| | |
|---|---|
| *Tidal Wetlands License No.* _____<br>*MDE Permit No.* _____ | **FRAC-OUT CONTINGENCY PLAN**<br>*for*<br>_____<br>**CONDUIT O.D. SIZE** (_____ *INCHES*) *and*<br>**ESTIMATED BORE SIZE** (_____ *INCHES*) |

**HORIZONTAL DIRECTIONAL DRILLING**
*beneath*
_____
*BODY OF WATER/WETLAND*
_____ **(CITY),** _____ **COUNTY, MARYLAND**

## 1.0 Purpose

This Frac-Out Contingency Plan is to provide assurance of adequate monitoring, detection, containment and cleanup for potential discharge of drilling fluid or other materials (referred to as an "inadvertent return" or "frac-out") resulting from the horizontal directional drilling (HDD) crossing of Click here to enter text. authorized by this Wetlands License or Permit.

*Licensee:* _____
*Design Engineer:* _____
*Independent Monitoring Contractor (IMC):* _____
*HDD Contractor:* _____

Please see below for a list of personnel contacts:

| Contacts | Phone | Email |
|---|---|---|
| HDD Contractor's on-site supervisor | | |
| Design Engineer | | |
| Independent Monitoring Contractor | | |
| MD Dept. of Environment (Compliance) | 410-537-3510 | |
| Board of Public Works<br>Wetlands Administration | 410-260-7791 *or*<br>410-260-7764 | |
| United States Army Corps of Engineers<br>Baltimore District | 410-962-3671 | |
| USACE Project Manager | | |

## 2.0 Best Practices

The Licensee and their HDD Contractor, under observation of the IMC, shall follow the best management practices contained in *Horizontal Directional Drilling (HDD) Good Practices Guidelines* by HDD Consortium, David Bennett, PhD & Samuel Ariaratnam, PhD (2017).

## 3.0 Preconstruction

Before construction begins:

3.1 The Licensee shall conduct a bathymetric or topographic survey over the proposed alignment to document the pre-existing site conditions. The survey must be conducted 100 feet from each side of the HDD centerline or to the current edge of tidal wetlands, whichever is less.

3.2 The Licensee shall conduct a preconstruction meeting. The Licensee shall include the following representatives in a notice of the preconstruction meeting at least two weeks before the meeting is to be held:

- HDD Contractor
- Design Engineer
- IMC
- Maryland Department of the Environment, Water Management Admin., Compliance Program (MDE)
- Board of Public Works, Wetlands Administration

3.3 If the project requires Coast Guard approval, the Licensee shall notify and provide project plans to the Commander, Fifth Coast Guard District, Portsmouth, Virginia.

## 4.0 Construction

During construction:

4.1 The HDD Contractor and the IMC shall perform continuous visual monitoring of the drilling route and surrounding area during all HDD operations and shall make and retain daily inspection notes.

4.2 The IMC shall provide weekly HDD monitoring reports to MDE and to the Wetlands Administration, including the following information:

- Volume of drilling material used and recovered
- Method of material disposal
- Depth of bore below the water body or wetland bottom
- Daily average drilling pressures and any notable spikes or deviations
- Daily bore or ream size and distance of progression

4.3 The following containment materials must be available at the HDD crossing location and adequately designed for the specific project; including but not limited to:

| Material | Required items indicated below |
|---|---|
| hay bales | ☒ |
| silt fence | ☒ |
| plastic sheeting | ☒ |
| turbidity barriers/#linear feet of turbidity curtain | ☐ |
| turbidity curtain height # | ☐ |
| shovels, pails | ☒ |
| push brooms | ☒ |
| squeegees | ☒ |
| pumps and sufficient hose | ☒ |
| mud storage tanks | ☒ |
| boat(s) | ☐ |
| vacuum truck on call 24/7, contact_____, phone _____ | ☒ |
| generator with light tower | ☒ |
| sandbags | ☒ |
| other 1: | ☐ |
| other 2: | ☐ |

## 5.0 Response to Frac-Out

A frac-out is a discharge of drilling fluid or other materials. If a frac-out is observed and has impacted, or has the potential to impact, federally or State regulated waters or wetlands, the Licensee is responsible for following this Frac-Out Contingency Plan. Specifically, the Licensee shall:

5.1 Assess the frac-out to determine the amount of drilling fluid released and the potential for the frac-out to reach the water or wetlands.

5.2 If frac-out is at an **Upland location**, Licensee shall:

- Promptly notify HDD Contractor's on-site supervisor, Design Engineer, and IMC.
- If frac-out cannot be controlled, immediately suspend drilling operation until containment is in place.
- Evaluate frac-out to determine the most appropriate cleanup measures, including if containment structures are needed.
- Implement appropriate cleanup measures to contain and remove frac-out drilling fluid to the extent practicable.
- Depending on volume of drilling fluid lost, remove the fluid by vacuum truck and/or shovel. The IMC may determine that small amounts are unrecoverable.
- Remove drilling fluids at a rate sufficient to maintain containment of the frac-out during all drilling operations.

5.3 If a frac-out is in a Tidal Wetland, Nontidal Wetland, Nontidal Wetland Buffer or Nontidal Waterway (including the 100-foot nontidal floodplain), the Licensee shall:

- Suspend forward drilling and promptly notify those indicated in Section 1.0
- Evaluate frac-out to determine the appropriate containment and cleanup measures. The Licensee shall consult with MDE, the Wetlands Administrator (if in a tidal wetland), and the USACE concerning the evaluation and proposed cleanup measures as soon as possible, and take appropriate, immediate action to stop and contain the frac-out.
- If the frac-out occurs in a nontidal wetland and/or nontidal wetland buffer (25-foot or expanded 100-foot), the Licensee shall follow the temporary emergency permit procedure outlined in COMAR 26.23.02.08.C.
- If the frac-out occurs in a nontidal stream and/or 100-year nontidal floodplain, the Licensee shall follow the emergency repair procedure outlined in COMAR 26.17.04.07 D.
- Implement appropriate cleanup measures to contain and remove frac-out drilling fluid to the extent practicable. Appropriate cleanup measures are determined by the specific circumstances of the frac-out and may include, but are not limited to:
  - ➢ Removing the drilling fluid by hand if efforts to contain and remove the drilling fluid with equipment will result in further disturbance by equipment and personnel.
  - ➢ Diluting the drilling fluid with fresh water or allowing the fluid to dry and dissipate naturally or a combination of both if hand removal is not possible.
  - ➢ Using small collection sump pumps (less than 5 cubic yards) to remove the fluid, if the amount of the released drilling fluid exceeds that which can be contained with hand-placed barriers.
  - ➢ If the amount of slurry exceeds that which can be contained and collected using small sumps, drilling operations will be suspended until the frac-out can be brought under control.



- Store removed drilling fluid in a temporary holding tank or other suitable structure, [3] out of the wetland area and wetland buffer pending reuse or disposal.

- Evaluate current drill profile (e.g., drill pressures, pump volume rates, drilling mud consistency) to identify methods to prevent further frac-out events.

- Resume drilling only when evaluation, regulatory agency coordination, and cleanup are complete and prevention measures are in place.

- Submit a report, prepared by the IMC summarizing the incident, including the data used to evaluate the drill profile at the time of the frac-out, to MDE, the Wetlands Administrator (if in a tidal wetland), and the USACE.

- Conduct a post-construction bathymetric survey in the area of the frac-out within 10 days of project completion to ascertain that the topography is the same as prefrac-out conditions.

5.4 If frac-out is at an **In-Waterbody location**, the Licensee shall:

- Suspend forward drilling and promptly notify those indicated in Section 1.0.

- Evaluate frac-out to determine the most appropriate cleanup measures, including if structures are needed to contain the plume. The Licensee shall consult with MDE, the Wetlands Administrator (if in a tidal wetland), and the USACE concerning the evaluation and proposed cleanup measures as soon as possible, and take appropriate, immediate action to stop and contain the frac-out.

- Implement appropriate cleanup measures to contain and remove frac-out drilling fluid to the extent practicable. Appropriate cleanup measures are determined by the specific circumstances of the frac-out and may include, but are not limited to:

  ➢ Pump or vacuum truck,
  ➢ Hand-placed containment recovery,
  ➢ Silt curtains, turbidity barriers, and similar measures.

- Store removed drilling fluid in a temporary holding tank or other suitable structure, out of the wetland area and wetland buffer pending reuse or disposal.

- Evaluate current drill profile (e.g., drill pressures, pump volume rates, drilling mud consistency) to identify methods to prevent further frac-out events.

- Resume drilling *only* when evaluation, regulatory agency coordination, and cleanup are complete and prevention measures are in place.

- Submit a report, prepared by the IMC summarizing the incident, including the data used to evaluate the drill profile at the time of the frac-out, to MDE, the Wetlands Administrator (if in a tidal wetland), and the USACE.

- Conduct a post-construction bathymetric survey in the area of the frac-out within 10 days of project completion to ascertain that the topography is the same as prefrac-out conditions.

## 6.0 Cleanup Guidelines

- Hand cleaning means using shovels, buckets, soft-bristled brooms or other hand items included in the material lost, without causing damage to vegetation. Fresh water washes will be employed if deemed beneficial and feasible.
- Containment structures (turbidity curtains, booms, or other) must be pumped out and the ground surface scraped to bare topsoil without causing undue loss of topsoil or ancillary damage to existing and adjacent vegetation.
- Material will be collected in containers for temporary storage prior to removal from the site.
- Potential for a secondary impact from the clean-up process is to be evaluated and clean-up activities terminated if physical damage to the site may exceed the benefits of clean-up activities.
- The need to restore disturbances to nontidal and tidal wetlands or waters will be determined in consultation with the Corps and MDE.

## 7.0 Close-Out Procedures

After the drilling fluid has been contained and removed, the Licensee shall:

7.1 Recycle or dispose of the removed drilling fluid at an authorized upland location or commercial disposal facility.

*Note: Recovered drilling mud may not be deposited in waters of the State, streams, water bodies, or storm drains.*

7.2 Remove all containment structures and materials unless otherwise specified by the Design Engineer with approval from the appropriate regulatory agencies.

7.3 Consult with MDE and USACE concerning restoration.

## 8.0 Final Completion Reporting

After construction:

8.1 The Licensee shall submit a final report, prepared by the IMC, to MDE. The report must summarize the impacts of the HDD project, if any, and include the weekly monitoring report results.

8.2 If a frac-out occurs in the tidal wetlands, the report must also include a post-construction bathymetric survey and a comparison with the preconstruction bathymetric survey.

*Note: There may be a need for additional Federal, State, County or Municipality authorizations or approvals associated with the aforementioned information. This guidance is not meant to replace or substitute for any other applicable regulations or requirements. By signing below, I certify that I have read this document, I know and understand the meaning and intent of this Frac-Out Contingency Plan, and in the event of a frac-out, I agree to follow this plan.*

_____ *representing* _____
*Signature (Licensee)* *Company*
*Printed Name:* _____ *Date:* _____