



FC-SS SERIES STOP GATE, STOP LOG, & BULKHEADS PRODUCT INFORMATION

2016 Edition

INTRODUCTION



WATER CONTROL GATES & VALVES

MECHANICAL ASSOCIATES OFFERS SUPERIOR QUALITY PRODUCTS AND SUPERIOR CUSTOMER SERVICE OVER ANY OTHER COMPETITOR

MECHANICAL ASSOCIATES

began manufacturing in 1993 as a subcontractor to one of the major USA water control gate manufacturers. Today Mechanical Associates has a continually expanding product line of water control products as well as mud & telescoping valves to meet all of our customers needs.

CUSTOMER CARE

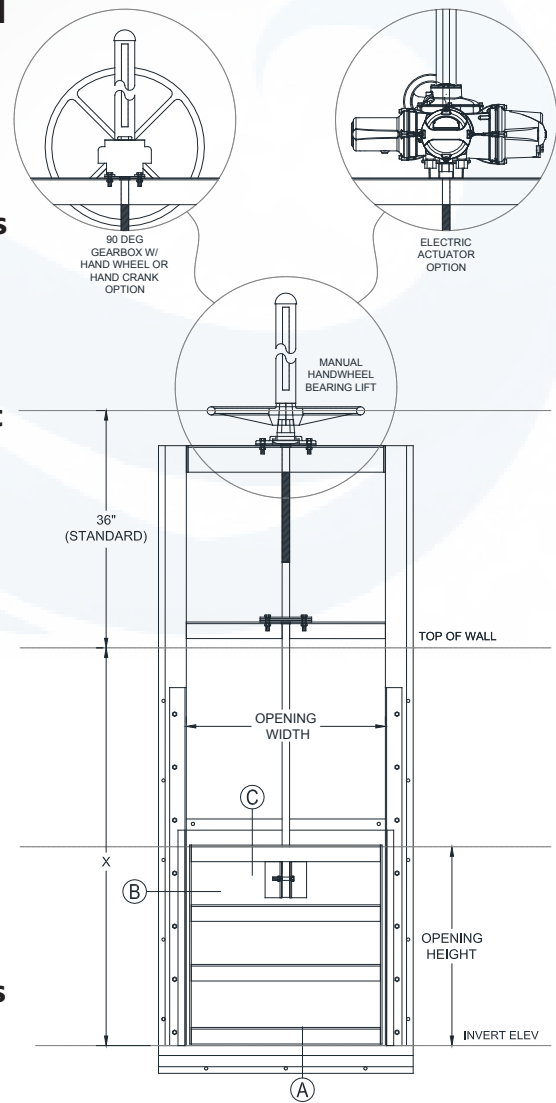
By listening to our customers over the past 22 years Mechanical Associates has developed and/or improved a variety of the products used in the water control gate market today. Through innovation and careful collaboration with our customers, Mechanical Associates provides the best possible solution to meet our clients water control needs.

QUALITY

Mechanical Associates prides itself on providing high quality American made water control products. Mechanical Associates specializes in corrosion resistant materials including Stainless Steel and Marine Grade Aluminum.

INNOVATION

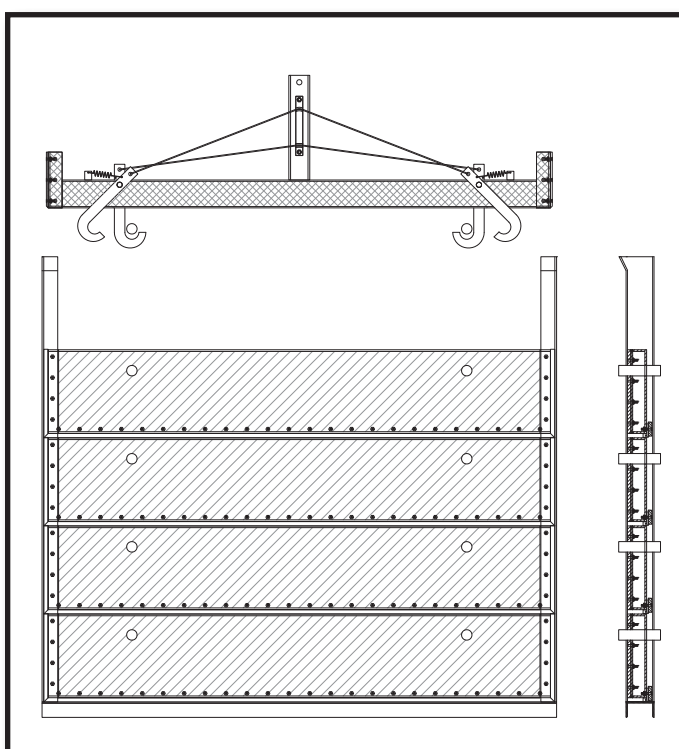
Mechanical Associates' experienced staff, with over 100 years of working in the water control industry, is continually working to improve all of its products and also working with our customers to create new products.





MUNICIPAL WATER CONTROL PRODUCTS

FC-SS-SERIES HAND PULL STOP GATES, BULKHEADS, & STOP LOGS



STAINLESS STEEL STOP GATE, BULKHEADS, & STOP LOGS STANDARD FEATURES

Model: FC-SS-SG, FC-SS-BH, FC-SS-SL

- Replaceable UHMW Self Adjusting Seals Top & Sides (Available with J-Bulb Seals)
- All Stainless Steel Construction
- On-Seating / Off-Seating Head Configuration
- Flush Bottom for Watertight Seal
- Reinforced Slide
- Multiple Handle/Lift Configuration
- Environmentally friendly
- Non environmentally degrading
- No toxic paints or coatings

**ALL GATES ENGINEERED PER HEAD PRESSURE
SPECIFICATION REQUIREMENT**

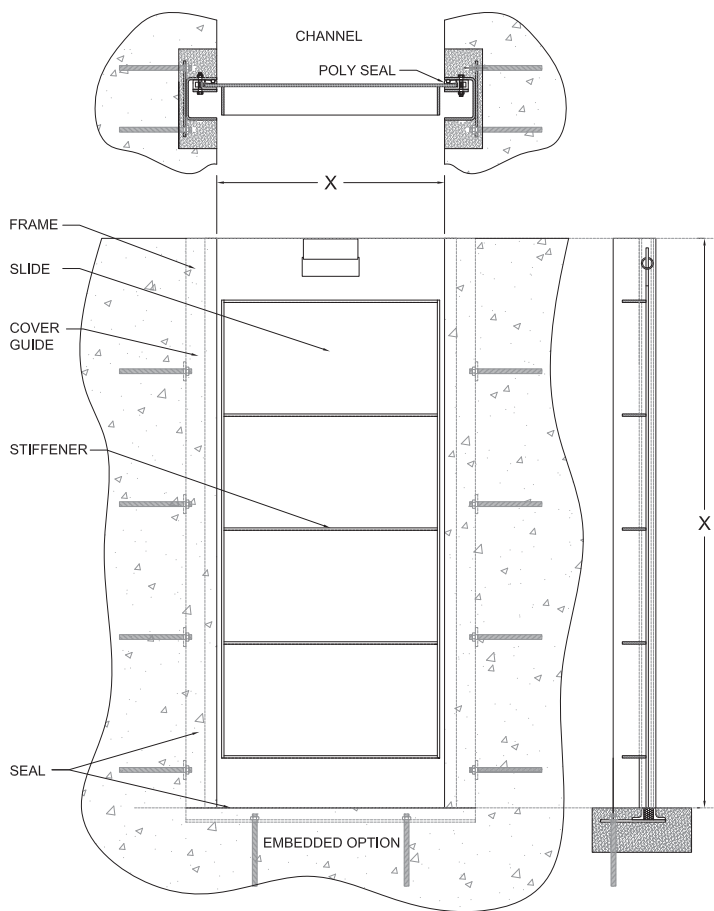
**REQUEST OUR FC-SS BROCHURE FOR ALL AVAILABLE
OPTIONS FOR THIS GATE SERIES.**

Mechanical Associates' stainless steel and aluminum gates provide long life and excellent value for the investment. Installation is quick and easy. All gates come standard with replaceable seals for easy maintenance. Stainless steel and aluminum construction will provide long life in corrosive conditions, with little or no maintenance or replacement parts required.

Also available from Mechanical Associates
Line Gates, Slide Gates, Pressure Gates, Canal Gates, Flap Gates, and more..



STAINLESS STEEL STOP GATE FC-SS-SG



STANDARD FEATURES:

- All Stainless Steel Construction
- UHMW Self Adjusting Seals
- Seating or Off Seating Head Configuration
- Flush Bottom Neoprene for Watertight Seal (Standard)
- Reinforced Slide
- Environmentally friendly
- Non environmentally degrading
- No toxic paints or coatings

LIFT OPTIONS:

- Multiple Lift Handle Configurations (Per Spec)
- Lifting Beams (Stop Logs or Bulkhead)

MOUNTING OPTIONS:

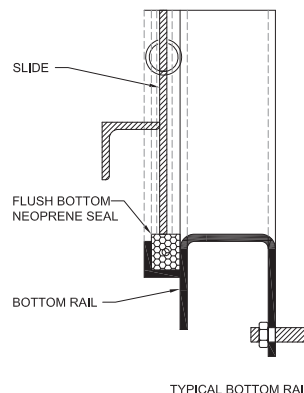
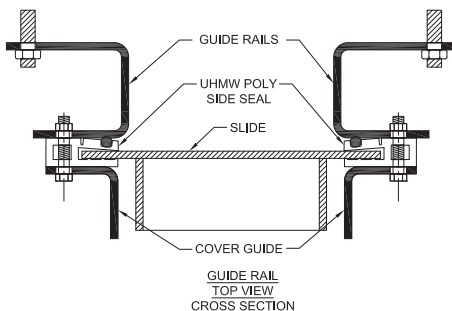
- Flush Mount
- Embedded
- In-Channel

FRAME OPTIONS:

- Configuration 1 Light To Medium Duty
- Configuration 2 Heavy dut

SEAL OPTIONS:

- Neoprene Or EPDM J-Bulb Seals



STANDARD FLANGE BACK WALL MOUNT

PARTS & MATERIALS

Bolts & Nuts	Stainless Steel ASTM A-240 TY.304 or 316
Frame Weldament	Stainless Steel ASTM A-240 TY.304 or 316
Slide Weldament	Stainless Steel ASTM A-240 TY.304 or 316
Flush Bottom Box	Stainless Steel ASTM A-240 TY.304 or 316
Flush Bottom Seal	Neoprene Rubber: ASTM D-2000
Poly Seal	UHMW
J-Bulb Seal (option)	Neoprene Rubber: ASTM D-2000

FC-SS HAND PULL STOP GATE, STOP LOG, BULKHEAD GATE



STAINLESS STEEL STOP LOG GATE FC-SS-SL

STANDARD FEATURES:

- All Stainless Steel Construction
- UHMW Self Adjusting Seals
- Seating or Off Seating Head Configuration
- Flush Bottom Neoprene for Watertight Seal
- Reinforced Slide (Logs)
- Easy Open / Easy Close Handwheel Actuator
- **Environmentally friendly**
- **Non environmentally degrading**
- **No toxic paints or coatings**

LIFT OPTIONS:

- Multiple Lifting Configurations (Per Spec)
- Lifting Beams (Stop Logs)

MOUNTING OPTIONS:

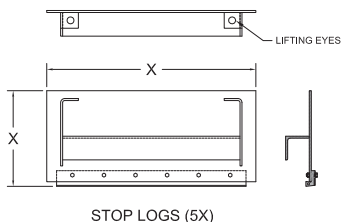
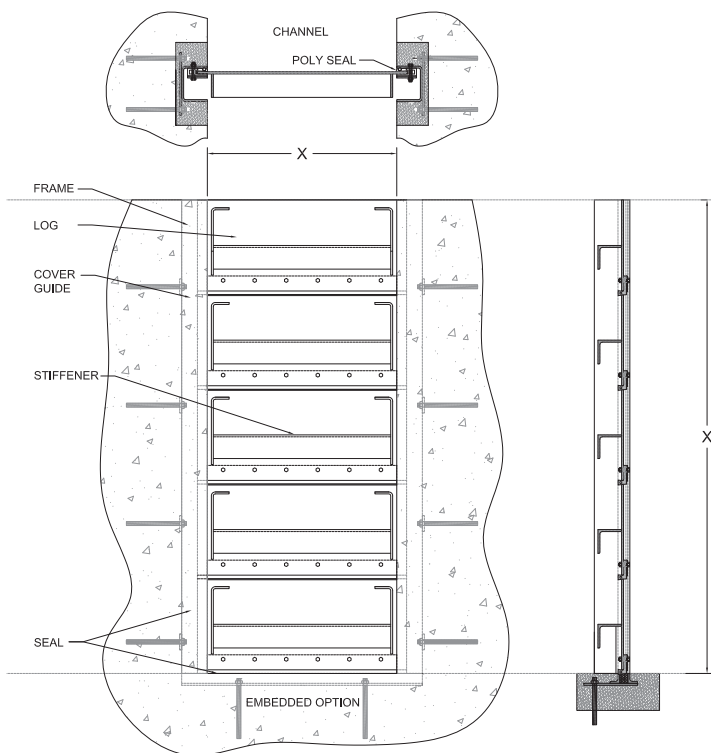
- Flush Mount
- Embedded
- In-Channel

FRAME OPTIONS:

- Configuration 1 Light To Medium Duty
- Configuration 2 Heavy dut

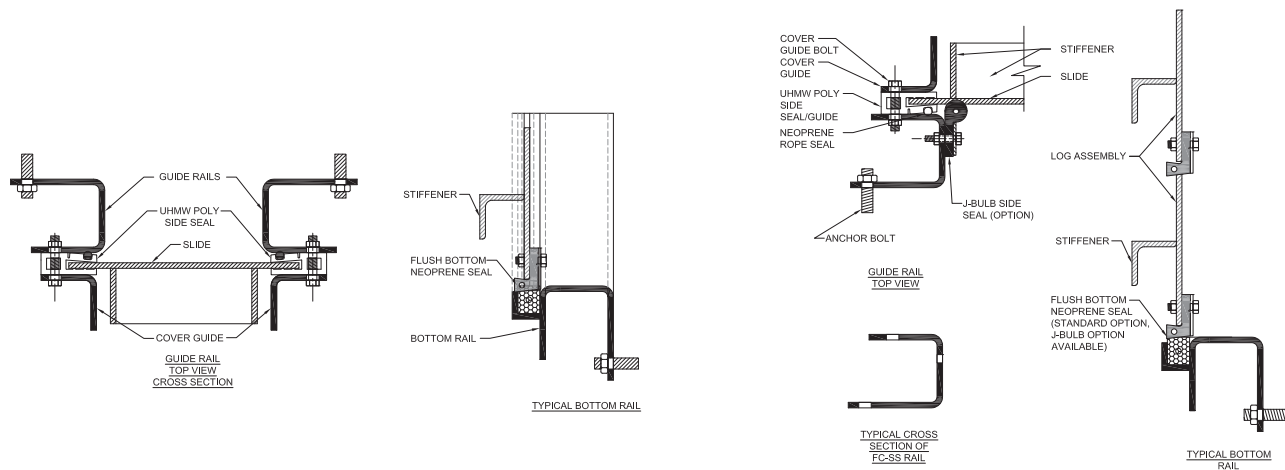
SEAL OPTIONS:

- Neoprene Or EPDM J-Bulb Seals



PARTS & MATERIALS	
Bolts & Nuts	Stainless Steel ASTM A-240 TY.304 or 316
Frame Weldment	Stainless Steel ASTM A-240 TY.304 or 316
Slide Weldment	Stainless Steel ASTM A-240 TY.304 or 316
Flush Bottom Box	Stainless Steel ASTM A-240 TY.304 or 316
Flush Bottom Seal	Neoprene Rubber: ASTM D-2000
Poly Seal	UHMW
J-Bulb Seal (option)	Neoprene Rubber: ASTM D-2000

FC-SS HAND PULL STOP GATE, STOP LOG, BULKHEAD GATE



STANDARD FLANGE BACK WALL MOUNT

STAINLESS STEEL BULKHEAD GATE FC-BH

STANDARD FEATURES:

- All Stainless Steel Construction
- UHMW Self Adjusting Seals
- Seating or Off Seating Head Configuration
- Flush Bottom Neoprene for Watertight Seal
- Reinforced Slide (Logs)
- Easy Open / Easy Close Handwheel Actuator
- **Environmentally friendly**
- **Non environmentally degrading**
- **No toxic paints or coatings**

LIFT OPTIONS:

- Multiple Lifting Configurations (Per Spec)
- Lifting Beams (Stop Logs)

MOUNTING OPTIONS:

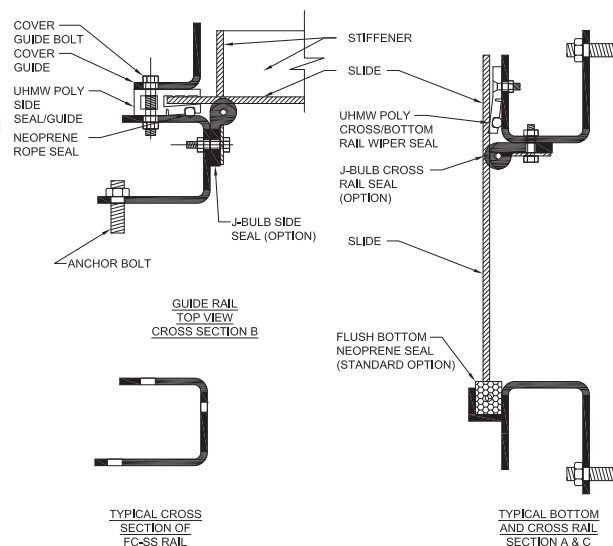
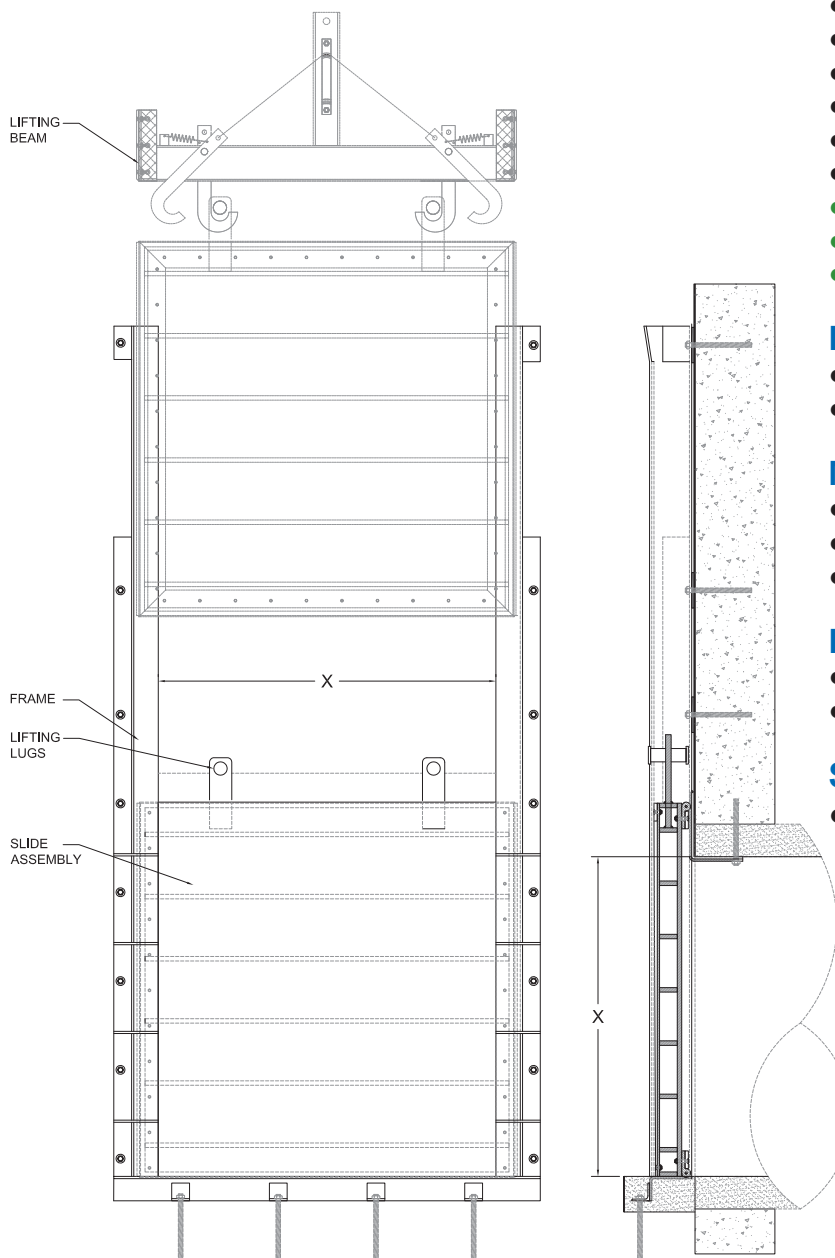
- Flush Mount
- Embedded
- In-Channel

FRAME OPTIONS:

- Configuration 1 Light To Medium Duty
- Configuration 2 Heavy dut

SEAL OPTIONS:

- Neoprene Or EPDM J-Bulb Seals



PARTS & MATERIALS

Bolts & Nuts	Stainless Steel ASTM A-240 TY.304 or 316
Frame Weldament	Stainless Steel ASTM A-240 TY.304 or 316
Slide Weldament	Stainless Steel ASTM A-240 TY.304 or 316
Flush Bottom Box	Stainless Steel ASTM A-240 TY.304 or 316
Flush Bottom Seal	Neoprene Rubber: ASTM D-2000
Poly Seal	UHMW
J-Bulb Seal (option)	Neoprene Rubber: ASTM D-2000

FC-SS HAND PULL STOP GATE, STOP LOG, BULKHEAD GATE

STANDARD FLANGE BACK WALL MOUNTED

REV 08.23.15

Specifications subject to change without notice. 2016 Mechanical Associates, all rights reserved.

Sheet No. TN10.6

FC-SS SERIES

STAINLESS STEEL SLIDE GATE

SELECTION GUIDE

SEAL TYPE

- £ UHMW Polyethylene
- £ J-Bulb (Neoprene OR EPDM)
- £ Other

MATERIAL OPTIONS

- £ 304 S.S. TYPE: _____
- £ 316 S.S. TYPE: _____

MOUNTING OPTIONS

- £ In-Channel Mount (IC)
- £ Embed Mount (EMB)
- £ Flange Back (FB)
- £ Spigot Back (SP)
- £ Wall Thimble (Type _____)

SELF CONTAINED FRAME

- £ Self-Contained Frame
- £ Stem Guides (On Frame)
- £ Torque Tube

NON-SELF CONTAINED FRAME

- £ Non-Self Contained Frame
- £ Stem Guides (Wall Mounted)
- £ TOW Bracket (Top of Wall)
- £ Pedestal
- £ Floor Box

STEM OPTIONS

- £ Rising Stem
- £ Non-Rising Stem
- £ Stem Cover
- £ Position Indicator Strip

OPTIONS & ACCESSORIES

- £ Handwheel 14"
- £ Handwheel 24"
- £ Hand Crank
- £ Tee Handle
- £ Limit Nut

LIFT OPTIONS

- £ Standard (Non-Geared Lift)
- £ UHMWPE Bearing Lift (Non-Geared Lift)
- £ Needle Bearing Lift (Non-Geared Lift)
- £ Gear Actuator (Vertical)
- £ Gear Actuator (90°)
- £ Electric Actuator
- £ Air/Pneumatic Actuator
- £ Hydraulic Actuator
- £ Tandem Lift
- £ Chain Drive
- £ Handwheel Extension

FC-SS-P-EMB-Y-DO-NRS

SERIES DESIGNATION:
FC - FORMED CHANNEL

MATERIAL:
SS- STAINLESS STEEL
(304 OR 316 OR PER SPEC)

SEAL/GUIDE:
P - UHMW POLYETHYLENE
J - J-BULB (NEOPRENE OR EPDM)
PJ- POLY GUIDE W/ J-BULB SEAL
CS - CROWN SEAL
PB - PRESSURE BAR (WEDGE)

NON-RISING STEM

OPENING OPTION:
DO - DOWNWARD OPENING

FRAME CONFIGURATION:
Y - SELF-CONTAINED
X - NON SELF-CONTAINED

FRAME MOUNTING:
EMB - EMBEDDED
IC - IN-CHANNEL
FB - FLANGE BACK
SB - SPIGOT BACK
WT - WALL THIMBLE

GATE SELECTION: FC-SS-_____

DETAIL TITLE #:

**STAINLESS STEEL
SLIDE GATE (FC-SS)**

REVISION #:

0

JOB NO.

N/A

QUOTE ITEM NUMBER:

N/A

DRAWN BY:

T.A.C.

CHECKED BY:

D.E.

PAGE NO.

PAGE OF

SCALE:

N.T.S.

DATE:

2015

MA DETAIL NO.

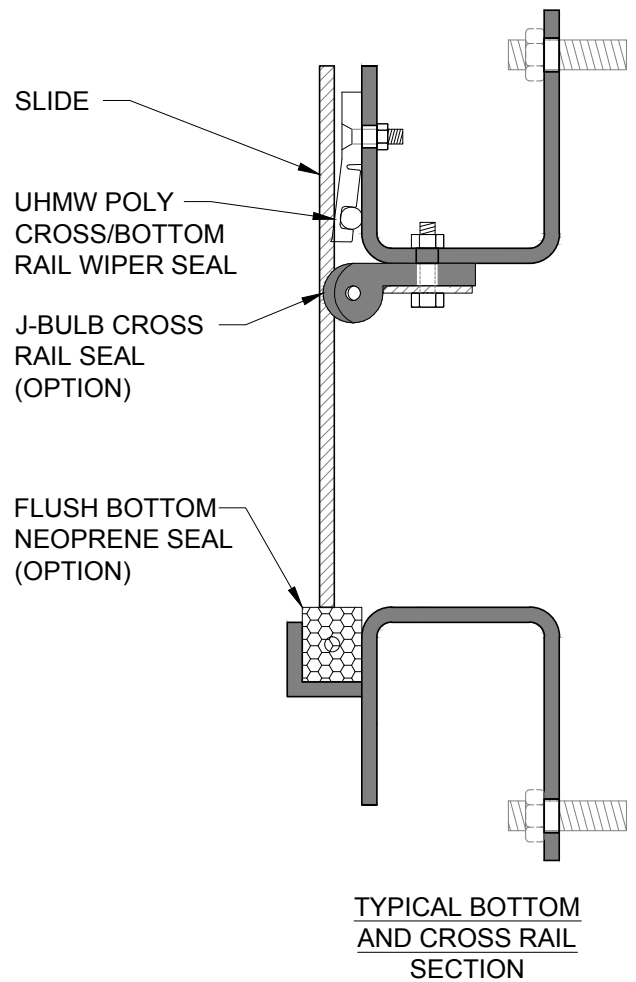
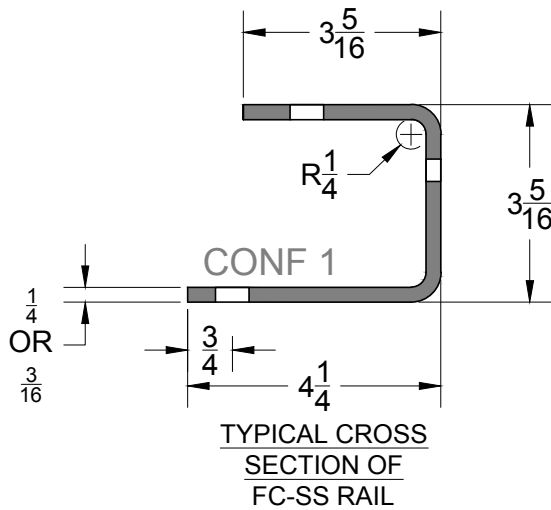
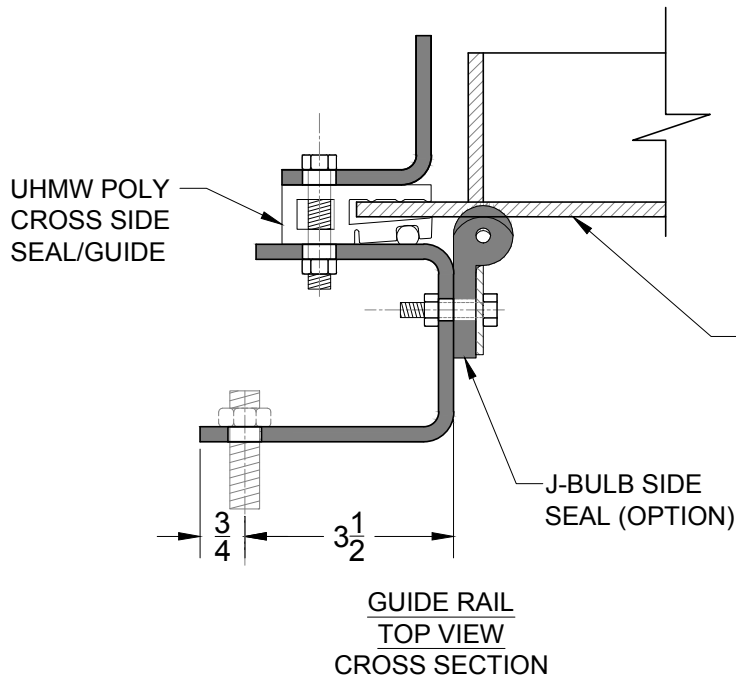
FC-SS



PROJECT:

PROJECT
CITY, ST

MECHANICAL ASSOCIATES ~ 745 BROADWAY STREET ~ FRESNO, CA 93721



DETAIL TITLE #:

FORMED CHANNEL S.S. RAIL CONFIGURATION-(FC-1)



PROJECT:

PROJECT
CITY, ST

REVISION #:

0

JOB NO.

N/A

QUOTE ITEM NUMBER:

N/A

DRAWN BY:

T.A.C.

CHECKED BY:

D.E.

PAGE NO.

PAGE OF

SCALE:

N.T.S.

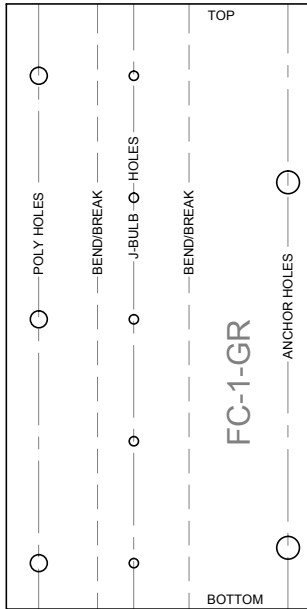
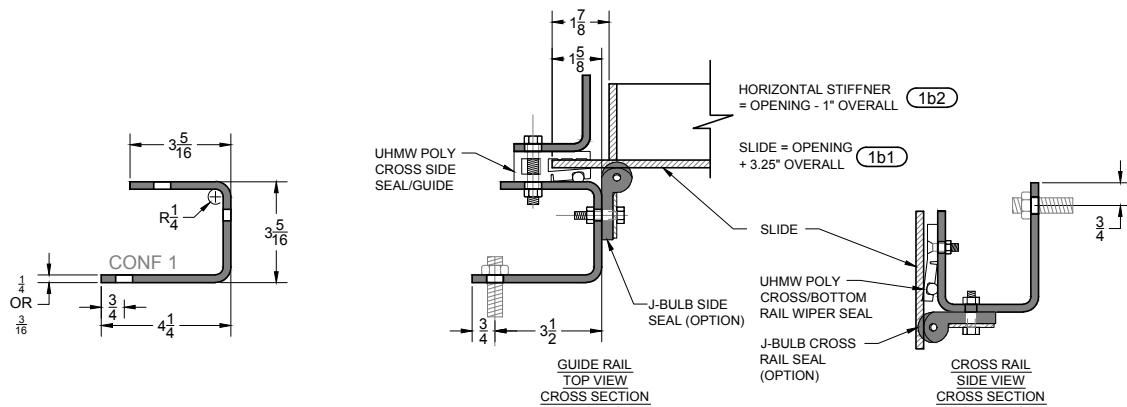
DATE:

2015

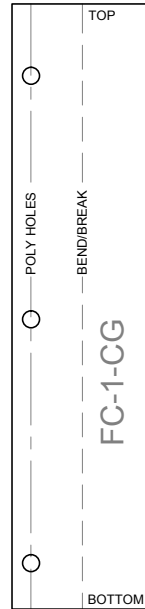
MA DETAIL NO.

FC-SS

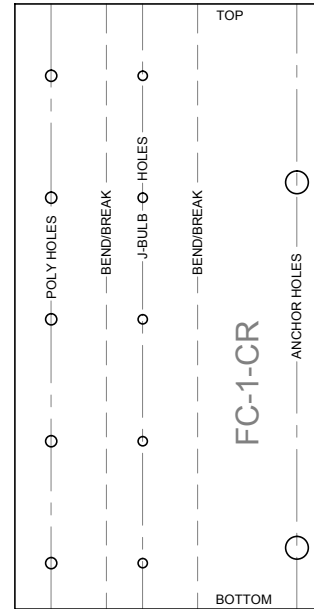
MECHANICAL ASSOCIATES ~ 745 BROADWAY STREET ~ FRESNO, CA 93721



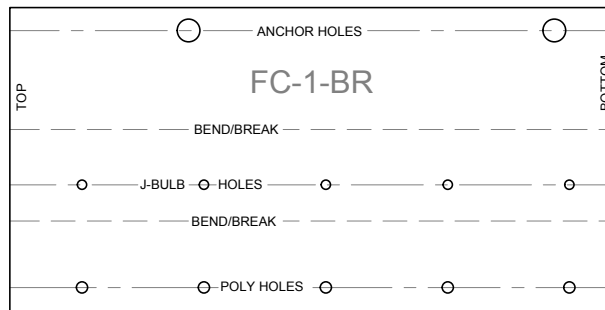
GUIDE
RAIL
(1a1)



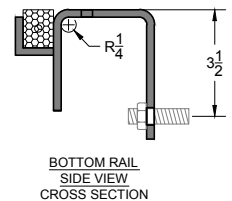
COVER
GUIDE
(1a2)



CROSS
RAIL
(1a6)



BOTTOM
RAIL
(1a6)



BOTTOM RAIL
SIDE VIEW
CROSS SECTION

DETAIL TITLE #:

FORMED CHANNEL S.S. RAIL CONFIGURATION-1

REVISION #:

0

JOB NO.

N/A

QUOTE ITEM NUMBER:

N/A

DRAWN BY:

T.A.C.

CHECKED BY:

D.E.

PAGE NO.

PAGE OF

SCALE:

N.T.S.

DATE:

2015

MA DETAIL NO.

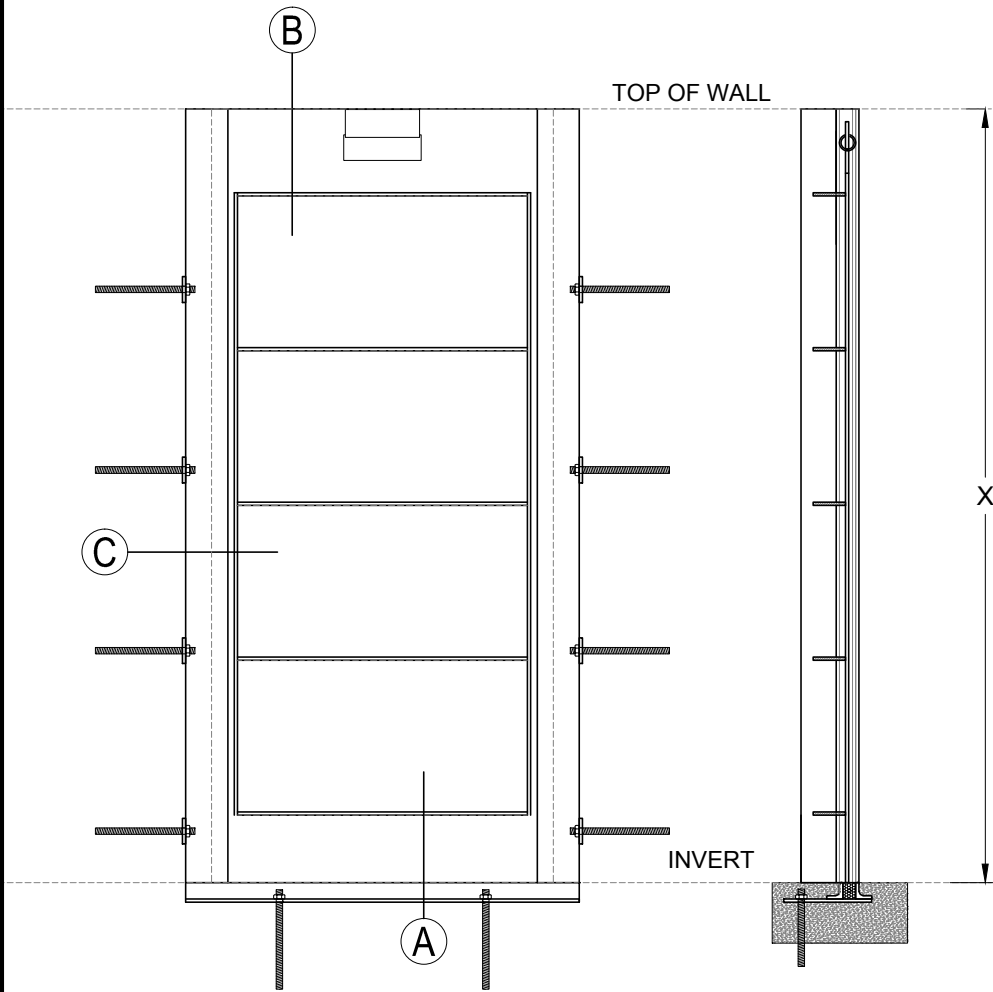
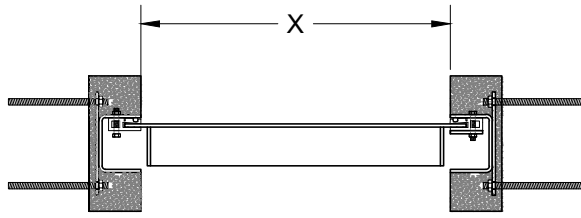
FC-SS



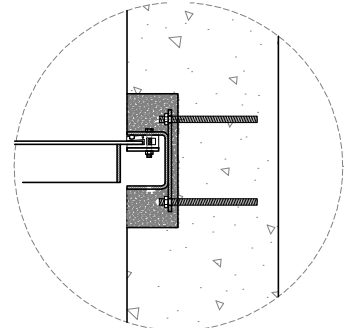
PROJECT:

PROJECT
CITY, ST

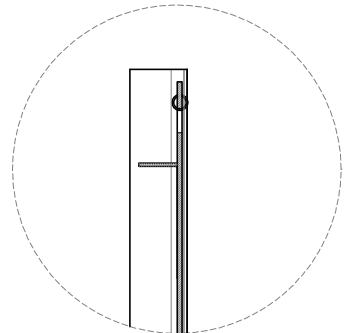
MECHANICAL ASSOCIATES ~ 745 BROADWAY STREET ~ FRESNO, CA 93721



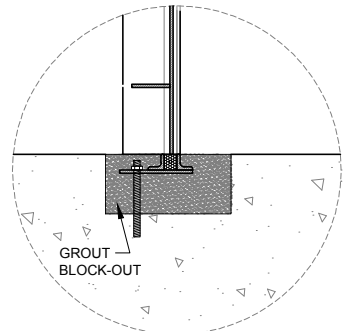
EMBEDDED MOUNTING SHOWN
SEE TYPICAL MOUTING
CONFIGURATIONS FOR OPTIONS



SECTION-C



SECTION-B



SECTION-A
EMBEDDED

DETAIL TITLE #:

FC-SS-SG STOP GATE

REVISION #:

0

JOB NO.

N/A

QUOTE ITEM NUMBER:

N/A

DRAWN BY:

T.A.C.

CHECKED BY:

D.E.

PAGE NO.

PAGE 1 OF 1

SCALE:

N.T.S.

DATE:

2015

MA DETAIL NO.

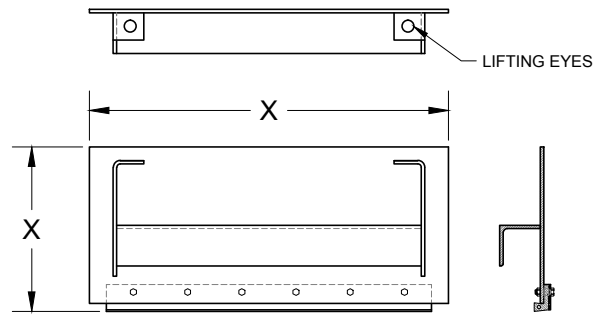
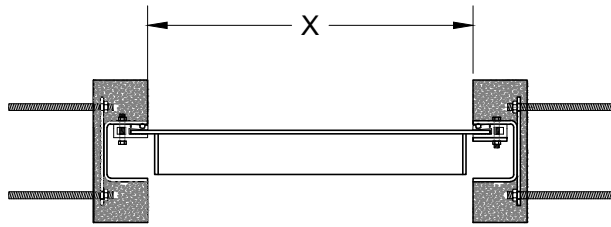
FC-SS-SG

PROJECT:

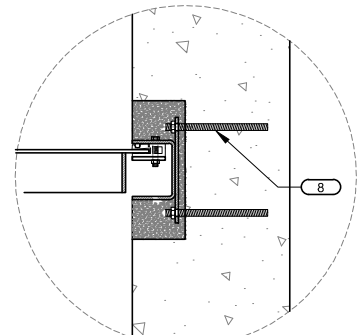
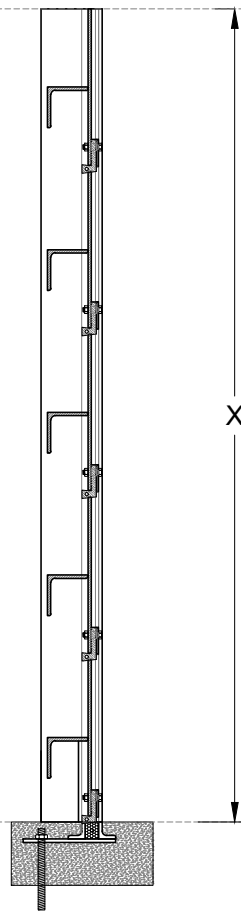
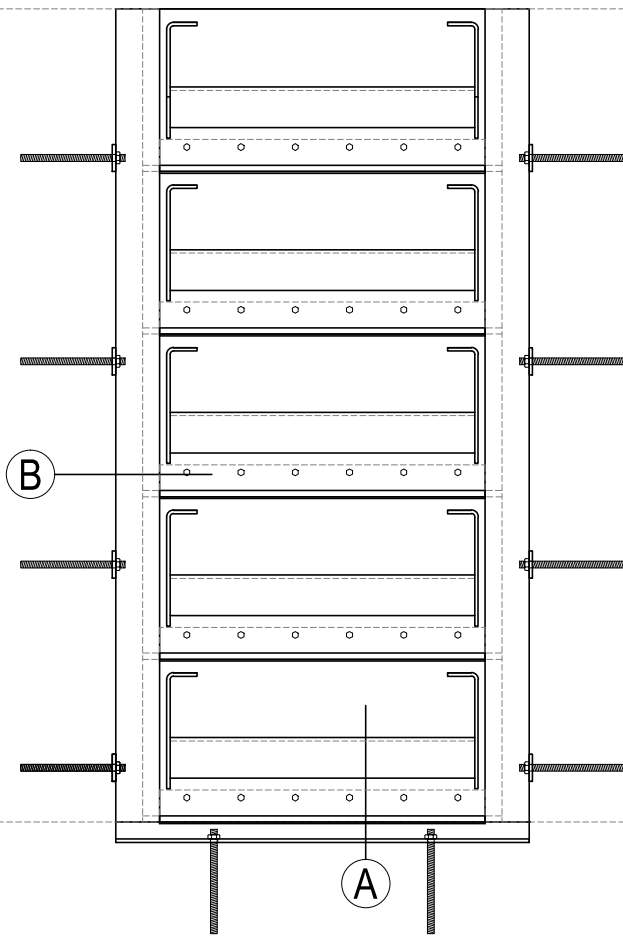
PROJECT
CITY, ST



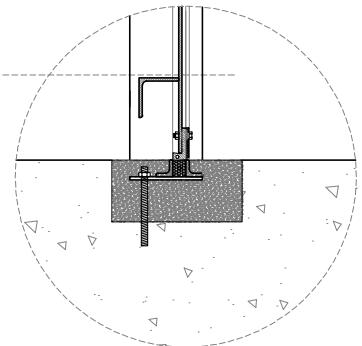
MECHANICAL ASSOCIATES ~ 745 BROADWAY STREET ~ FRESNO, CA 93721



STOP LOGS (5X)



SECTION-B



SECTION-A

EMBEDDED MOUNTING SHOWN
SEE TYPICAL MOUTING
CONFIGURATIONS FOR OPTIONS

DETAIL TITLE #:

FC-SS-SL STOP LOG

REVISION #:

0

JOB NO.

N/A

QUOTE ITEM NUMBER:

N/A

DRAWN BY:

T.A.C.

CHECKED BY:

D.E.

PAGE NO.

PAGE 1 OF 1

SCALE:

N.T.S.

DATE:

2015

MA DETAIL NO.

FC-SS-SL

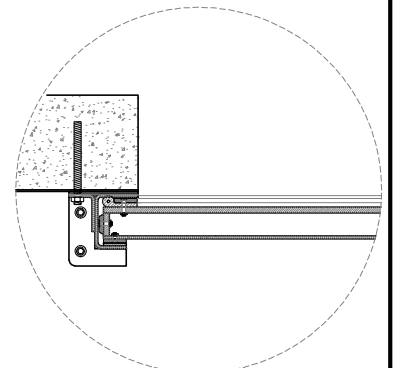
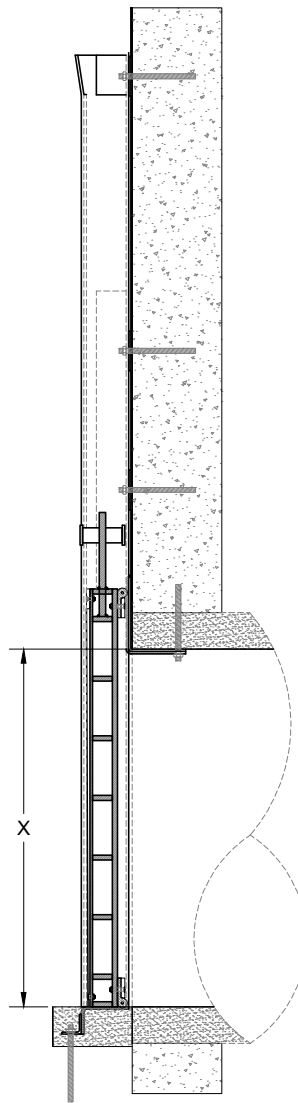
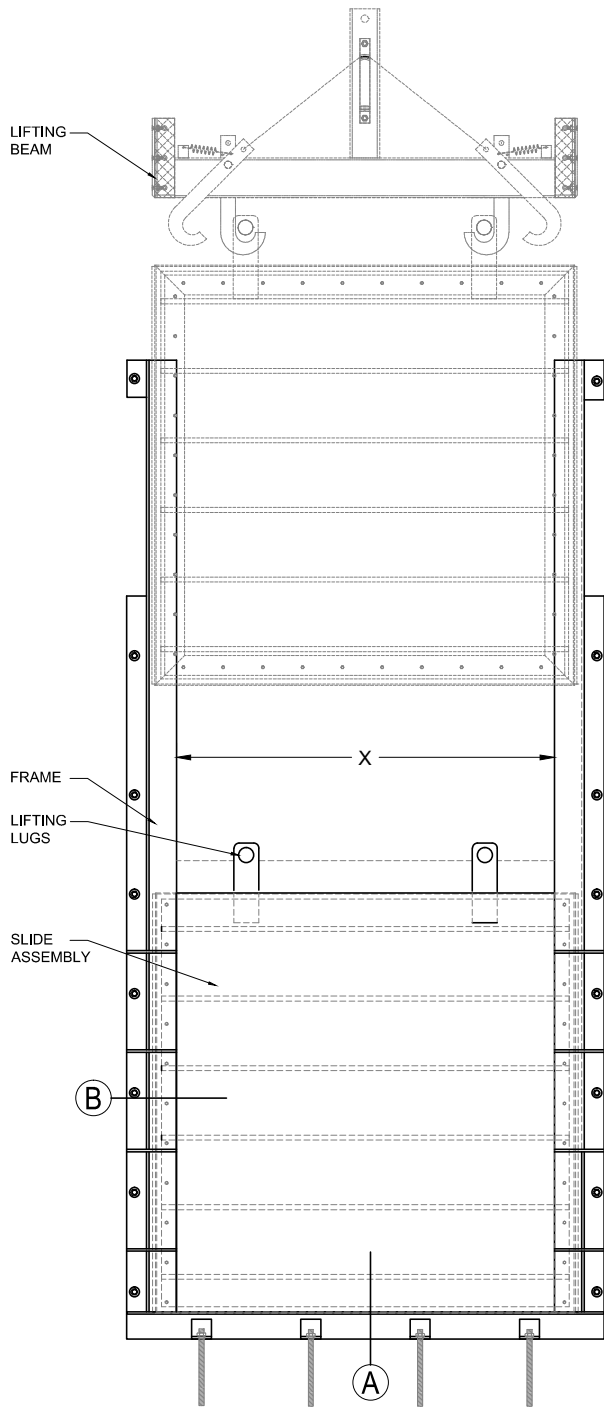


PROJECT:

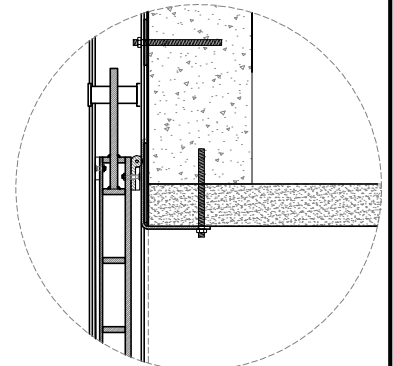
PROJECT
CITY, ST

MECHANICAL ASSOCIATES ~ 745 BROADWAY STREET ~ FRESNO, CA 93721

C:\Users\Troy\appdata\local\temp\AcPublish_76361 Nov 12, 2015 - 3:16:10 PM Troy



SECTION-A



SECTION-B

ENGINEERED MOUNTING SHOWN
SEE TYPICAL MOUNTING CONFIGURATIONS FOR OPTIONS
ALL GATES ARE DESIGNED PER SPECIFICATIONS

DETAIL TITLE #:

FC-SS-BH BULKHEAD



PROJECT:

PROJECT
CITY, ST

MECHANICAL ASSOCIATES ~ 745 BROADWAY STREET ~ FRESNO, CA 93721

REVISION #:

0

QUOTE ITEM NUMBER:

N/A

CHECKED BY:

D.E.

SCALE:

N.T.S.

MA DETAIL NO.

JOB NO.

N/A

DRAWN BY:

T.A.C.

PAGE NO.

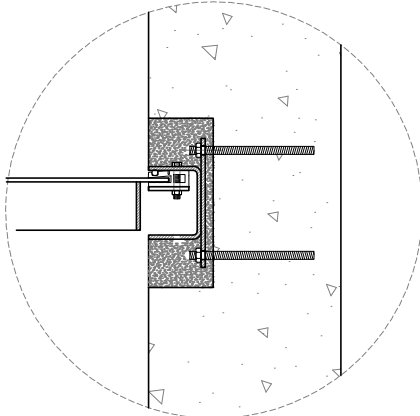
PAGE 1 OF 1

DATE:

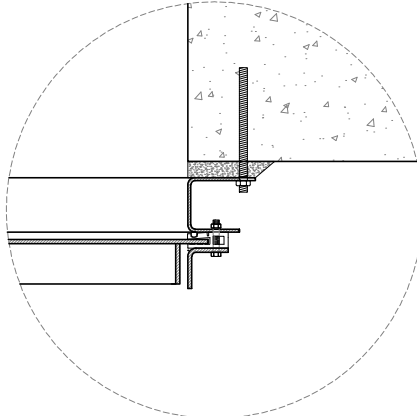
2015

FC-SS-BH

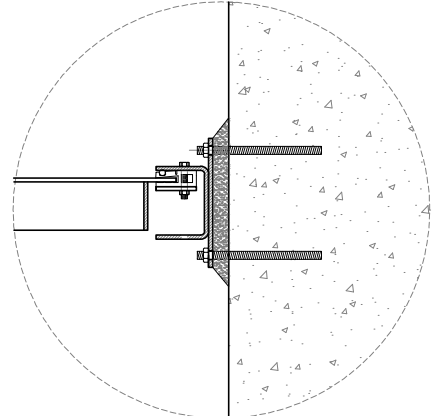
OTHER MONTING OPTIONS INCLUDE:
FLANGE TO FLANGE
SPIGOT
CURVED SURFACES



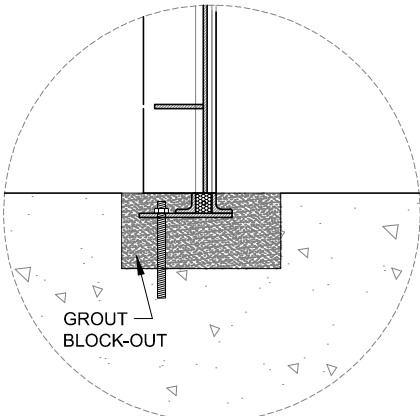
SECTION-C



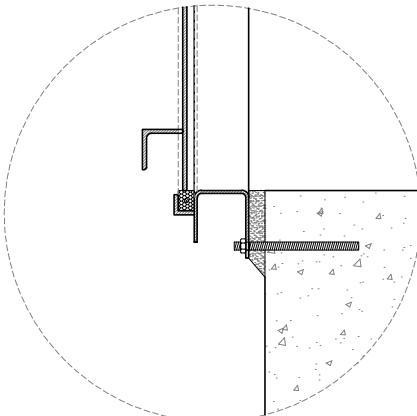
SECTION-C



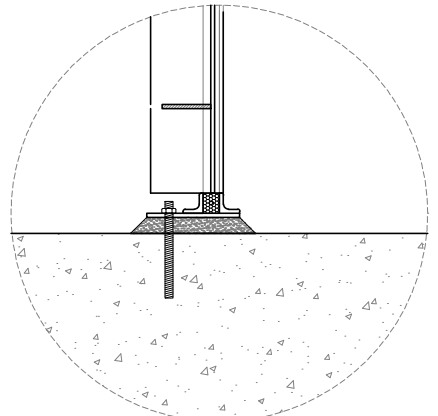
SECTION-C



SECTION-A
EMBEDDED



SECTION-A
FLANGE
BACK



SECTION-A
IN-CHANNEL

DETAIL TITLE #:

FC-SS TYPICAL MOUNTING CONFIGURATIONS



PROJECT:

PROJECT
CITY, ST

REVISION #:

0

QUOTE ITEM NUMBER:

N/A

CHECKED BY:

D.E.

SCALE:

N.T.S.

JOB NO.

N/A

DRAWN BY:

T.A.C.

PAGE NO.

PAGE 1 OF 1

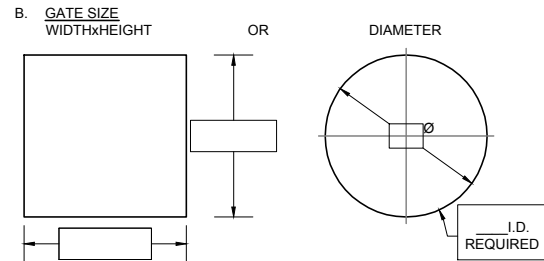
DATE:

2015

MA DETAIL NO.

FC-SS

MECHANICAL ASSOCIATES ~ 745 BROADWAY STREET ~ FRESNO, CA 93721



C. HOIST REQUIREMENTS

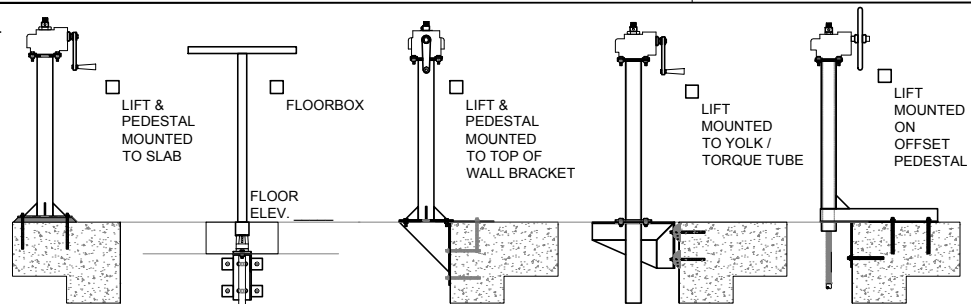
- ☐ MANUAL
☐ ELECTRIC
☐ CYLINDER
- ☐ OIL
- ☐ HANDCRANK
☐ PHASE _____ CYCLES
☐ WATER
- ☐ HANDWHEEL
☐ AIR
- ☐ 90° GEARBOX
☐ PSI

- ☐ STEM COVER
☐ CLEAR PLASTIC
☐ METAL

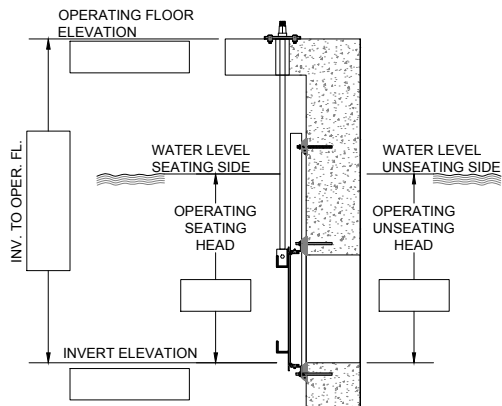
- POSITION INDICATOR
☐ MYLAR STRIP
☐ COUNTER
☐ DIAL

- ☐ RISING STEM
☐ NON-RISING STEM
☐ DOWNWARD OPENING (WEIR)

D. LIFT MOUNTING

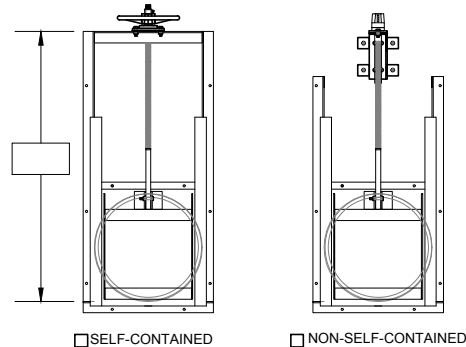


E. GATE DESIGN REQUIREMENTS



F. MISCELLANEOUS

- ☐ GATE MOUNTING TYPE
☐ CHANNEL MOUNT
☐ WALL MOUNT
☐ WEIR (DOWNWARD OPENING)
- ☐ EXISTING STRUCTURE
☐ NEW STRUCTURE
- ☐ DESIGN HEAD _____ SEATING _____ UNSEATING
 (DIFFERENT THAN OPERATING HEAD INDICATED)
- ☐ INVERT OF GATE IS FLUSH WITH INVERT OF STRUCTURE
- ☐ J BULB SEALS
☐ UHMW BEARING STRIPS
☐ GROUTLESS GASKET



G. COMMENTS

DETAIL TITLE #:

FC-SS CONFIGURATION SELECTION GUIDE



PROJECT:

PROJECT
CITY, ST

MECHANICAL ASSOCIATES ~ 745 BROADWAY STREET ~ FRESNO, CA 93721

REVISION #:

0

QUOTE ITEM NUMBER:

N/A

CHECKED BY:

D.E.

SCALE:

N.T.S.

MA DETAIL NO.

JOB NO.

N/A

DRAWN BY:

T.A.C.

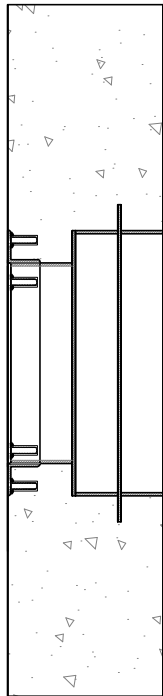
PAGE NO.

PAGE 1 OF 1

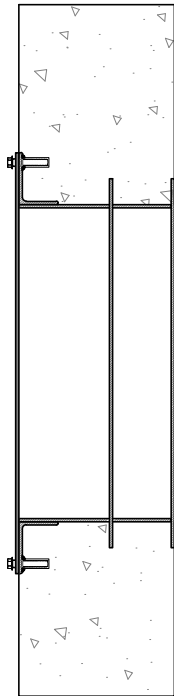
DATE:

2015

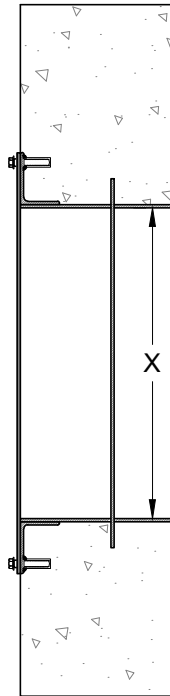
FC-SS



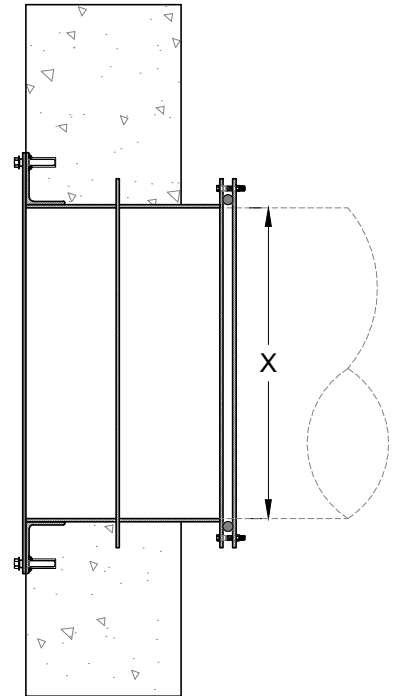
CUSTOM
WALL THIMBLE



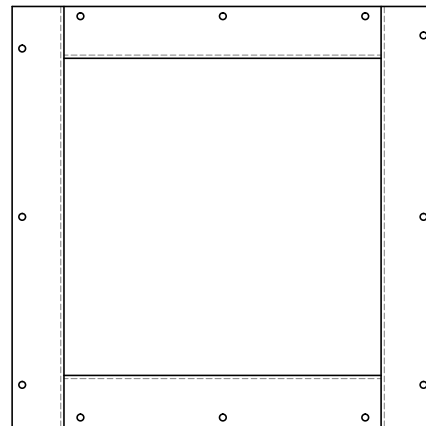
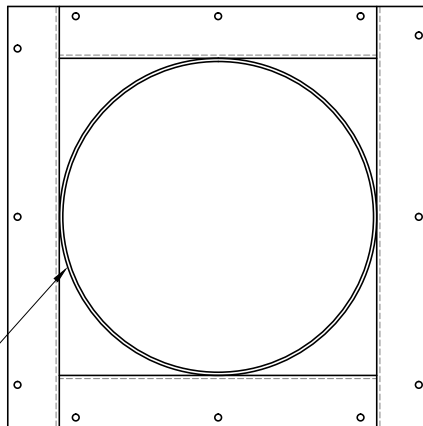
TYPE "E"
WALL THIMBLE




TYPE "F"
WALL THIMBLE



TYPE "MJ"
WALL THIMBLE



WALL THIMBLES

DETAIL TITLE #:		REVISION #:		JOB NO.	
FC-SS WALL THIMBLES		0		N/A	
		QUOTE ITEM NUMBER:		DRAWN BY:	
		N/A		T.A.C.	
		CHECKED BY:		PAGE NO.	
		D.E.		PAGE 1 OF 1	
PROJECT:		SCALE:		DATE:	
		N.T.S.		2015	
MECHANICAL ASSOCIATES ~ 745 BROADWAY STREET ~ FRESNO, CA 93721		MA DETAIL NO.		FC-SS	

TYPICAL SPECIFICATIONS FOR FC-SS SERIES FABRICATED SLIDE GATE

SECTION _____

PART 1 - GENERAL



1.01 SCOPE OF WORK

A. The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals required to install and ready for operation stainless steel slide gates as shown on the Contract Drawings and as specified herein.

1.02 SUBMITTALS

A. Submittals shall be in accordance with Sections _____ and as specified herein. Submittals shall include as a minimum:

1. Shop Drawings
2. Manufacturer's operation and maintenance manuals and information.
3. Manufacturer's equipment warranty.

1.03 QUALITY ASSURANCE

A. Qualifications

1. All of the equipment specified under this Section shall be furnished by a single manufacturer with a minimum of 20-years of experience designing and manufacturing slide gates. The manufacturer shall have manufactured stainless steel slide gates for the type described herein for a minimum of 100 projects.
2. The project design is based on the Mechanical Associates FC-SS Series Fabricated Slide Gate as manufactured by Mechanical Associates of Fresno, California. Proposed alternates must be pre-approved, per addendum, at least 14-days prior to close of bid. Requests for alternates must be supplemented with detailed drawings, specifications and references. Any/all additional costs for structure modifications or other changes associated with utilizing a brand other than Mechanical Associates are to be borne by the contractor.

PART 2 - EQUIPMENT

2.01 GENERAL

- A. The gates shall be either self-contained with yoke and bench stand operators, or non-self-contained with separate stem guides and operator, in accordance with the requirements of these specifications.
- B. This gate is in compliance with the latest version of AWWA C 561.
- C. Specific configurations shall be as noted on the gate schedule or as shown on the plans.

D. Materials:

Components	Materials
Frame, Cover Slides, Yokes Stainless steel:	ASTM A 276 and/or ASTM A 240, AISI Type 304, 316, or 2205 Duplex, as specified
Stems	Stainless Steel: ASTM A 276, AISI Type 304, 316, or 2205 Duplex, as specified
Fasteners and Anchor Bolts Stainless Steel:	ASTM A 593 and 594, Type 304 CW, 316 CW, or UNS-S32205 Duplex 2205, as specified
Flushbottom Seals Rubber:	ASTM D 2000 BC 615/625 Grade BE 625
Seat/Seals	Ultra High Molecular Weight Polyethylene (UHMW)
Finish	Mill finish on all stainless steel surfaces.

2.02 FRAME AND GUIDES

A. The gate frame shall be composed of stainless steel guide rails with UHMW seat/seals upstream and downstream. The seat/seals shall form a tight seal between the frame and the slide (disc). The weir gate invert seal shall be a wiper type seal. Gate shall be designed where all seals are replaceable without removing the frame from the wall or wall thimble.

1. The UHMW seats will impinge on the slide (disc) by way of a continuous loop neoprene seal. Seal designs incorporating neoprene or other resilient side and top seals in direct contact with the slide are not acceptable.
2. The neoprene seal will perform the function of a seal between the frame and the UHMW as well as a spring force to maintain contact between the UHMW and the slide (disc).
3. This tight seal shall provide an allowable leakage rate of no more than .10 gallons per minute (GPM) per peripheral foot of perimeter opening for seating head and unseating heads.

B. Stainless steel retainer bars, cross bars and head rails (for self-contained gates only) shall be provided.

1. The clear opening shall be the same size as the waterway, unless otherwise specified.

2. The guides will be of sufficient length to support 2/3 of the height of the slide when in the full open position.

2.03 SLIDE COVER (DISC)

A. The slide cover (disc) shall be stainless steel plate reinforced with structural shapes welded to the plate.

1. The slide cover shall not deflect more than 1/720th of the span, or 1/16" at the sealing surface of the gate under maximum specified head.
2. The stem connection shall be either the clevis type, with structural members welded to the slide and a bolt or bolts to act as a pivot pin, or a threaded and bolted (or keyed) thrust nut supported in a welded nut pocket.
3. The clevis or pocket and yoke of the gate shall be capable of taking, without damage, at least twice the rated thrust output of the operator at 40 pounds of pull on a hand wheel or hand crank.

2.04 FLUSH BOTTOM CLOSURE

A. Gates shall be furnished with a flush seal arrangement. A resilient seal with a minimum width of exposed face of 1" shall be securely attached to the frame along the invert, and shall extend to the depth of the guide groove. Side seals shall be embedded into flush bottom seal to provide watertight seal around perimeter of gate.

2.05 ANCHOR BOLTS

A. Anchor hardware shall be provided by the slide gate manufacturer.

1. The size, quantity and location of the anchor hardware will be determined by the slide gate manufacturer.
2. Anchor hardware consisting of studs, nuts and washers shall be provided by the manufacturer.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Installation of the slide gates shall be done in a workmanlike manner. It shall be the responsibility of the CONTRACTOR to handle, store, and install the equipment specified in this Section in strict accordance with the Manufacturer's recommendations.
- B. The CONTRACTOR shall review the installation drawings and installation instructions prior to installing the slide gates.
- C. The slide gate frames shall be installed in a true vertical plane, square and plumb, with no twist, convergence or divergence between the vertical legs of the guide frame.
- D. The CONTRACTOR shall fill any void between the guide frames and the structure with nonshrink grout as shown on the installation drawing and in accordance with the grout manufacturer's recommendations.

3.02 FIELD TESTING

A. After installation, all slide gates will be field tested in the presence of the ENGINEER and OWNER to ensure that all items of equipment are in full compliance with this Section. Each slide gate assembly shall be water tested by the CONTRACTOR at the discretion of the ENGINEER and OWNER, to confirm that leakage does not exceed the specified allowed leakage.

END OF SECTION NOTHING FOLLOWS



SS- Stainless Steel- 304, 316

AL- Aluminum- 6061T6

P/S- Per Specification

**“Point-by-Point Comparison”
(For the Engineer)
FABRICATED STAINLESS STEEL SLIDE GATES**

	EQUAL	PROPOSED MANUFACTURER	LISTED MANUFACTURER	LISTED MANUFACTURER	LISTED MANUFACTURER	LISTED MANUFACTURER
ITEM	Y/N	Mechanical Associates	Waterman Industries	Rodney Hunt (Fontaine)	Whipps	Golden Harvest
STEEL	Y	S.S. 304 OR 316	S.S. 304 OR 316	S.S. 304 OR 316	S.S. 304 OR 316	S.S. 304 OR 316
FRAME RAIL	Y	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE
COVER GUIDE	Y	S.S. FLAT BAR OR FORMED PLATE	S.S. FLAT BAR OR FORMED PLATE	S.S. FLAT BAR OR FORMED PLATE	S.S. FLAT BAR OR FORMED PLATE	S.S. FLAT BAR OR FORMED PLATE
HEAD RAIL	Y	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE
BOTTOM RAIL	Y	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE
SLIDE	Y	S.S. PLATE	S.S. PLATE	S.S. PLATE	S.S. PLATE	S.S. PLATE
HORIZONTAL SLIDE STIFFENER	Y	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE
VERTICAL STIFFENER	Y	S.S. PLATE	S.S. FLAT BAR	S.S. FLAT BAR	S.S. FLAT BAR	S.S. FLAT BAR
HEAD RAIL GUSSETS	Y	S.S. PLATE	S.S. PLATE	S.S. PLATE	S.S. PLATE	S.S. PLATE
THIMBLE	Y	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE	S.S. FORMED PLATE
HARDWARE	Y	S.S. 304 OR 316	S.S. 304 OR 316	S.S. 304 OR 316	S.S. 304 OR 316	S.S. 304 OR 316
CROSS RAIL SEAL	Y	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM
SIDE SEAL	Y	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM
BOTTOM SEAL	Y	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM	UHMW PE EXTRUDED OR ASTM D 2000 NEOPRENE, EPDM
SEAL ROPE	Y	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM
FLUSH SEAL	Y	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM
CROWN SEAL OR “PRESSURE BAR SEAL”	Y	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM	ASTM D 2000 NEOPRENE, EPDM
STEM	Y	S.S. 304 OR 316	S.S. 304 OR 316	S.S. 304 OR 316	S.S. 304 OR 316	S.S. 304 OR 316
STEM ATTACHMENT	Y	CLEVIS	CLEVIS	CLEVIS	CLEVIS	CLEVIS
ACTUATOR	Y	P/S	P/S	P/S	P/S	P/S
WARRANTY	Y	P/S	P/S	P/S	P/S	P/S

Mechanical Associates: Past Projects and References

Note: Gate sizes and application usage (Depending on head pressures, gates sizes can vary in the three categories)

Light Duty: 4"-30" Circular Opening Gate Sizes
Medium Duty: 31"-60" Circular Opening Gate Sizes
Heavy Duty: 61" and Up Circular Opening Gate Sizes

Light Duty: 3"x 3" -30"x30" Square Opening Gate Sizes
Medium Duty: 31"x31" -60"x60" Square Opening Gate Sizes
Heavy Duty: 61"x61" and Up Square Opening Gate Sizes

Seals:

UHMW-PE: Ultra High Molecular Weighted Polyethylene (P)

J-Bulb: D 2000 Neoprene (J)

Flush Bottom Seal: D 2000 Neoprene (FBS)

(Project Specifics available upon request)

1	Project:	Emerald Trunk Sewer Relief	Location:	Modesto, CA 95353
	Product Type:	Bulkhead Gates	Contractor:	McGuire & Hester (510)- 632-7676
	Seal Type:	P, FBS	Engineer:	Carollo /North Star Engineering Group (209)- 524-3525
	Equipment:	(5) Heavy Duty	Owner:	City of Modesto
2	Project:	Morongo Band of Mission Idians WWTP	Location:	Cabazon, CA
	Product Type:	Stop Gates	Contractor:	
	Seal Type:	P	Customer	Morongo Bands of Mission Indians
	Equipment:	(7) Light Duty	Representative	Girlich Mitchell Tim Brekke 714-236-6070
3	Project:	Shackleford Sewer Crossing	Location:	Modesto, CA 95353
	Product Type:	Bulkhead Gates	Contractor:	Mozingo Construcion Jeff Graham 209-848-0160
	Seal Type:	P, J	Engineer:	O'Dell Engineering
	Equipment:	(6) Heavy Duty	Owner:	City of Modesto
4	Project:	Perrysburg WWTP	Location:	Perryburg, OH
	Product Type:	Stop Gates	Contractor:	Perterson Construction
	Seal Type:	P	Owner	City of Perrysburg
	Equipment:	(47) Light and Medium duty	Representative	W.P Kolens Bill Kolens 330-968-8024
5	Project:	Oakhurst MD22A WWTP	Location:	Oakhurst, CA
	Product Type:	Stop Gates	Contractor:	Clark Bros Inc. Lawrence Clark 209-392-6144
	Seal Type:	P	Engineer:	
	Equipment:	(8) Light and Medium	Owner:	Madera County, CA

6	Project:	Myrtle Point WWTP Improvements	Location:	Myrtle Point, OR
	Product Type:	Stop Gates, Stop Logs	Contractor:	R & G Excavating, Inc.
	Seal Type:	P	Representative	Pedroni & Co. Victor Pedroni 425-369-6164
	Equipment:	(4) Medium, (2) Stop Log	Owner:	City of Myrtle Point
7	Project:	City of Lone Wastewater Compliance	Location:	lone, CA
	Product Type:	Stop Logs	Contractor:	Mozingo Construction Jeff Graham 209-848-0160
	Seal Type:	P	Engineer:	
	Equipment:	(4) Medium Stop Logs	Owner:	City of lone
8	Project:	Fresno- Clovis Regional WWTP	Location:	Fresno, CA 93721
	Product Type:	Stop Gates, Slide Gates, Sluice gates	Contractor:	W M Lyles Aiden Besinger
	Seal Type:	P	Engineer:	
	Equipment:	(5) Medium Duty	Owner:	City of Fresno
9	Project:		Location:	Decatur, AL
	Product Type:	Stop Gates	Contractor:	Taylor Corporation
	Seal Type:	P	Engineer:	
	Equipment:	(4) Light Duty	Representative	Ferguson Doug Pugh 205-361-4289
10	Project:	Decatur WWTP	Location:	Decatur, AL
	Product Type:	Stop Gates	Contractor:	
	Seal Type:	P	Engineer:	
	Equipment:	Medium Duty	Representative	Ferguson Doug Pugh 205-361-4289
11	Project:	Montpelier WWTP	Location:	
	Product Type:	Stop Gates	Contractor:	R.G Zachrich Construction
	Seal Type:	P	Engineer:	Jones & Henry Engineers, LTD 419-473-9611
	Equipment:	Light and Medium Duty	Representative	W.P Kolens Bill Kolens 330-968-8024
12	Project:	Southern Pine Plantation	Location:	Macon, GA 31210
	Product Type:	Stop Gates	Customer	Karl Wagner 478-361-8220
	Seal Type:	Strut Gasket	Engineer:	
	Equipment:	(4) Medium Duty	Owner:	

13	Project:	Athens OH WWTP	Location:	Athens, OH	
	Product Type:	Stop Gates	Contractor:	C.I Thornburg	
	Seal Type:	Strut gasket	Engineer:		
	Equipment:	Light Duty	Representative	W.P Kolens	Bill Kolens 330-968-8024
14	Project:	Plymouth WWTP	Location:		
	Product Type:	Stop Gate	Contractor:	Ford Construction	Ray Collins 209-333-1116
	Seal Type:	P	Engineer:		
	Equipment:	Light Duty	Owner:		
15	Project:	Mendota WWTP	Location:	Mendota, CA	
	Product Type:	Stop Gates	Contractor:	Raminah Construction	
	Seal Type:	P	Engineer:		
	Equipment:	Medium Duty	Representative	Aquadyne Associates	Mike Ambrosi 415-460-6393
16	Project:	Tulare WWTP	Location:	Tulare, CA	
	Product Type:	Stop Gate	Contractor:	GSE Construction	
	Seal Type:	P	Engineer:		
	Equipment:	Medium Duty	Representative	Gierlich Mitchell	Ryan McClosky 714-236-6070
17	Project:	Yreka WWTP	Location:	Yreka, CA	
	Product Type:	Stop Gates	Contractor:		
	Seal Type:	P	Engineer:	Pace Engineering	
	Equipment:	Medium Duty	Representative	Aquadyne Associates	Mike Ambrosi 415-460-6393
18	Project:	Lake Alta Primary Outlet	Location:		
	Product Type:	Bulkhead Gates	Contractor:	Groeniger & Co	Mike Hogan 916-652-9884
	Seal Type:	P	Engineer:		
	Equipment:	Heavy Duty	Owner:		