





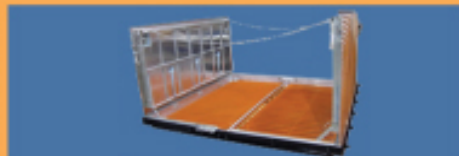
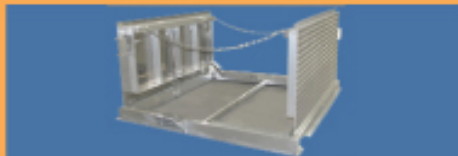
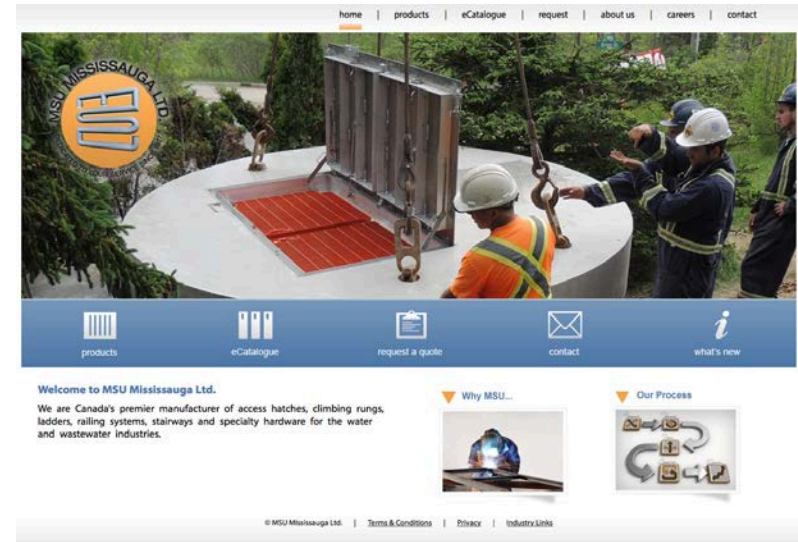
# Introduction

Founded in 1977, MSU Mississauga Ltd. is a Canadian owned and operated manufacturer of products for the water and wastewater industries.

Today, MSU stands on a solid foundation of innovative design, craftsmanship and sound business practices which over the years has built the company's reputation as Canada's premier access hatch manufacturer.

Located in south western Mississauga and employing 18 people, the MSU Mississauga operation is a 1488 square meter facility housing a full range of metal fabrication equipment.

Our business systems are supported by Enterprise Resource Planning and Customer Relationship Management software which enables us to manage all aspects of the business at a level of detail unique to a company of MSU's size. All product drawings are prepared in Autocad.





# Welding

Canadian Welding Bureau (CWB) certified since 1991, MSU welds to CSA standards W47.1 and W47.2 in aluminum, steel and stainless steel. All MSU welders and over 47 MSU welding procedures are CWB certified.

Canadian Welding Bureau certification is required in order to comply with such codes and standards as the Ontario Building Code, Ontario Provincial Standards and CSA S157 Strength in Aluminum Design.

As part of MSU's CWB certification requirements, the MSU facility is audited by the CWB twice per year. The audit reviews all aspects of the welding operations, from verification of material certificates to tracking of rework and repairs.

|   |   |   |
|---|---|---|
| <p><b>TYPICAL MSU ALUMINUM RAILING</b></p> <p><b>PROCEDURES AND TICKETS REQUIRED:</b><br/>AL-GTA-B1<br/>AL-GTA-B2<br/>AL-GTA-F1<br/>AL-GTA-F2<br/>AL-GMA-F2</p> | <p><b>TYPICAL MSU ALUMINUM LADDER</b></p> <p><b>PROCEDURES AND TICKETS REQUIRED:</b><br/>AL-GTA-B1<br/>AL-GTA-B2<br/>AL-GTA-F1<br/>AL-GTA-F2</p>        | <p><b>TYPICAL MSU ALUMINUM SAFETY HANDLE</b></p> <p><b>PROCEDURES AND TICKETS REQUIRED:</b><br/>AL-GTA-B2<br/>AL-GTA-F1<br/>AL-GTA-F2</p> |
| <p><b>TYPICAL MSU ALUMINUM FRASH BASKET</b></p> <p><b>PROCEDURES AND TICKETS REQUIRED:</b><br/>AL-GTA-F1<br/>AL-GMA-FB2</p>                                     | <p><b>TYPICAL OPSID ALUMINUM PLUT BAR LADDER</b></p> <p><b>PROCEDURES AND TICKETS REQUIRED:</b><br/>AL-GMA-E1<br/>AL-GMA-F1<br/>AL-GMA-F2</p>           | <p><b>TYPICAL MSU ALUMINUM GRABING LANDING</b></p> <p><b>PROCEDURES AND TICKETS REQUIRED:</b><br/>AL-GMA-F1<br/>AL-GMA-F2</p>             |
| <p><b>TYPICAL MSU ALUMINUM VENT PIPE</b></p> <p><b>PROCEDURES AND TICKETS REQUIRED:</b><br/>AL-GMA-BF1<br/>AL-GMA-F1</p>  | <p><b>TYPICAL MSU ALUMINUM ACCESS HATCH</b></p> <p><b>PROCEDURES AND TICKETS REQUIRED:</b><br/>AL-GMA-B1A<br/>AL-GMA-E1<br/>AL-GMA-F1<br/>AL-GMA-F2</p> | <p><b>TYPICAL MSU ALUMINUM ROUND ACCESS HATCH</b></p> <p><b>PROCEDURES AND TICKETS REQUIRED:</b><br/>AL-GMA-F1</p>                        |

**TYPICAL PROCEDURES FOR ALUMINUM WELDING**  
MSU IS CERTIFIED WITH WELDER QUALIFICATIONS FOR 32 DIFFERENT PROCEDURES

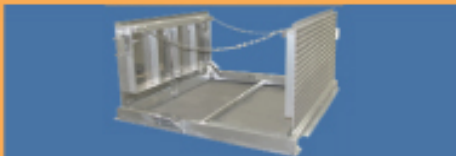
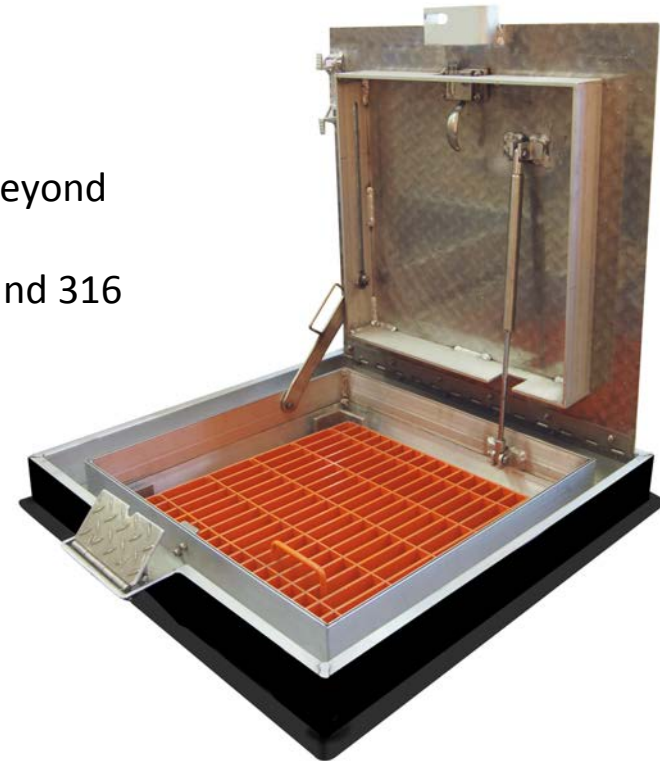
|  |   |  |
|--|---|--|
| <p><b>MSU MISSISSAUGA LTD.</b><br/>PHONE: (905) 823-4340<br/>FAX: (905) 823-4947<br/>WATTs (800) 268-5336<br/>website-www.msumississauga.com</p> | <p><b>REQUIRED</b><br/>CSA STANDARD - CWB CERTIFICATION<br/>ALUMINUM WELDING PROCEDURES FOR<br/>MISCELLANEOUS METAL SPECIFICATIONS<br/>REV 01/15/04<br/>MSU</p> | <p><b>NOTE:</b> COMPANIES CERTIFIED TO WELD ALUMINUM WILL BE REGISTERED BY CWB IN THIS CATEGORY * CSA W47.2 &amp; CSA W59.2<br/>THE QUALITY CONTROL SYSTEMS OF MSU ARE REGISTERED BY THE CANADIAN WELDING BUREAU (CWB) UNDER THE SUPERVISION OF THE CANADIAN WELDING BUREAU (CWB) IN THE CITY OF MISSISSAUGA, ONTARIO, CANADA. THE QUALITY CONTROL SYSTEMS OF MSU ARE REGISTERED BY THE CANADIAN WELDING BUREAU (CWB) IN THE CITY OF MISSISSAUGA, ONTARIO, CANADA.</p> |
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# Access Hatches

For more than twenty five years, MSU has designed and manufactured access hatches to suit many different client requirements:

- |                             |  |
|-----------------------------|--|
| <b>Varied Installations</b> | Cast in place, bolt down, bolt in  |
| <b>Varied Sizes</b>         | From 300 x 300mm to 3.0 x 3.0 and beyond   |
| <b>Varied Materials</b>     | Aluminum, stainless steel types 304 and 316  |
| <b>Varied Layouts</b>       | Single, Double, Triple and Multi Door Configurations available.  |
| <b>Varied Loadings</b>      | From light pedestrian, 7.2 kPa (150 psf) to Canadian Highway Bridge Code compliant CL-625 and CL-800 and heavy duty forklift loads |
| <b>Varied Features</b>      | Fall through protection grating  |

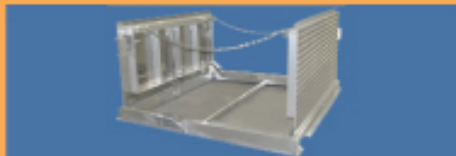
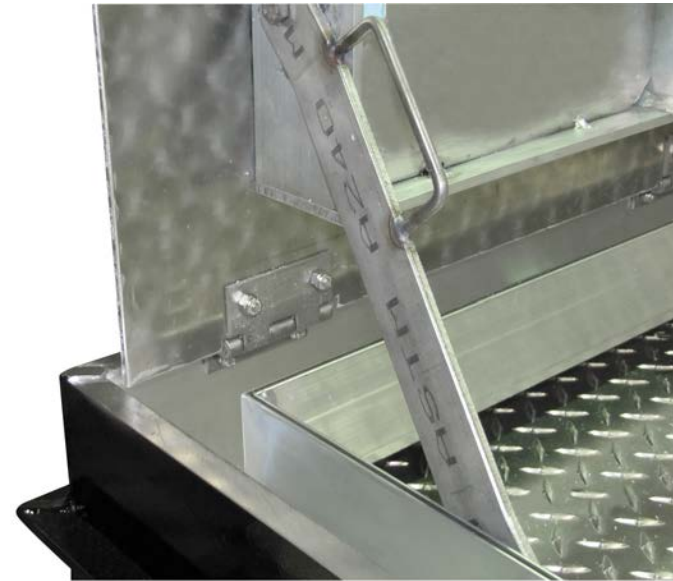
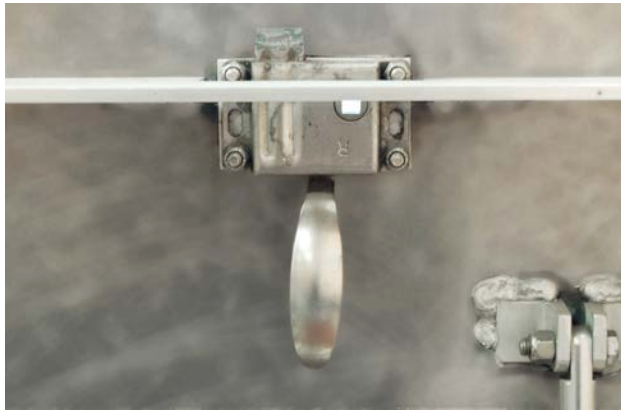




# Access Hatches

## Varied Features Continued

Retractable posts and Chains, tamperproof hardware, customized signage, specialty gaskets, compression latches and more





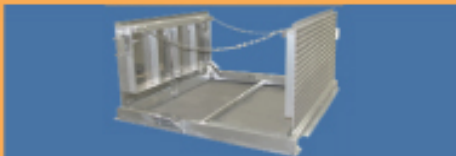
# Clients and Projects

MSU has supplied a wide range of clients and projects across Canada. Here are some of the clients and projects MSU has worked on over the years

Alberta Environment  
Ayr Water Pollution Control Plant  
Buttcon  
Capital Regional District – Victoria, BC  
Cecchetto and Sons  
City of Edmonton  
City of Kelowna  
City of North Battleford Groundwater Plant  
City of Ottawa  
City of Prince Albert  
City of Sudbury  
City of Surrey  
City of Toronto  
City of Windsor  
Con Cast Pipe

Con-Drain  
Corix Control Solutions  
Corix Water Products  
County of Brant  
Garrison Petawawa  
District of Muskoka  
Greater Vancouver Regional District  
Greater Vancouver Sewerage District  
Hanlan Feedermain, Peel Rgion  
Hydro One Networks  
Lafarge Construction Materials, Calgary  
Langley Concrete and Tile  
Lombard Concrete Products  
Louis Bray Construction  
M-CON Products

Metrolinx  
Oakville Hydro Electric Commission  
Ontario Power Generation  
Precon Precast Products  
Region of Durham  
Region of Halton  
Region of Kitchener Waterloo  
Region of Peel  
RM Belanger Construction  
Sansom Equipment  
South East Collector Sewer, York Region  
St. Regis STP Akwesasne 1<sup>st</sup> Nation  
Toronto Transit Commission  
University of Guelph  
University of Toronto  
V. Gibbons Contracting





# Client Specific Product Development

Over the years, MSU has worked with many clients and end users to develop access hatch products specifically suited to resolve access issues. In 2010, MSU developed a fall through protection hatch with retractable railing posts and chains for the Niagara Region.

To assist Halton Region's Waste Management Facility with its methane gas capture program, in 2007, MSU designed a completely air-tight gasketed cover which is used to access leachate collection structures.

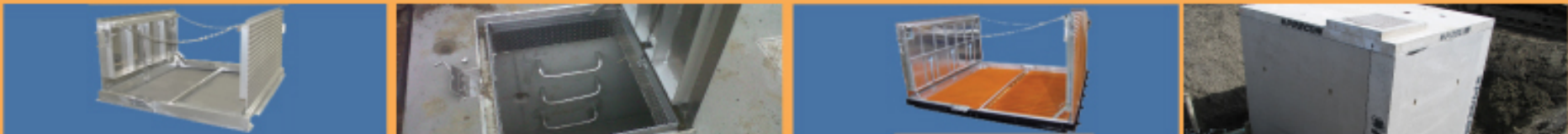
| #  | QTY. | MATERIAL               | DESCRIPTION  |
|----|------|------------------------|--|
| 1  | 1    | ALUM.<br>6061-T6       | 76 X 10 WELDED CHANNEL EXTENSION<br>WELDED AND WELDED CONNECTION   |
| 2  | 2    | ALUM.<br>6061-T6       | 152 X 64 X 7mm CHANNEL<br>TO BE WELDED TO REV 1 & 3 LY             |
| 3  | 2    | ALUM.<br>6061-T6       | 152 X 152 X 8mm CHANNEL<br>TO BE WELDED TO REV 2 & REV 1           |
| 4  | 6    | ALUM.<br>6061-T6       | 6.35mm THICK PLATE   |
| 5  | 24   | ALUM.<br>6061-T6       | 6.35 X 44mm FB. STIFFENERS   |
| 6  | 4    | STAINLESS<br>STEEL 304 | 90 DEG. HILD OPEN ARM<br>C/W DIMENSIONED HOOK FOR OPENING          |
| 7  | 4    | ALUM.<br>6061-T6       | 76 X 63 X 8mm ANGLE LLY<br>TO BE WELDED TO REV. A                  |
| 8  | 4    | ALUM.<br>6061-T6       | 2-38 X 38 X 6MM LOCK WASH<br>WELD TO FRAME AND LID                 |
| 9  | 16   | ALUM.<br>6061-T6       | 4" HEAVY DUTY HELIX-ON HINGE                                       |
| 10 | 8    | STAINLESS<br>STEEL 304 | 1/2" X 1-1/4" HEX BOLT C/W<br>NUT PLAT AND LOCK WASHER             |
| 11 | 2    | ALUM.<br>6061-T6       | 9.52 X 133mm SPACER  |
| 12 | 4    | ALUM.<br>6061-T6       | HILD OPEN ARM BRACKET  |
| 13 | AS   | STAINLESS<br>STEEL 304 | 1/4" X 1-1/4" HEX BOLT C/W<br>NUT PLAT AND LOCK WASHER             |
| 14 | AS   | STAINLESS<br>STEEL 304 | 1/4" X 1/2" HEX BOLT<br>C/W NUT PLAT AND LOCK WASHER               |
| 15 | 24   | STAINLESS<br>STEEL 304 | FRACASITION GIRT W/ HOLE<br>WELDED TO REV #1                       |
| 16 | AS   | EPDM<br>GASKET         | HYDROGEN SULFIDE RESISTANT   |
| 17 | 17   | STAINLESS<br>STEEL 304 | COMPRESSION LATCHES SEATED WITH<br>HYDROGEN SULFIDE RESISTANT EPDM |
| 18 | 1    | ALUM.<br>6061-T6       | 6.35 X 215mm FB. SKIRT ROLLED                                      |

NOTE: 1) ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL RECEIVE 2 COATS OF BLENDED PRIMER.  
2) WELDING SHALL CONFORM TO CSA W47.2 (MIG) OR CSA W52.2 (MIG) W/ 90°.  
3) WELDED SURFACES REMAIN AS WELDED.  
4) HATCH HAS BEEN DESIGNED TO WITHSTAND A LIVE LOAD OF 2000LB/50KPa.  
5) HATCH IS SEALED FOR DROUGNS.  
6) HATCH IS CAST IN PLACE.

PROFESSIONAL ENGINEER  
R.W. CUMMING  
Jan 8, 2007  
PROVINCE OF ONTARIO

HALTON WASTE MANAGEMENT SITE  
CELL #0 WEST FOR 300 130'x14' x 8' HIG 85  
GRAHAM BROS. CONSTRUCTION LTD.  
ASSOCIATED ENGINEERING LTD.  
PROJECT # 7

ALUMINUM 96"(2438mm) DIA ACCESS COVER  
DATE: 08/23/07  
REV: 07/11  
NTS  
GASC488



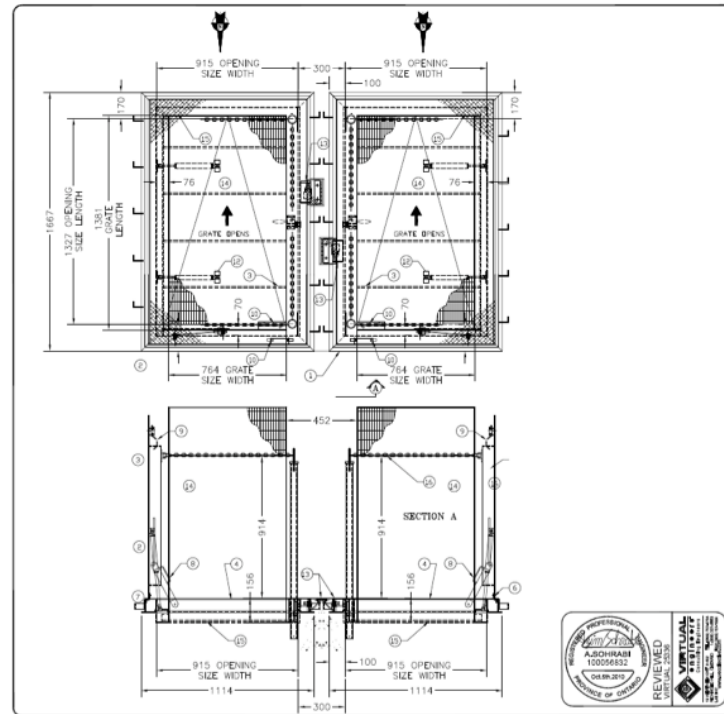


# Client Specific Product Development

In 2013 MSU designed and manufactured ultra-high capacity access hatches for the TTC's Willowbrook Maintenance Facility. These hatches are rated to carry a 151 kN load.

## Summary

MSU Mississauga Ltd.'s dedication to customer service and quality has produced a track record for the manufacture of code compliant, Canadian made access hatches. Our compliance is your assurance and that makes MSU the open and shut cases for access hatch standards in Canada.



| MSU MISSISSAUGA LTD.      |      |                      |   |
|---------------------------|------|----------------------|---|
| PHONE: (905) 823-4340     |      |                      |   |
| FAX: (905) 823-4947       |      |                      |   |
| TOLL FREE: (800) 268-5336 |      |                      |   |
| #                         | QTY. | MATERIAL             | DESCRIPTION   |
| 1                         | 4    | ALUMINUM 6061-T6     | FRAME EXTENDED POSTS-WELDED TO FEM #1                         |
| 2                         | 1    | ALUMINUM 6061-T6     | 1/4" TREAD PLATE  |
| 3                         | 7    | ALUMINUM 6061-T6     | 1/4" X 3" PLAT BAR REINFORCING                                |
| 4                         | 1    | BLACK COORD MEDICIDE | HEAVY DUTY GRADE  |
| 5                         | NA   | ALUMINUM 6061-T6     | 2"x1 1/2" DRIP CHANNEL  |
| 6                         | 3    | STAINLESS STEEL 316  | FORMED BUTT WELD C/W 2" X 1/4" BAR/ROOF FOOTINGS              |
| 7                         | NA   | ALUMINUM 6061-T6     | CONTOUR-BLOCK   |
| 8                         | 1    | STAINLESS STEEL 316  | 90 DEG WELD OPEN END C/W 1/4" ROD FORMED HANDLE               |
| 9                         | 1    | STAINLESS STEEL 316  | SEAL LOCK C/W ALUM. REMOVABLE SEALS AND SPRING TOOL           |
| 10                        | 1    | ALUMINUM 6061-T6     | 1-CLIP LIFT HANDLE END COVER 2-CLIP OFF HANDLE FOR GRADE      |
| 11                        | NA   | ALUMINUM 6061-T6     | 1 1/2" NOM. FINE HALF-COILING C/W 1 1/2" AND 1/4" ALUM. BLOCK |
| 12                        | 2    | STAINLESS STEEL 316  | GAS SPRING ASSIST CHANCE C/W ALUM. MOUNTING BRACKETS          |
| 13                        | 1    | ALUMINUM 6061-T6     | FLUSH/RECESSED LOCK   |
| 14                        | 1    | ALUMINUM 6061-T6     | ROUNDER BAR GRATING PAVED GRADE                               |
| 15                        | 2    | ALUMINUM 6061-T6     | POSITIONING GRATE ANGLE WELDED TO FEM #1                      |
| 16                        | 2    | ALUMINUM 6061-T6     | DETACHABLE JOIST POSTS & CHAINS WELDED TO FEM #1              |

NOTE: 1) ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL RECEIVE COATS OF BITUMINOUS PAINT.  
2) WELDING SHALL CONFORM TO CSA W47.2-82008, CSA W59.2-82008  
3) REINFORCED TO WITHSTAND A LIVE LOAD OF 300 LBS/SQ.FT. (14.18KPA)

|             |  |
|-------------|--|
| DATE        | ROSEMOUNT NORTH SEWAGE PUMPING STATION PROJECT |
| DESIGNER    | BASELINE CONSTRUCTORS INC.                     |
| CHECKED     | R.V. ANDERSON ASSOCIATES LTD.                  |
| SCALE       | 2  |
| PROJECT NO. | 081633   |

|                       |                    |          |      |
|-----------------------|--------------------|----------|------|
| ALUMINUM ACCESS HATCH |                    |          |      |
| MSU TYPE-MFG#         | C/W POSTS & CHAINS | DATE     | REV. |
| 1                     | 1                  | 02/27/15 | 01   |
| 1                     | 1                  | 1/20/16  | 02   |
| 1                     | 1                  | 1/20/16  | 03   |
| 1                     | 1                  | 1/20/16  | 04   |

