



# TURBIDITY CURTAIN

## GENERAL INSTALLATION GUIDELINES

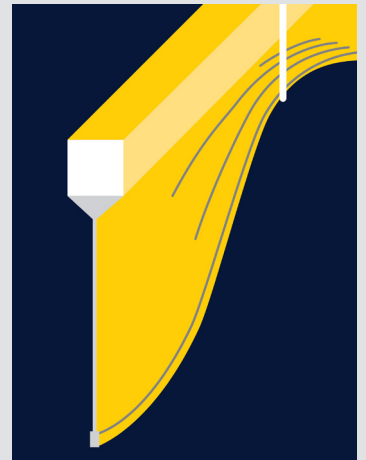
The curtain alignment shall be defined by the placement of terminal and buoy anchor points. Placement of these anchors shall be at those locations shown on the project Plans. If field conditions such as the distance between terminal anchors, terminal or buoy anchor location elevations, curtain bottom contours or other geometrical considerations do not match those shown on the Plans, immediately contact the project Engineer. Under such conditions, do not proceed with curtain installation unless approved by the Engineer.

### Preparation for Curtain Field Fabrication

- All anchors, anchor lines, furling lines, anchor buoys, lighting and material handling equipment should be on-site before initiation of in-field curtain fabrication.
- Two-way communication will be required to coordinate on-shore work activity with either in or onwater or opposite shore work activity.
- The on-shore anchor points must be installed and checked for the required strength.
- All in-water anchors, anchor buoys, bridle lines, retrieval lines and retrieval buoys should be properly installed at the locations indicated on the Plans.
- The site should have a staging area of sufficient size adjacent to the shore which will be used for curtain field fabrication. This area should be relatively flat and free of debris which might cause damage to the curtain fabric.
- A plan which identifies the sequence of curtain fabrication should be prepared and on-site.

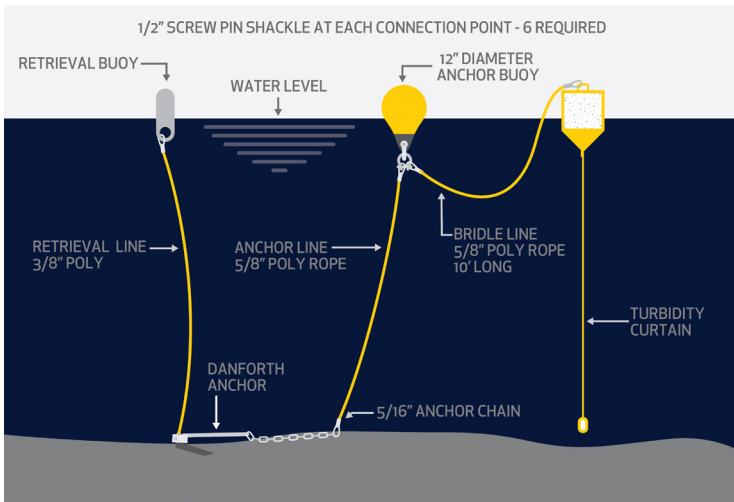
### Curtain Field Fabrication

1. The curtain sections may be unloaded and placed adjacent to the staging area.
2. The first curtain section unfolded will be that section which will be first launched into the water [typically, this section will be located the furthest away from the staging area after installation is complete]. The curtains will be assembled in order starting from this first section.
3. The first curtain section is laid out flat near the shore line, with the top load cable extending outbound from the shore.
4. Unfold the second curtain section and place the edges of the two sections adjacent to each other. Ensure the curtains are oriented the same way, i.e., the load cables reside on the same side of the curtain sections. In addition, the load cables must be able to connect, hook to thimble, from one section to the other.
5. Lace or tie the two curtains together along their edges. Use  $3/8$ " diameter nylon or polyester, twisted rope for his. Alternately,  $1/2$ " black plastic wire ties may be used.
6. Connect the load cables. (continued steps) >

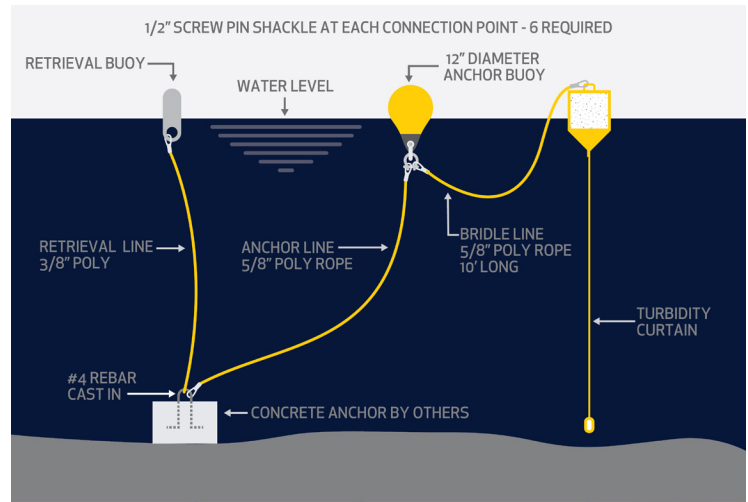


7. Place a furling line at the approximate center of each flotation block. Use a minimum of  $1/4$ " diameter, twisted, black poly rope for the furling lines. If these lines are to be used to re-furl the curtain for removal from the water, they must be at least twice the curtain depth plus 6 feet (2 meters) so that they can be left in place when the curtain is unfurled.
8. Bundle the bottom of the first curtain and a convenient length of the section curtain up to the flotation chambers and tie with the furling lines. Please review the picture above.

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Non-terminal anchoring system - Typical



Non-terminal anchoring system for geomembrane or other sensitive bottom material

### Curtain Launching

1. A portion of the first curtain section can now be floated into the water. Carefully slide the leading edge of the first furled curtain section into the water and secure the leading end to the work boat or winch pull cable. If a work boat is used, it should be rigged with a long line which is attached to the load cable of the first curtain in such a way so that the curtain can be positioned without interfering with maneuvering of the boat.
2. Unfold the third curtain section in the sequence and repeat the procedure, connecting the edges, connecting the load cable, bundling, furling and extending the furled portion into the water. Make sure the correct sequence is followed so that the proper depth curtain occurs at the predicted position along the curtain alignment. The work boat will control the curtain sections as they are assembled and extended along the curtain alignment [assuming the launch direction is in-line with the final curtain alignment].

### Curtain Securing

1. When the last curtain section has been attached, launched and anchored to its shoreward anchor point, and the entire assembly has been extended and secured to the opposite shoreline anchor point, the intermediate anchor points are then connected to their respective curtain joints via the bridle lines. If intermediate anchors are used on both sides of the curtain, it may be necessary to work from one side of the curtain before proceeding to the opposite side. If the anchors have been properly positioned, their buoys will be easily identified and matched to the corresponding joint.
2. After all the intermediate anchors have been connected, proceed along the curtain line and loosen the furling lines, allowing the

curtain to descend to its full depth. Re-tie the furling lines ends so that the lines can be reused during furling operations prior to curtain removal.

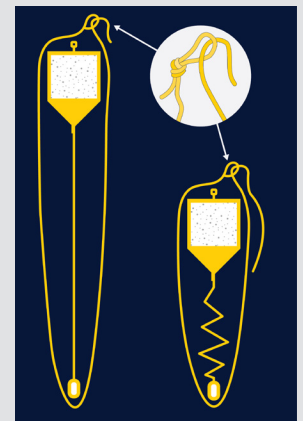
3. Attach any required navigation lights and buoys to the anchor buoy lines.

### Curtain Retrieval

1. When the curtain is to be removed, draw the furling lines up, bundling the ballast and curtain up to the flotation at the mid-section of the floats.
2. Reverse the deployment procedure to recover the curtain for storage.
3. Each section should be cleaned, dried and folded into its original configuration for storage.
4. Any required repairs should be made at this time.

Aer-Flo can build a tapered barrier, or we can add furling lines so that the installer can drop the bottom of the barrier to a custom depth.

These are used for applications where the bottom of the waterway tapers.



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