**SECTION \_\_\_\_\_\_\_\_\_\_\_ STAINLESS STEEL STOP GATES**

 GENERAL

1. The hand-pull stop gates for this project shall be provided as specified and as shown in the Contract Documents.

PERFORMANCE REQUIREMENTS

1. Leakage for the hand-pull stop gates shall be restricted to 0.1 gpm/ft or less of the seal perimeter at the design seating head and the design unseating head.

SUBMITTALS

1. Submittals shall include, at a minimum, detailed custom drawings of the gate assembly with dimensional and mounting information and a listing of the materials of construction. General arrangement drawings and cut sheets are not considered acceptable drawings.

QUALITY ASSURANCE

1. The basis for the design of the stop gates is the Model RW4000-S as manufactured by RW Gate Company, Troy, NY.
2. All gates shall be shop inspected for proper operation prior to shipment.
3. Welds shall be performed by welders with ASME Section IX or AWS D1.6 certification.
4. The gate manufacturer shall be ISO 9001:2015 certified.

MATERIALS OF CONSTRUCTION

1. All stainless steel referenced in this specification shall be Type 304 (316), ASTM A240 or ASTM A276 unless otherwise indicated herein.
	1. All welded stainless steel components shall be constructed of Type 304L (316L) stainless steel.
	2. All structural stainless steel used in the construction of slides and frames shall have a minimum material thickness of 1/4-inch.
	3. All non-welded stainless steel components, excluding anchor bolts and assembly bolts, shall be Type 304 (316) or Type 304L (316) stainless steel.
	4. Anchor bolts and assembly bolts shall be Type 316 stainless steel.

SLIDE

1. The slide shall consist of a stainless steel plate that is reinforced with stiffeners to withstand the specified head conditions. The slide shall engage the frame a minimum of 1-inch on each side.
	1. The slide plate and stiffeners shall have a minimum material thickness of 1/4-inch.
	2. The slide shall be reinforced with plates or channel shaped members to restrict deflection to 1/16-inch or less at the design head.
	3. The stiffeners shall be welded to the slide.
	4. Dual lifting handles shall be provided on slides with opening widths in excess of24 inches.
		1. Lifting handles shall be formed from round bar or shall be lifting slots in the top of the stop plate as shown on the Contract Drawings.

FRAME

1. The frame shall be constructed of stainless steel plate, with the guide section formed into a C channel shape or similar to house the seal, and shall be reinforced to withstand the specified operating conditions.
	1. The guides shall be of a one-piece design with gussets that extend along the outside and top to accommodate unseating head. The guide members shall incorporate a tubular cross section along the guides for additional rigidity. Two-piece, sandwich type guides that are bolted together are not acceptable.
	2. The mounting configuration of the frame shall be as shown on the Contract Drawings.
	3. Wall mounted frames shall be of the flanged frame type. Flat frames shall only be provided on gates with frames that will be embedded in the concrete wall or mounted inside existing channels.
	4. The guide portion of flanged frame gates shall have a minimum weight of 13 lbs/ft. The portion of the flanged frame, where the anchors penetrate, shall have a minimum thickness of 1/2-inch.

SEALS

1. The seal system shall consist of UHMWPE seals along the sides and a flush bottom EPDM invert seal.
	1. The UHMWPE seals shall be arranged to ensure that there is no metal-to-metal contact between the slide and frame.
	2. The invert seal on upward opening gates shall use a compressible EPDM seal located in the invert of the frame.
		1. The invert seal shall be of a flush bottom arrangement.
		2. The invert seal shall be mechanically fastened with stainless steel bolts.
		3. Invert seals attached solely by the use of adhesives are not acceptable.
	3. All seats and seals shall be secured with assembly bolts. All seals shall be field removable and field replaceable without the need to remove the gate frame from the wall.

 ANCHORAGE

1. Anchor bolts shall be 316 stainless steel, fully threaded and shall have a minimum diameter of 1/2-inch.
	1. Anchor bolts shall be of the epoxy type.

FINISH

1. All heat tint and slag from the welding process shall be passivated in accordance with ASTM A380. If bead blasting is used, the entire slide and entire frame shall be bead blasted.

INSTALLATION

1. Installation shall be performed in accordance with the gate manufacturer’s installation instructions and the approved installation drawings.
2. Installation instructions and installation drawings shall be found in the O&M manual.
3. Non-shrink grout shall be applied, by the Contractor, between the gate frame and the wall to ensure that there is no leakage around the gate.