEMENT PROGRAM.
4. DIVERT UNUSED METAL AND WIRING MATERIALS FROM LANDFILL TO METAL RECYCLING FACILITY APPROVED BY ENGINEER.
5. UNUSED OR DAMAGED GLAZING MATERIALS ARE NOT RECYCLABLE AND MUST NOT BE DIVERTED TO MUNICIPAL RECYCLING PROGRAMS.
6. RETURN EXISTING SECTIONAL DOORS TO TRANSIT

PART 2 – PRODUCTS

2.1 ACCEPTABLE SOURCES
1. THIS SECTION OF THE SPECIFICATIONS IS BASED ON ELECTRICALLY OPERATED SECTIONAL OVERHEAD RUBBER DOORS.
2. MANUFACTURERS OF SECTIONAL RUBBER DOORS HAVING PRODUCTS CONFORMING TO THE REQUIREMENTS OF THIS SECTION, CONSIDERED ACCEPTABLE FOR USE:
   2.1. TNR INDUSTRIAL DOORS INC.
3. MODELS
   3.1. HDC–DD
   3.2. OR ACCEPTABLE EQUIVALENT

2.2 CURTAIN
1. TWO (2) LAYERS OF STYRENE BUTADIENE RUBBER (SBR) EACH 3.2MM (1/8") THICK, 70 DUROMETER; SANDWICHED WITH 1–PLY, 50KG (110 LBS.) POLYESTER CORD CENTRE. MATERIAL PROVIDES NORMAL RESILIENCY AND FLEXIBILITY AT TEMPERATURES RANGING FROM –40° F TO +180°F (–40°C TO +85°C)
2. COMPLETE WITH MOLDED CURTAIN LOKS™ THAT ARE MECHANICALLY ATTACHED TO THE VERTICAL EDGES OF THE CURTAIN MATERIAL. THIS RETENTION SYSTEM MAINTAINS AND HOLDS THE CURTAIN IN GUIDES UNDER HEAVY WINDLOAD CONDITIONS. CONTINUOUS GLUED SBR WINDLOCK OR MOULDED IN PLACE TEFLON WINDLOCK DESIGNS WILL NOT BE ACCEPTED.
3. STANDARD COLOR: BLACK.

2.3 GUIDES
1. SIDE CURTAIN RETENTION: NEWGEN® 5 INCH GUIDES SHALL BE ONE–PIECE EXTRUDED ALUMINUM TO FORM A SLOT OF SUFFICIENT DEPTH TO ALLOW THE CURTAIN LOK™ TO MOVE FREELY IN THE GUIDES AT ALL TIMES. ALUMINUM MEMBERS ARE TO BE OF SUFFICIENT THICKNESS AND RIGIDITY TO MAINTAIN THE CURTAIN LOK™ WITHIN THE GUIDES DURING NORMAL OPERATION WHILE ENABLING THE CURTAIN LOK™ TO RELEASE DURING ACCIDENTAL IMPACT.
2. STEEL GUIDES (BOLTED OR SPRING–LOADED) WILL NOT BE ACCEPTED.
3. SIDE FRAME: GALVANIZED STEEL (10 GAUGE) MOUNTING ANGLES WITH REINFORCEMENT BRACKETS ARE PROVIDED FOR INSTALLATION DIRECTLY ONTO CONCRETE OR STEEL DOOR FRAMING. ADDITIONAL CUSTOMIZATION OF DOOR FRAME IS NOT REQUIRED.

2.4 BOTTOM RAIL
1. BOTTOM BAR SHALL EXTEND THE FULL WIDTH OF THE CURTAIN, SUFFICIENT TO MAINTAIN THE BOTTOM EDGE OF THE CURTAIN PARALLEL TO THE DOOR THRESHOLD AT ALL TIMES. THE BOTTOM BAR SHALL BE CONSTRUCTED OF TWO STEEL ANGLES BOLTED TOGETHER AND SHALL HAVE A KNOCK–AWAY SECTION TO REDUCE RISK OF DAMAGE DURING ACCIDENTAL IMPACTS.
2. KNOCK–AWAY BOTTOM BAR TO BE RESET WITHOUT THE NEED TO OPEN SIDE FRAMES. SINGLE ANGLE DESIGN WILL NOT BE ACCEPTED.

2.5 ROLL–UP DOOR SYSTEM
1. THE CURTAIN IS TO BE ROLLED ON A BARREL OF SUFFICIENT SIZE TO CARRY THE DOOR LOAD WITH A DEFLECTION OF NOT MORE THAN 2.5 MM/M (.03 INCH PER FOOT) OF OPENING WIDTH. DRIVE SHAFT IN THE BARREL IS TO BE CONSTRUCTED OF MINIMUM 50.8 MM (2") C1018 COLD ROLLED STEEL SHAFTS.
2. DOOR SHALL BE DESIGNED TO OPERATE SAFELY WITHOUT THE USE OF A COUNTERBALANCE SYSTEM (I.E. -SPRINGLESS DESIGN).
3. THE IDLER BARREL SHALL BE CONSTRUCTED OF 102 MM (4") OD ROUND HSS STRUCTURAL TUBING WITH A MINIMUM WALL THICKNESS OF 3.4 MM (0.134") AND SUPPORTED BY 32 MM (1¼") C1018 COLD ROLLED STEEL SHAFTS AT EITHER END. IDLER MUST BE GUIDE MOUNTED NOT END BRACKET MOUNTED FOR PROPER TRACKING OF CURTAIN INTO NEWGEN® GUIDES.
4. END BRACKETS ARE CONSTRUCTED OF 6 MM (¼ IN) HOT ROLLED, ZINC COATED STEEL PLATE C/W SEALED HEAVY–DUTY, SELF–ALIGNING BEARINGS WITH CAST IRON HOUSINGS TO SUPPORT THE DRIVE BARREL. DRIVE SHAFT BEARING SHALL BE LOAD RATED AT 3405 KG (7490 LB) DYNAMIC AND 2555 KG (5620 LB) STATIC.
5. WELDED TRUSS SHALL BRACE ENDPLATES TOGETHER AT THE TOP AND BOTTOM WITH C3 X 4.1 CHANNEL AND 2" X 1/4" FLATBAR DIAGONAL BRACING.

2.6 REVERSING EDGE
1. DOOR TO BE EQUIPPED WITH REVERSING SENSING EDGE TO STOP AND REVERSE DOOR TO MANUFACTURER'S STANDARD. A 1/8" THICK EPDM RUBBER LOOP SHALL WRAP THE REVERSING EDGE. BOTH THE REVERSING EDGE AND RUBBER LOOP MUST BE REPLACEABLE WITHOUT REMOVING THE BOTTOM BAR FROM THE CURTAIN.

2.7 ACCESSORIES
1. PHOTOEYE
2. LOOP DETECTORS

2.8 CONSTRUCTION
1. DOORS: CONSTRUCTED OF STEEL, ALUMINUM AND SBR RUBBER/WOVEN CURTAIN
2. STRUCTURAL ELEMENTS: ASSEMBLED BY WELDING OR BY MECHANICAL FASTENERS.

2.9 OPERATION OF DOOR
1. DOORS SHALL BE EQUIPPED FOR OPERATION BY:
   1.1. ELECTRIC OPERATOR
   1.2. MANUAL CHAIN HOIST

2.10 MANUAL OPERATION
1. EMERGENCY MANUAL CHAIN HOIST SHALL BE PROVIDED TO ALLOW MANUAL DOOR OPERATION.
2. CHAIN HOIST SHALL BE OF SUFFICIENT CAPACITY TO OPERATE A DOOR AT A MAXIMUM PULL REQUIREMENT OF 9 TO 14 KG (20 TO 30 LBS.). THE STATIC LOAD ON THE HAND CHAIN TO HOLD THE DOOR IN ANY POSITION MUST NOT EXCEED 5 KG (11 LBS.).

2.11 ELECTRICAL OPERATION
1. ELECTRIC DOOR OPERATORS SHALL BE CSA/cUL APPROVED, HIGH RPM, HEAVY–DUTY HELICAL GEAR TYPE COMPLETE WITH PRE–WIRED, NUMBER CODED CONTROL CABINET AS REQUIRED, TO MANUFACTURER'S STANDARD. CABINET ENCLOSURE TO BE NEMA 4X RATING AND WIRING SHALL BE COMPLETED BY MANUFACTURER.
2. MOTOR TO BE HIGH STARTING TORQUE, DIRECT DRIVE, HOIST TYPE, OPERATING THROUGH A WORM GEAR REDUCER MECHANISM. SPROCKETS AND CHAINS WILL NOT BE ACCEPTED.
3. MOTOR TO BE OF CAPACITY TO OPEN DOOR AT MAXIMUM SPEEDS OF UP TO 68" PER SECOND, DEPENDING ON DOOR SIZE TO MANUFACTURER'S STANDARD, RATED FOR 2 HP, 600V, 3–PHASE, 60HZ FREQUENCY
4. OPERATOR SHALL BE EQUIPPED WITH DIGITAL ENCODER LIMIT SWITCHES TO CONTROL OPEN AND CLOSE DOOR POSITIONS AS WELL AS AN ELECTROMECHANICAL BRAKE SYSTEM TO STOP AND HOLD DOOR IN ANY POSITION TO MANUFACTURER'S STANDARDS. ROTARY CAM LIMIT SWITCHES OPTIONAL.
5. OPERATOR SHALL BE EQUIPPED WITH BUILT–IN MANUAL EMERGENCY CHAIN HOIST. BUILT–IN ELECTRICAL INTERLOCK SHALL PREVENT MOTOR OPERATION DURING USE OF MANUAL CHAIN HOIST.
6. CONTROL PANEL:
   6.1. PANEL ENCLOSURE SHALL BE NEMA 4X AND WIRING SHALL BE COMPLETED BY MANUFACTURER AND SHALL BE UL LISTED. DRIVE SYSTEM SHALL BE CONTROLLED BY PROGRAMMABLE LOGIC CONTROLLER (PLC) COMPLETE WITH INVERTER DRIVE FOR SOFT START AND SOFT STOP DOOR OPERATION. MOTOR CONTROL BY A REVERSING CONTACTOR IS NOT ACCEPTABLE. CONTROL PANEL SHALL HAVE FUSED PRIMARY POWER, ADJUSTABLE CLOSING TIMER, THREE (3) PUSH BUTTONS FOR OPEN, CLOSE AND STOP FUNCTIONS, PUSH/PULL MUSHROOM BUTTON E–STOP AND A CYCLE COUNTER.
7. CONTROL PANEL WITHOUT INVERTER DRIVE WILL NOT BE ACCEPTED.

PART 3 – EXECUTION

3.1 INSTALLATION
1. INSTALL DOORS IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.
2. INSTALL ELECTRICAL MOTORS, CONTROLLER UNITS, PUSH–BUTTON STATIONS AND OTHER ELECTRICAL EQUIPMENT REQUIRED FOR DOOR OPERATION.
3. ALL ELECTRICAL WIRING INCLUDING POWER SUPPLY, CONTROL AND INTERFACE LOCATED NEAR THE DOOR TO BE INSTALLED BY AN ELECTRICAL CONTRACTOR
4. UPON COMPLETION OF THE DOOR AND ELECTRICAL INSTALLATION, THE DOOR INSTALLER MUST MAKE NECESSARY ADJUSTMENTS TO THE DOOR TO ENSURE SMOOTH OPERATION.
5. POWER SUPPLY WIRING TO DISCONNECT SWITCH NEAR EACH DOOR LOCATION AND FINAL CONNECTION TO ELECTRIC OPERATOR WILL BE PERFORMED UNDER ELECTRICAL SPECIFICATIONS.
6. LUBRICATE AND ADJUST DOOR OPERATING COMPONENTS TO ENSURE SMOOTH OPENING AND CLOSING OF DOORS.
7. INSTALL AND ADJUST WEATHER STRIPPING TO FORM A WEATHER TIGHT SEAL.
8. ADJUST DOORS FOR SMOOTH OPERATION.

3.3 CLEANING
1. PERFORM CLEANING AFTER INSTALLATION TO REMOVE CONSTRUCTION AND ACCUMULATED ENVIRONMENTAL DIRT.
2. REMOVE TRACES OF PRIMER, CAULKING; CLEAN DOORS AND FRAMES.
3. CLEAN GLASS AND GLAZING MATERIALS WITH APPROVED NON–ABRASIVE CLEANER.
4. UPON COMPLETION OF INSTALLATION, REMOVE SURPLUS MATERIALS, RUBBISH, TOOLS AND EQUIPMENT BARRIERS.

ISSUED FOR TENDER

NOT FOR CONSTRUCTION

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
Dillon Consulting Limited (MB)
No. 1789 Date: 2023.10.06

LOCATION UNDERGROUND STRUCTURES APPROVED

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M.
ELEV.

NO.	REVISIONS	DATE	BY
0	ISSUED FOR TENDER	2023/10/06	JCY

DESIGNED BY JCY
DRAWN BY IA
CHECKED BY ND
APPROVED BY ND
HOR. SCALE
VERTICAL
DATE

DILLON CONSULTING

RELEASED FOR CONSTRUCTION
DATE OCTOBER 06, 2023

ENGINEER'S SEAL
PROVINCE OF MANITOBA
L.T. ANTLE
Member
47773
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT PROJECT NO.
23-6412

Winnipeg
THE CITY OF WINNIPEG
TRANSIT DEPARTMENT

WINNIPEG TRANSIT
ARTIC ROOM MODIFICATIONS

CITY DRAWING NUMBER P-XXXX-
SHEET 2 OF 21

ARCHITECTURAL
ARCHITECTURAL SPECIFICATIONS

CONSULTANT DRAWING NUMBER A1

C:\PW WORKING DIRECTORY\PROJECTS 2023\DILLON_402HL\DM52825\235412-01-ARCH-CON.DWG