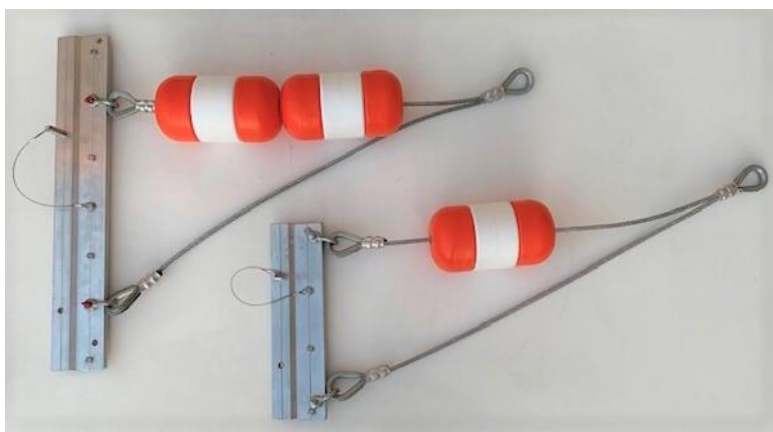




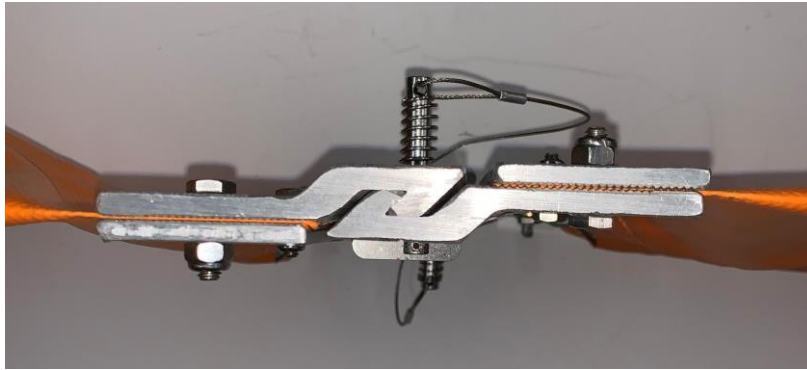
Oil Spill Containment Boom Installation Instructions

1. Formulate an anchoring plan as the first step. Identify how you will anchor or moor the oil spill boom. Key factors to consider include wind, waves, currents, tides, water depths, bottom conditions and boat traffic in the area.
2. Select the appropriate anchor type. Danforth style anchors are most commonly used based on price, availability, and ease of use, and should be used with a chain between the anchor and line. Danforth anchors require a firm silt, mud or sand bottom to work effectively. Pyramid anchors can be much heavier (up to 4000 pounds) and combine friction and suction within the bottom material for holding strength. The pyramid (or deadweight) anchors work better on rocky or hard bottoms. Beach stakes, shore anchors, and existing pilings can also be utilized to secure containment boom into place.
3. Set anchors and mooring lines before deploying boom into the water. Mark attachment points with buoys.
4. When moving the oil spill boom, care should be taken not to drag the boom on the ground. Sufficient manpower should be used to lift the boom sections to the water's edge, or onto a work boat. The boom should be arranged in an accordion pattern so it can be pulled
5. Position the leading edge of the boom closest to the water, and connect a tow bridle to the leading end of the containment boom. The tow bridle distributes the force evenly across the end of the containment boom and provides a secure connection as the boom is towed. The boom should be arranged in an accordion pattern so it can be pulled into the water with minimal movement out of water.



Tow Bridles

6. On shore (or work boat), connect the boom sections. The aluminum connectors on each end of the boom should be engaged and locked together with toggle pins. Gently tow the boom out with the tow bridle, forming a boom train as it is deployed.



End Connectors Secured with Toggle Pin

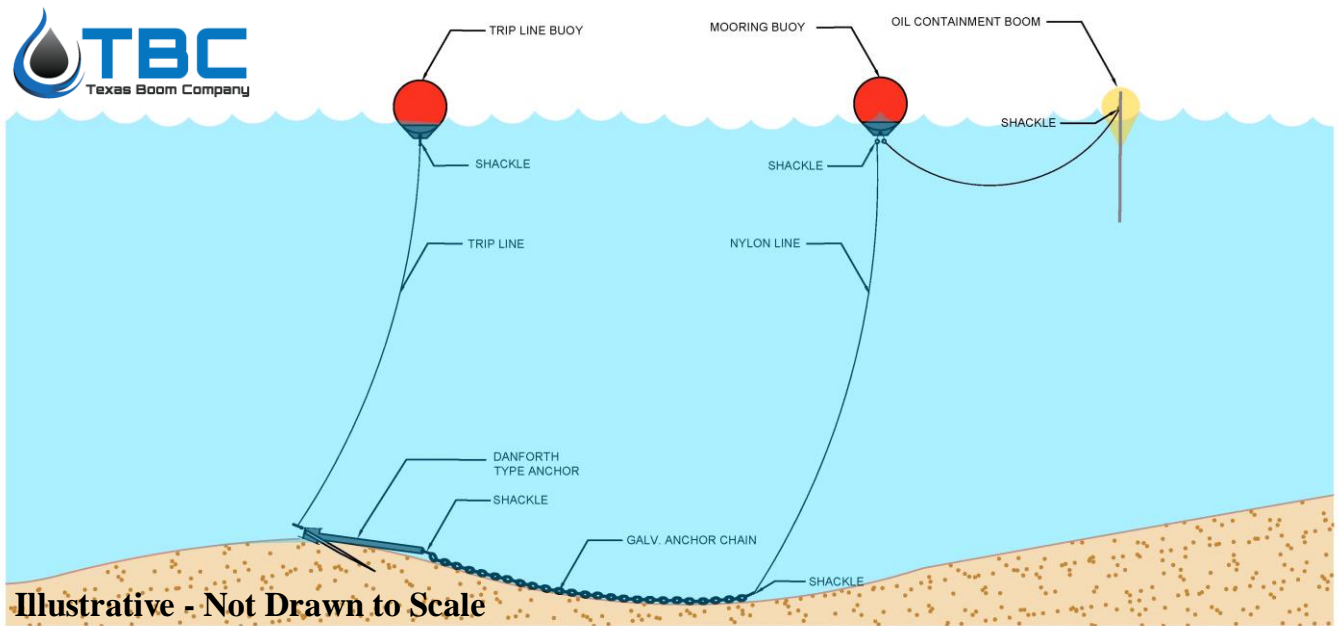
7. Secure the boom at the appropriate anchor points per the plan. Tow bridles can also be used as sturdy end connection points.
8. Release furling lines if applicable to release the skirt to full depth.
9. Floating sorbent boom can be utilized in conjunction with containment boom, capturing the oil as it makes contact with the sorbent boom. Place the sorbent boom in parallel to the containment boom, on the side exposed to the oil.
10. Monitor the deployed boom to ensure the anchors are maintaining the containment boom in the desired location. Adjust as needed.
11. Consider the use of lighted beacons at intervals along the boom string to allow for identification by boaters and to monitor the location of the boom at night.

Anchoring Plans

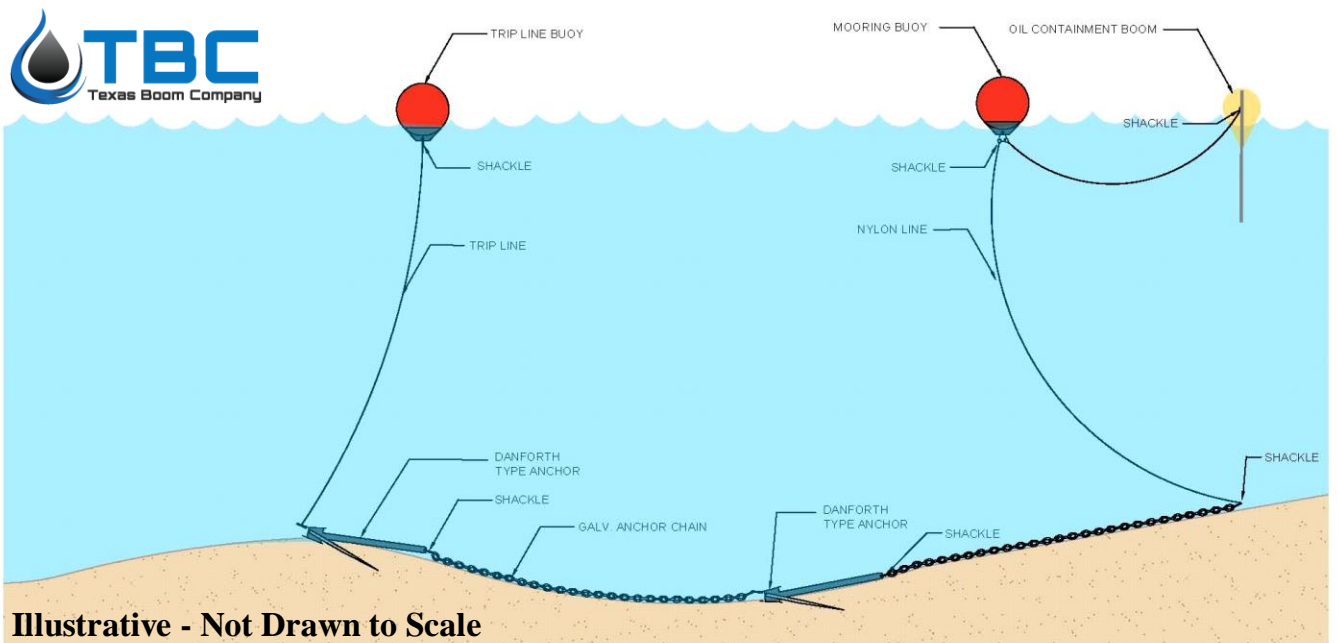
1. Water and weather conditions can dictate what anchoring plan may work best.
2. Tides and currents can result in the need for anchor kits being deployed in opposite directions.
3. Bottom composition also plays an important factor in anchor type selection (see #2 in instructions above).
4. Anchor lines should be at least 3 times the maximum depth (high tide) of the water for Danforth anchors and 1.5 times the maximum depth for Pyramid anchors.
5. Danforth anchors should always have chains between the anchor and line, as the weight helps to keep the anchor from pulling up and losing its grip.
6. Anchors should be placed at a minimum every 100 feet along the run of containment boom. More frequent anchor points may be required to securely hold the containment boom in the optimal location.

The next three diagrams below illustrate the components and arrangement of an effective anchoring system. The scenarios depicted include a simple single anchor layout for calm water deployment, a double anchor layout where current, tides, or winds may require additional holding strength, or a layout requiring anchors in both directions where tides and currents change directions.

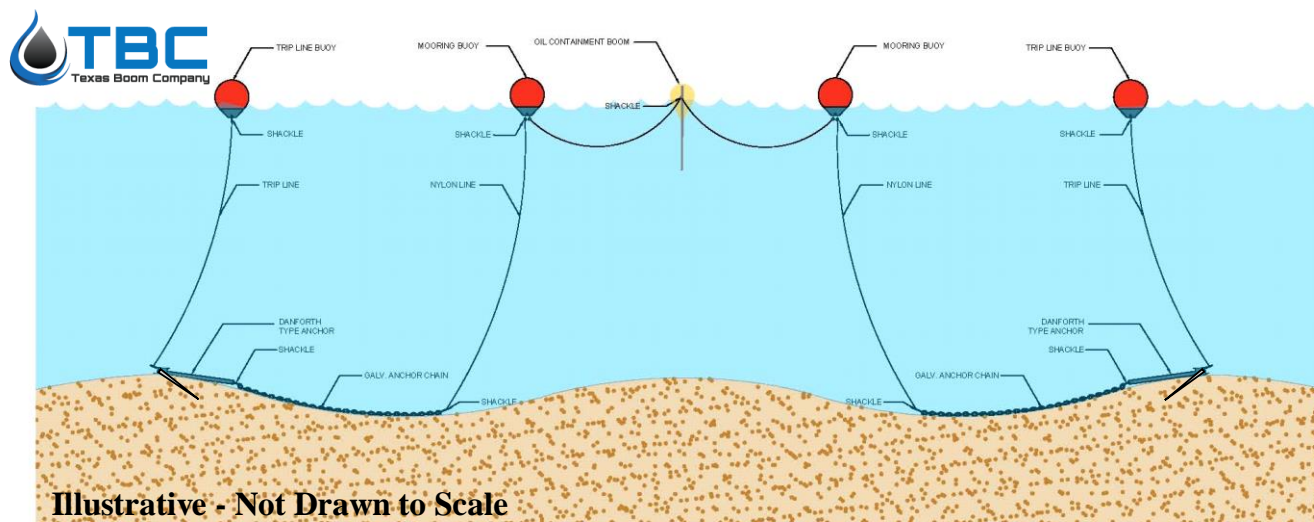
Single Anchor Configuration for Each Anchor Point



Double Anchor Configuration for Each Anchor Point



Dual Direction Anchor Configuration for Each Anchor Point



Containment Boom Layouts

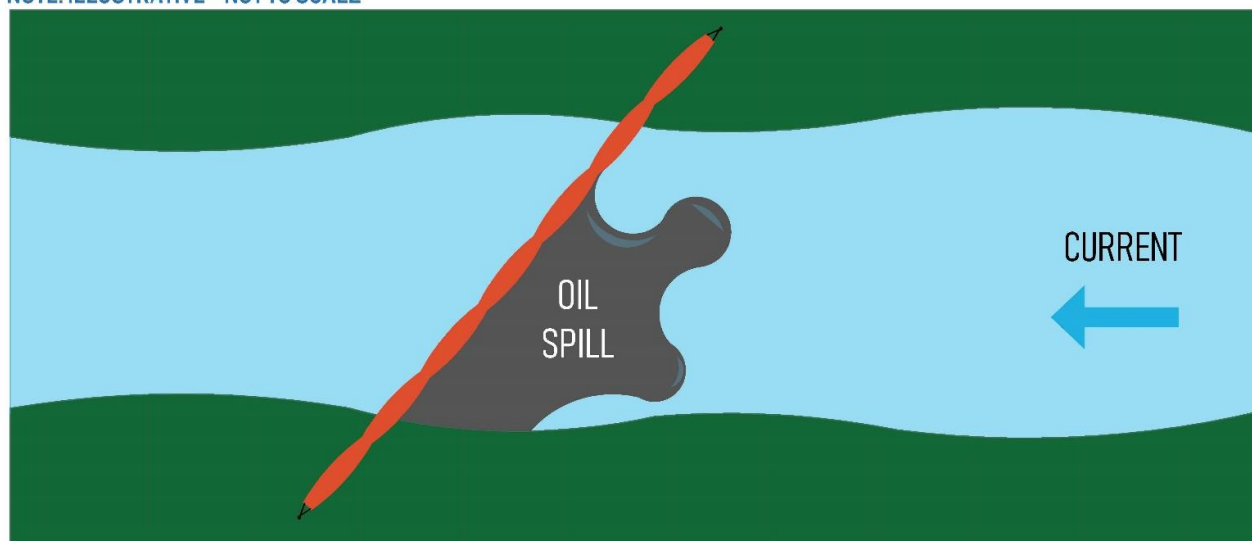
The following diagrams demonstrate a variety of layouts that can be used to deploy oil spill containment boom, depending on the conditions. Tides, currents, wind, waves, and boat traffic must all be considered when deciding upon a containment boom layout. The position of the containment boom can direct oil to a location for collection with a vacuum or skimmer.

Single Angled Containment Boom



NOTE: ILLUSTRATIVE - NOT TO SCALE

OIL SPILL CONTAINMENT BOOM CONFIGURATION ANGLED

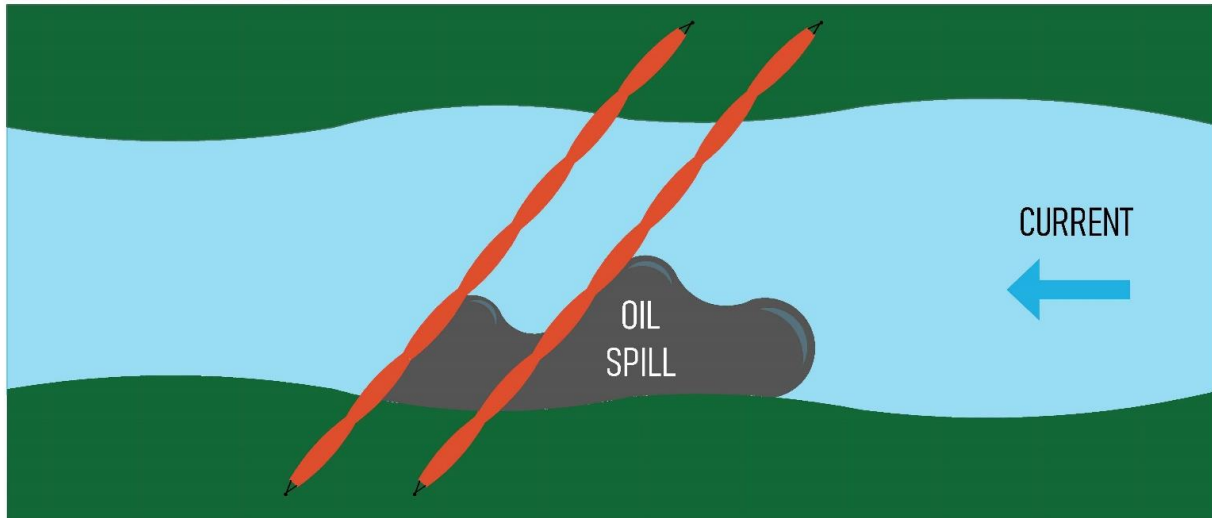


Double Angled Containment Boom Layout



NOTE: ILLUSTRATIVE - NOT TO SCALE

OIL SPILL CONTAINMENT BOOM CONFIGURATION DOUBLE ANGLE

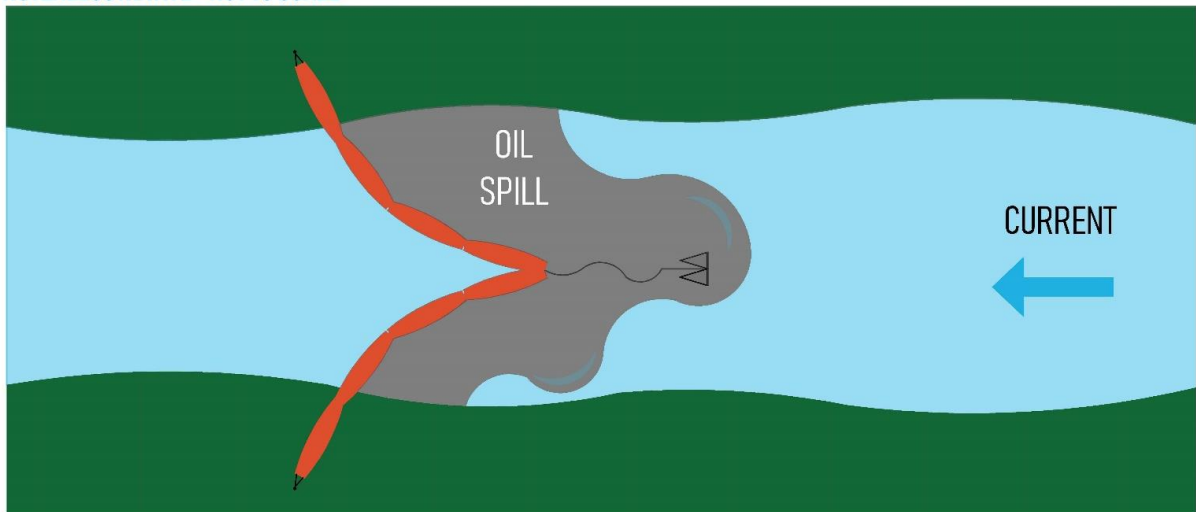


Chevron Containment Boom Layout



NOTE: ILLUSTRATIVE - NOT TO SCALE

OIL SPILL CONTAINMENT BOOM CONFIGURATION CHEVRON

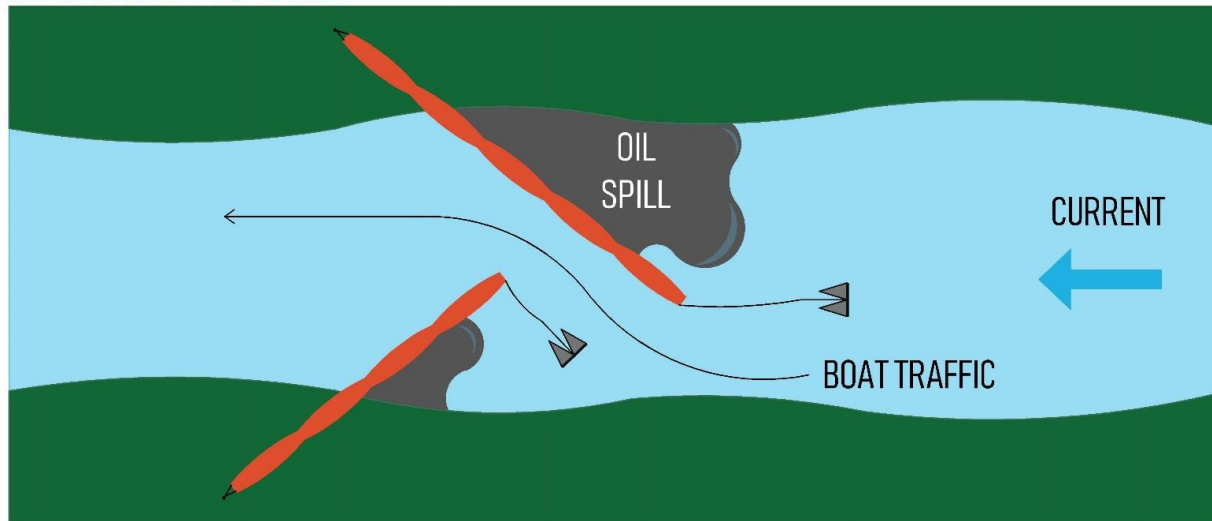


Open Chevron Containment Boom Layout



NOTE: ILLUSTRATIVE - NOT TO SCALE

OIL SPILL CONTAINMENT BOOM CONFIGURATION OPEN CHEVRON

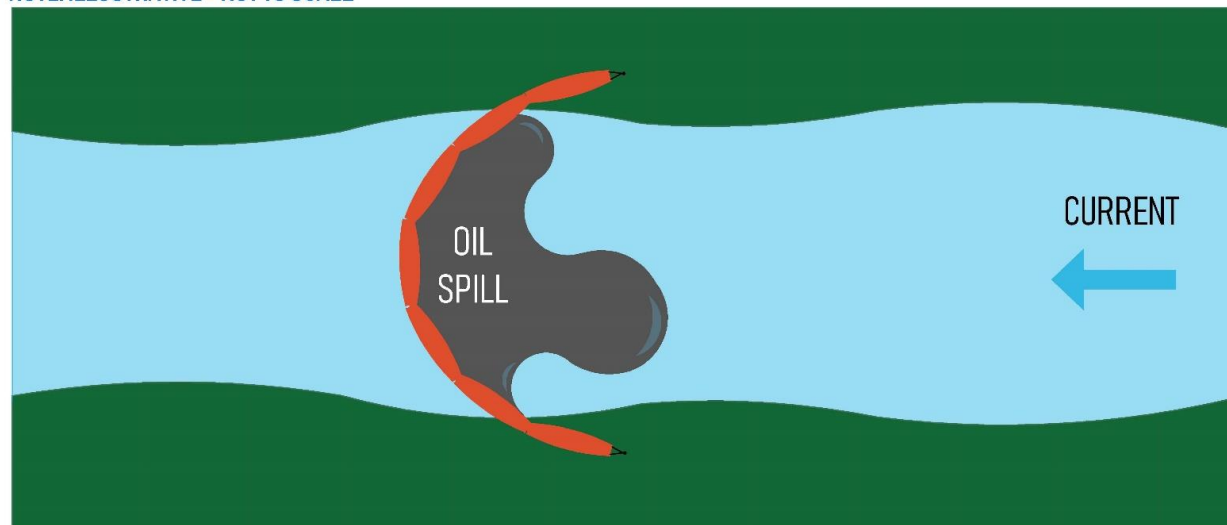


U-shaped Containment Boom Layout



NOTE: ILLUSTRATIVE - NOT TO SCALE

OIL SPILL CONTAINMENT BOOM CONFIGURATION U - SHAPE

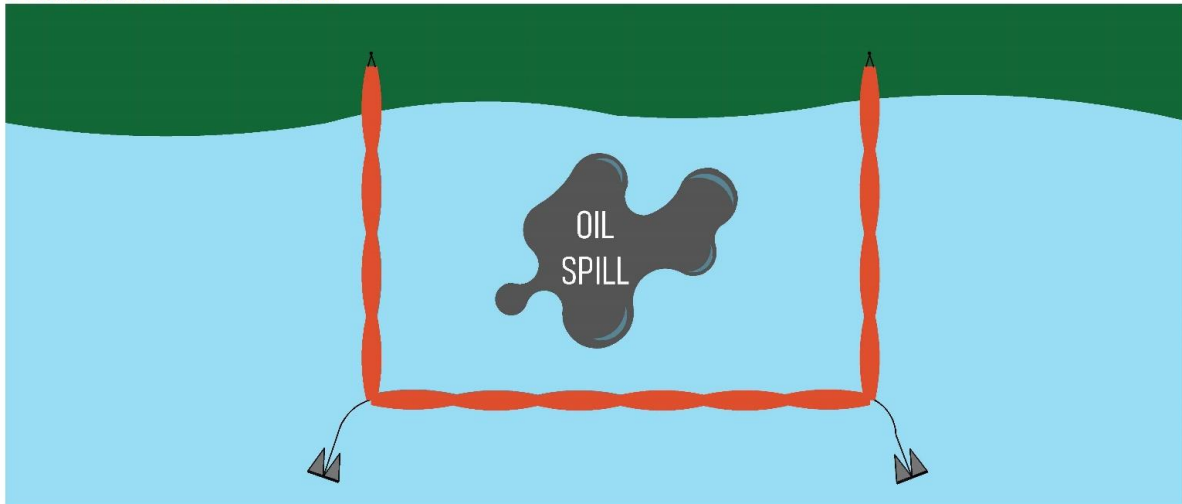


Partially Surrounding Containment Boom Layout



NOTE: ILLUSTRATIVE - NOT TO SCALE

OIL SPILL CONTAINMENT BOOM CONFIGURATION PARTIALLY SURROUNDING



Fully Surrounding Containment Boom Layout



NOTE: ILLUSTRATIVE - NOT TO SCALE

OIL SPILL CONTAINMENT BOOM CONFIGURATION SURROUNDING



Boom Retrieval

1. Disconnect one end of the containment boom string and connect it to the tow boat.
2. Disconnect each of the subsequent anchor points and tow the containment boom to shore or haul the boom aboard the work boat.
3. Deploy enough manpower to allow that each section of the containment boom be stacked in an accordion (zig-zag) pattern into a neat bundle.
4. Strap each section to keep it contained for transport.
5. Take care when loading each section to avoid dragging, which may result in damage to the containment boom.
6. At an appropriate location, spread each boom section for cleaning, rinsing, and drying. Blow air into each chain chamber to extract any residual water that may have been entrapped.
7. After letting the containment boom fully dry, refold each segment in an accordion pattern and strap securely for storage and subsequent deployment.
8. For containment boom that has been exposed to oil or other hydrocarbons during deployment, evaluate the cost benefit analysis of cleaning the contaminated boom versus replacing it. Often replacement is a more economical option. Adhere to follow all local, state and Federal laws when disposing of contaminated containment boom.

Boom Storage

1. Containment boom should be stored in a dry location, out of the sun, and in a location that affords air circulation.
2. If containment boom is stored in a trailer or shipping container, having air circulation inside the confined space will extend the life of the boom.
3. Stored containment boom should be fully removed from storage, unfolded, and inspected at a minimum every six months. As the boom is refolded, it should be reverse the accordion pattern from the time it was previous folded so that each fold is in the opposite direction.
4. Repair or replace containment boom that had been damaged or shows degradation.
5. Be mindful of pest control in the storage area, as rodents can damage the containment boom over time if allowed access to stored bundles.
6. When in doubt, throw it out. The time to discover ineffective containment boom is not during an emergency deployment. Error on the side of caution and maintain an inventory of fully functional containment boom that is in good condition.

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