Part 1 General

1.1 REFERENCES

.1 American National Standards Institute (ANSI)

.1 American National Standards for Ladders - Fixed - Safety Requirements A14.3-2008

.2 American Society for Testing and Materials International, (ASTM)

.1 ASTM A53/A53M, Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Steamless.

.2 ASTM A123/A123M, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

.3 ASTM A307, Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

.3 Canadian General Standards Board (CGSB)

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

.2 CAN/CGSB-1.181, Ready-Mixed, Organic Zinc-Rich Coating.

.4 Canadian Standards Association (CSA International)

.1 CAN/CSA-G40.20/G40.21 General Requirements for Rolled or Welded Structural Quality Steel.

.2 CAN/CSA-S16.1, Limit States Design of Steel Structures.

.3 CSA W48, Filler Metals and Allied Materials for Metal Arc Welding (Developed in co-operation with the Canadian Welding Bureau).

.4 CSA W59,Welded Steel Construction (Metal Arc Welding) (Imperial Version).

1.2 DESIGNER QUALIFICATIONS

.1 Design Engineer to have Professional Liability Insurance.

.2 Retain a qualified professional engineer who is licensed in the Province of Manitoba to design in accordance with reference Standards and inspect Work during construction.

.3 Design Engineer to ensure the design in according to the requirements of the Manitoba Building Code and other specified criteria, and be responsible under the Building Code Act for general review of construction for the portion of the work prepared under their professional seals.

1.3 SYSTEM DESCRIPTION

.1 Design ladders and connections to MBC vertical and horizontal live load requirements.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Shop Drawings

.1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

.2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

1.5 QUALITY ASSURANCE

.1 Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties

.2 Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

.3 Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

.1 Packing, Shipping, Handling and Unloading:

.1 Deliver, store, handle and protect materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Storage and Protection:

.1 Cover exposed stainless steel surfaces with pressure sensitive heavy protection paper or apply strippable plastic coating, before shipping to job Site.

.2 Leave protective covering in place until final cleaning of building. Provide instructions for removal of protective covering.

Part 2 Products

2.1 MATERIALS

.1 Steel sections and plates: to CAN/CSA-G40.20/G40.21, Grades 300W and 350W as required.

.2 Steel pipe: to ASTM A53/A53M

.3 Welding materials: to CSA W59.

.4 Welding electrodes: to CSA W48 Series

.5 Bolts and anchor bolts: to ASTM A307.

.6 Grout: non-shrink, non-metallic, flowable, 15 MPa at 24 hours

2.2 FABRICATION

.1 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.

.2 Use self-tapping shake-proof flat headed screws on items requiring assembly by screws or as indicated.

.3 Where possible, fit and shop assemble work, ready for erection.

.4 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

2.3 FINISHES

.1 Galvanizing: hot dipped galvanizing with zinc coating 600 g/m^2 to ASTM A53/A53M.

.1 Galvanize steel for ladder and sump pit cover.

.2 Shop coat primer: to CAN/CGSB-1.40.

.3 Zinc primer: zinc rich, ready mix to CAN/CGSB-1.181.

2.4 SHOP PAINTING

.1 Apply one shop coat of primer to metal items, with exception of galvanized or concrete encased items.

.2 Use primer unadulterated, as prepared by manufacturer. Paint on dry surfaces, free from rust, scale, grease. Do not paint when temperature is lower than 7 degrees C.

.3 Clean surfaces to be field welded; do not paint.

2.5 LIST OF PRINCIPLE ITEMS

.1 Items 2.6 to 2.9 are principle items only. Refer to Drawing details for items not specifically listed.

2.6 ACCESS LADDER

.1 To conform to Workplace, Safety & Health Fall Protection Guidelines and ANSI A14.3

.2 Galvanize finish.

2.7 SUMP PIT COVERS AND FRAMES

.1 As detailed on drawings.

.2 Finish: galvanized.

2.8 BOLLARDS

.1 Steel pipe: size and length as indicated.

.2 Complete with decorative plastic bollard cover. Style and colour to be selected by Contract Administrator.

Part 3 Execution

3.1 ERECTION

.1 Do welding work in accordance with CSA W59 unless specified otherwise.

.2 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.

.3 Provide suitable means of anchorage acceptable to Contract Administrator such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.

.4 Exposed fastening devices to match finish and be compatible with material through which they pass.

.5 Provide components for building by other sections in accordance with shop drawings and schedule.

.6 Make field connections with bolts to CAN/CSA-S16.1, or weld.

.7 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.

.8 Touch-up field welds, bolts and burnt or scratched surfaces after completion of erection with primer.

.9 Touch-up galvanized surfaces with zinc rich primer where burned by field welding.

3.2 ACCESS LADDERS

.1 Install access ladders in locations as indicated, and in each elevator pit to suit elevator manufacturer’s requirements.

.2 Erect ladders clear of wall on bracket supports.

3.3 TRENCH COVERS

.1 Install trench covers in locations as indicated.

3.4 BOLLARDS

.1 Install bollards in locations as indicated.

3.5 CLEANING

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION