



GRP Trench Drain Installation Guide



October 2025

Welcome to the MIFAB trench installation process.

This guide is intended as a basic reference for installing trench drain.

Good job site safety practices should be exercised at all times. Some installations and conditions might require on-site modifications. Please reach out to the Mifab team to assist with any questions.

1) Product Inventory / Standard Tools / Site Prep

2) Layout / Outlet Connection

3) Set the Trench

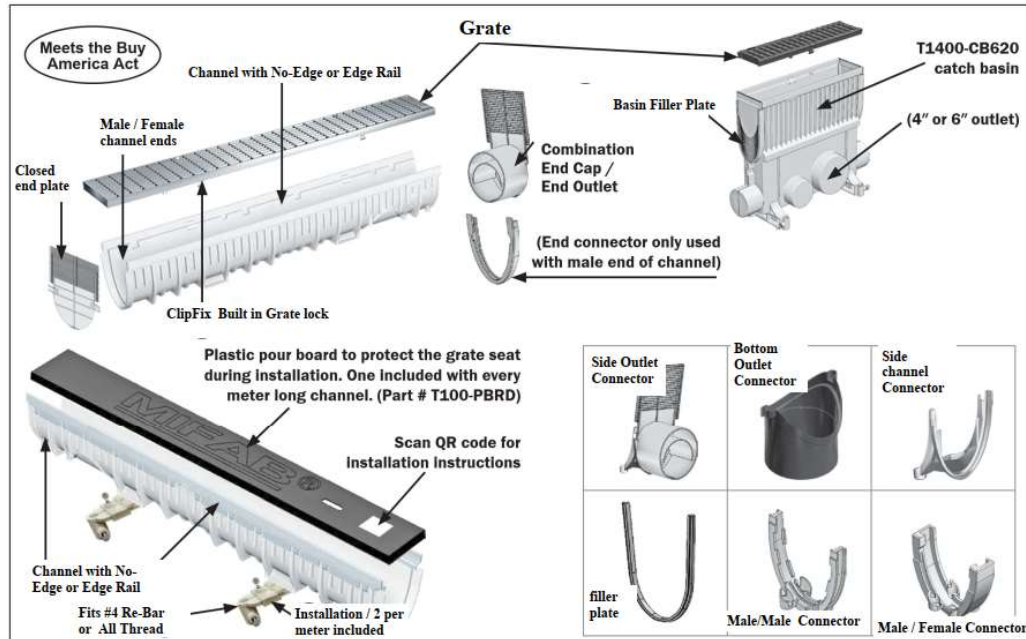
4) First Pour / Finish Pour

5) Grate Placement

6) Special Connections

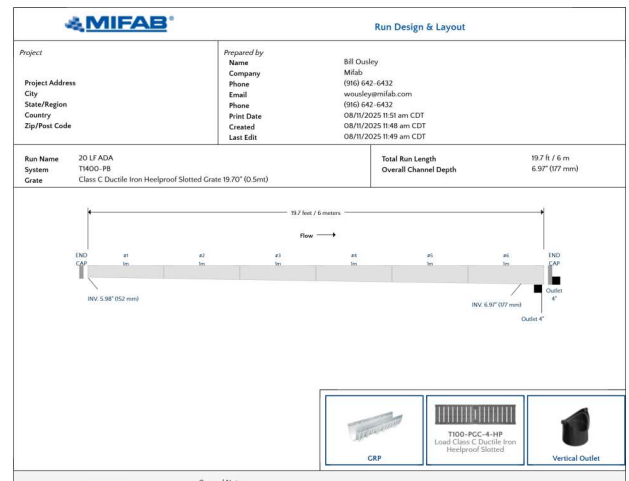
7) FAQ

Review and inventory the trench product and components.



Check the BOM or the Shop Drawings.

MIFAB® Bill of Material		
Project Project Address City State/Region Country Zip/Post Code	Prepared by	Bill Ousley
	Name	Mifab
	Company	wousley@mifab.com
	Email	(916) 642-6432
	Phone	08/11/2025 02:56 pm CDT
	Print Date	08/11/2025 11:48 am CDT
	Created	08/11/2025 11:49 am CDT
	Last Edit	
Part Number	Product Description	Quantity
T100-PGC-4-HP	Class C Ductile Iron Heelproof Slotted Grate 19.70" (0.5m)	12
T1401-PB	4" SL grp channel, no edge, 39.40" (lmt), #1	1
T1402-PB	4" SL grp channel, no edge, 39.40" (lmt), #2	1
T1403-PB	4" SL grp channel, no edge, 39.40" (lmt), #3	1
T1404-PB	4" SL grp channel, no edge, 39.40" (lmt), #4	1
T1405-PB	4" SL grp channel, no edge, 39.40" (lmt), #5	1
T1406-PB	4" SL grp channel, no edge, 39.40" (lmt), #6	1
T1400-PEC	End Cap	1
T1400-PBO4	4" No Hub Bottom Outlet	1
T1400-PEO	4" No Hub Combination End Cap / Outlet Cap	1



Note: Channels are numbered shallow to deep:
i.e. T1401, T1402, T1403
"N" is non-sloping

Check Your Tools and Supplies

Suggested Tools (not supplied)

- Shovel
- Pliers
- Jig Saw or Plastic Saw
- Hammer
- Phillips Screwdrivers
- 4" Angle Grinder and Blades
- String-line
- Level or Laser Line
- Measuring Square / Marketing Tools

Other Materials / Tools

- #4 Rebar or All-Thread
- Caulking Gun
- Nuts & Washers
- Tie Wire (for rebar)
- One Part Polyurethane Sealant

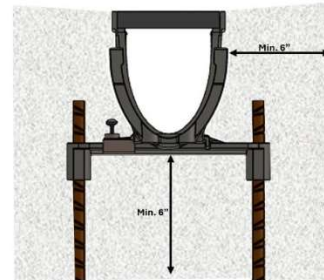
Excavate the ground to allow the clearance for concrete placement according to the slab design.



Often there will be a trench deeper than the slab thickness in order to get the correct encasement.

6" MIN encasement on each side

Slab thickness and reinforcement below



Typically, a string line is used to establish the top edge of the elevation of the finished slab.

When channels are placed, they should set approximately 1/8" inch below finished grade.

Important:

- Consult with the civil/structural engineer for actual concrete design.
- Concrete encasement needs to be the same structural strength as slab area. (especially when trench is set in a "block out" type installation.
- GRP channels are recommended to be anchored via rebar/all-thread to prevent flotation.
- Concrete is recommended to cure at least 24 hours prior to form removal.
- If required, install waterstops according to the manufacturer's instructions.

If possible, based on-site conditions, it is suggested to layout the sections / stage the sections along the trench.

Ensure all sections are pointing the correct direction. (Female end is up-stream.)

This is a good opportunity to pre-attach the installation devices.

The Male/Female connector can also be attached to the Female end of the channel. (See channel assembly section.)



**Set your string line for straightness as well as elevation.
Set the trench elevation at 1/8" below finished grade.**

Outlet Connection

It is suggested that the layout always start at the outlet and work out.
(either a catch basin or outlet fitting)

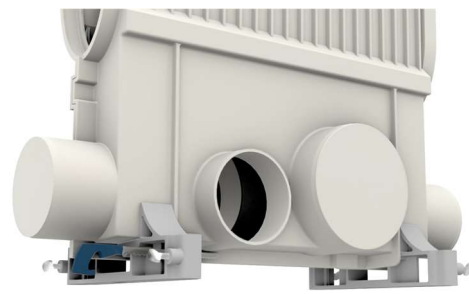
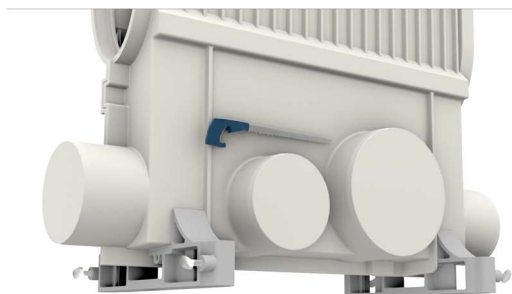
Catch Basin

Prepare the basin by selecting the correct opening size and location.

Attach the installation aids to the locations on the bottom basin.



Carefully, cut the end or side portion of the outlet position, creating a drain opening. Confirm the type of connector between the basin and the outlet pipe (MI-FLEX coupling, PVC/ABS slip, other form of no-hub for size changes).



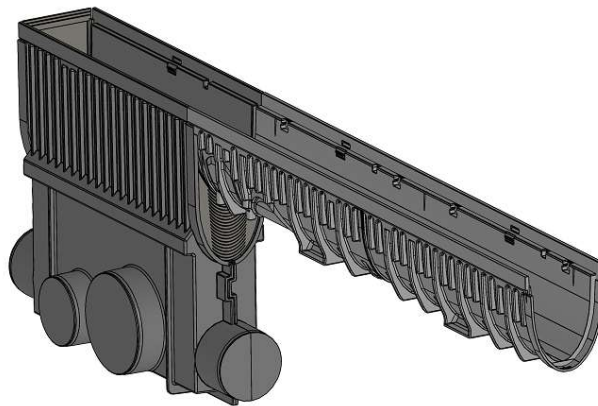
Catch Basin Filler Plates and First Section

Determine the depth of the first/deepest channel section.
Trim the filler plate below the channel.



Trim the closed end plate.

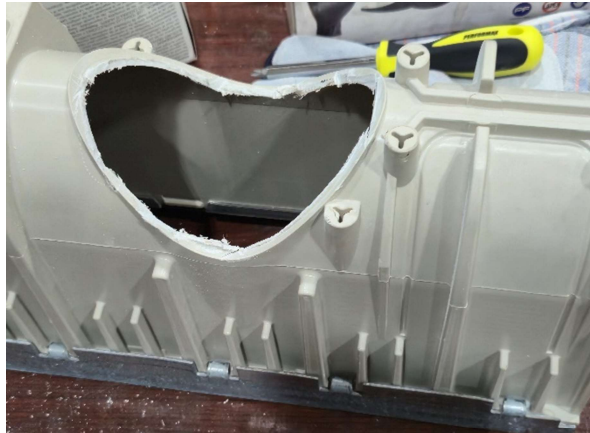
Note: If trenches are coming in from both directions, repeat the previous step.



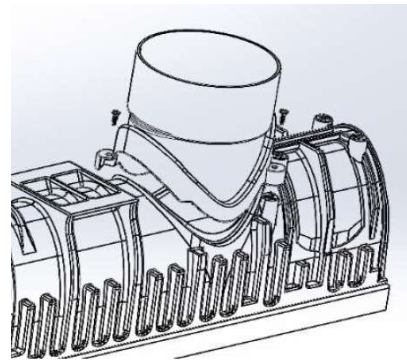
Once parts are confirmed for the correct fit, you can start to set components.

Bottom Outlet

For the bottom outlet, select the deepest channel.
Using a grinder, hole saw or multi-tool, cut out the outlet notch.



Attach the bottom outlet connector using the screws supplied.



Trim and attach an end outlet unit using the end outlet instructions,
without cutting the opening.

End Outlet

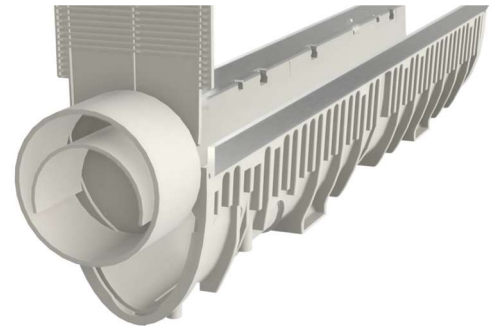
For end outlets cut/drill the appropriate size hole for the connection.

Aline the fitting at the deep end of the channel, attach using connector screws, and if necessary, seal with a material like Seka-Flex.

Trim the top of the outlet fitting equal to the top of the channel.



Slide on the connector.



Slide in the outlet fitting.

Trim off the top to match the top of the channel.

Side Outlet (Or Side Trench Connection)

For side outlet, use a grinder or multi-tool to cut out the outlet notch.



Cut the opening.



Attach the connector.



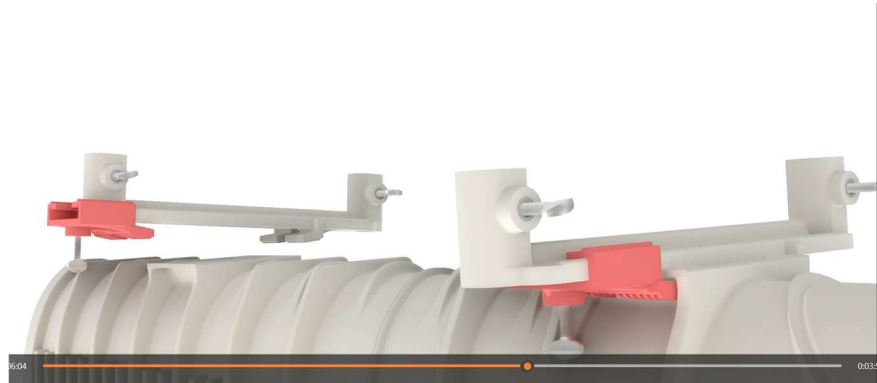
Hole saw outlet opening.
Set the fitting.
Trim the top.



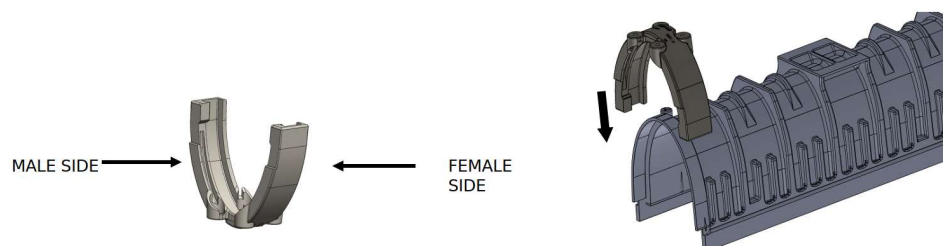
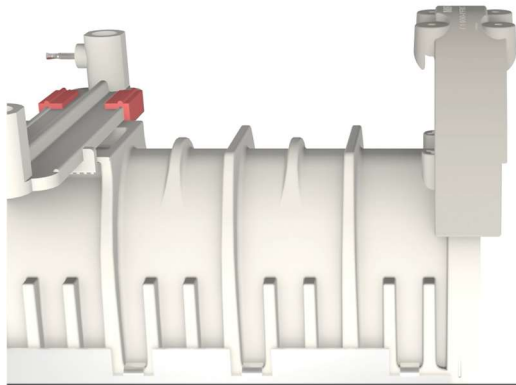
Or the section is
ready for a
channel connection.

It is suggested that the layout always start at the outlet and work out.
(either a catch basin or outlet fitting)

This is a good time to prepare the rest of the sections by attaching re-bar brackets



and the male / female connectors.



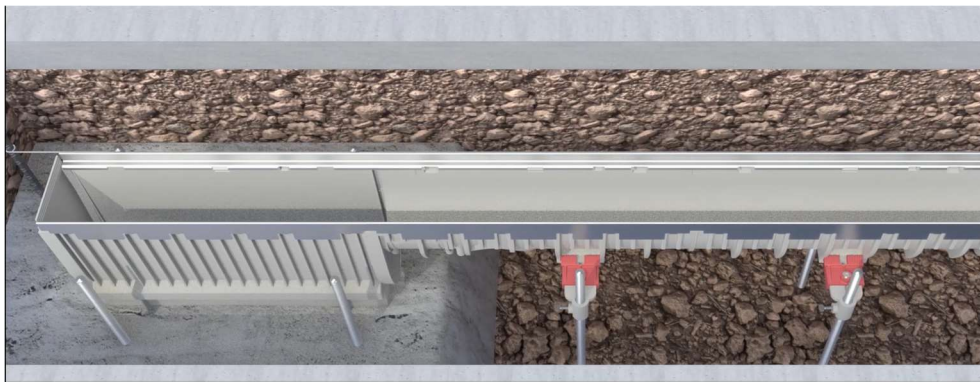
Use the provided screws to anchor the connector on the female side.
Be careful not to overtighten / strip the screw holes.

Set the Basin

Using re-bar, all thread or adobes, set the basin and make the outlet connection.
Set the basin in-line with the string line and at a level height 1/8" below finished grade.



Add the first section.

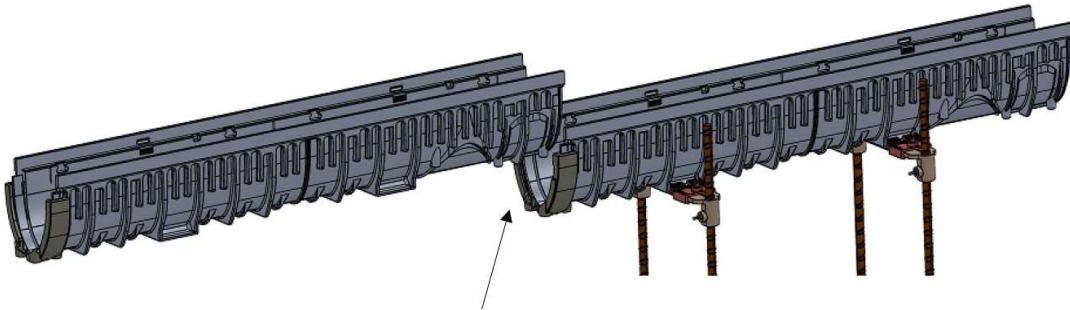


Once the basin is set, outlet connection is made and alignment and level are confirmed, a mud-patty can be used to ensure there's no movement while the rest of the run is placed.

Set the Bottom Outlet / End Outlet / Side Outlet Section Similar to the Catch Basin Steps

Set the Trench

Starting at the deep / outlet end set the channel sections.



THE TWO CHANNEL CONNECTION IS NOW COMPLETE, AS BOTH ARE NOW LEVEL AND IN REQUIRED POSITION BY USING THE REBAR SUPPORTS.

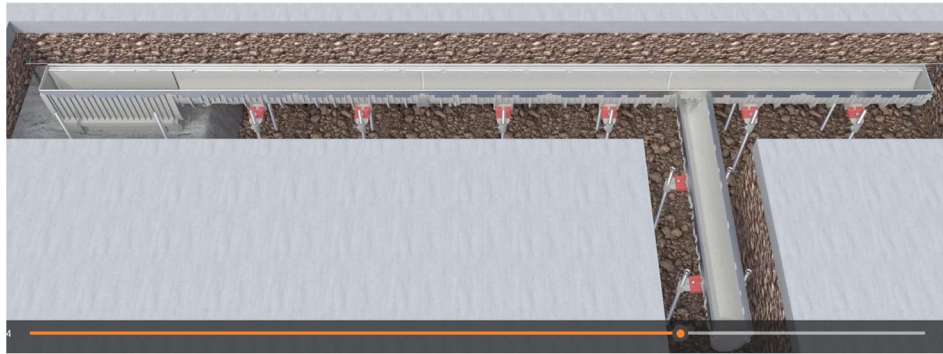


When setting the rest of the sections there will be a positive “snap”. Often times it is not necessary to add the screws on the male side.

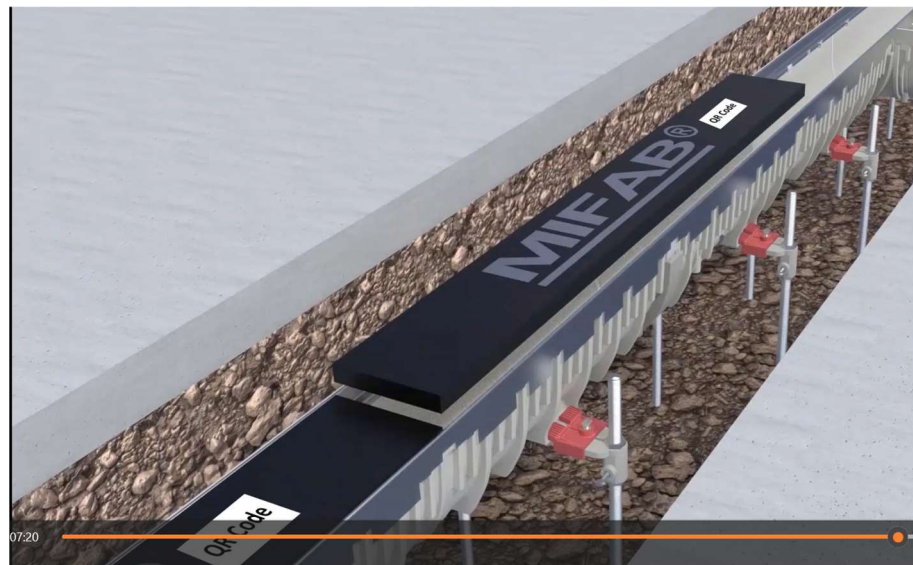
For the final section, trim and snap on the closed end cap.



Once all the sections are set, confirm elevation and alignment.
Confirm outlet connection.



Place the pour boards by cutting 1 in half.
Set the half section and place the rest along the run.
This should create an overlap of a full pour board at the channel joints.
This overlap will help maintain alignment.



Once the trench is set (staked in place) and alignment is confirmed, it is recommended that “mud patties” (concrete anchor points) or even better, a full-length anchor slab, is placed at the bottom of the trench system.



Final Pour

If not careful, all trenches tend to float when the concrete is poured around them. To minimize floating, an initial concrete pour should be placed up to and above the bottom profile of the channel approximately 1-2 inches on both sides. This would occur in the initial pour to secure the entire length of the run. This will ensure that the channels do not float. A second concrete pour to the finished floor height should be done after the initial pour to prevent a cold joint.

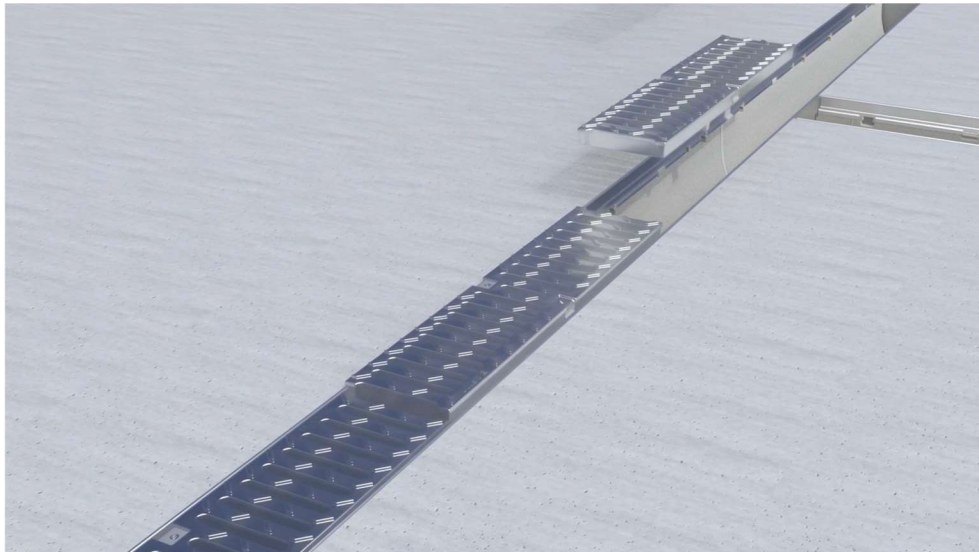
Pour Picture

Concrete should always be evenly poured on both sides during the pour.
Note: If a concrete vibrator is utilized, use at the discretion of the contractor to prevent concrete segregation.

Once the concrete has fully cured, grates can be placed.



The Mifab ClipFix snap in eliminates the need for bolts and toggles (unless the grates require the 4-bolt lock-down).



Special connections

Non-Standard Connections

In some installations there can be joints that do not use standard connectors. These can include Female-Female directional changes, sections where channels need to be cut to specific lengths and other locations.

The Key points are:

Alignment of the channel tops at finished grate

Ensuring there are no gaps between the grate seats

Secondary is the finished invert.

The idea is to lock the sections in place for the concrete pour and to keep concrete from seeping into any gaps.

Once the cuts are made for length or at points where the Female receiver tab has been trimmed off (to ensure alignment of the channel top), the main point is to lock the joints together.

A combination of the following can be used:

Add a construction sealant to fill the gaps.

Use the available connector as a guide and screw into the channel as possible.

Use a construction tape to cover the joint.

Use tie-wire between installation anchors to pull the joint together.

Once the connection is set and verified for level and alignment, a mud-patty should be poured to about ½ way up the channel connection.

This will assist in locking it in place.

FAQ Pages

