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June 27, 2023

Ms. Tanowa M. Troupe, Docketing  
Public Utilities Commission of Ohio  
180 E. Broad Street  
Columbus, OH 43215

Re: OPSB Case No. 18-1334-EL-BGN  
Highland Solar HDD Inadvertent Return Remediation Plan

Dear Ms. Troupe:

Pursuant to Condition 25 of the March 25, 2019 Joint Stipulation and Recommendation, as approved by the Ohio Power Siting Board in its May 16, 2019 Opinion, Order, and Certificate, please find attached a frac-out contingency plan titled “Highland Solar Horizontal Directional Drilling Inadvertent Return (IR) Remediation Plan” for the 300 MW solar energy project commonly known as Highland County Solar. A copy of this plan was provided separately to Staff of the Ohio Power Siting Board.

If you have any questions, please contact me.

Very truly yours,

/s/ Michael J. Settineri

Michael J. Settineri  
Attorney for Hecate Energy Highland LLC

MJS/jaw  
Enclosure

6/27/2023 45682334



HIGHLAND SOLAR  
HORIZONTAL DIRECTIONAL  
DRILLING INADVERTENT  
RETURN (IR) REMEDIATION  
PLAN



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## Section 1.0 Horizontal Directional Drilling (HDD)

Horizontal Directional Drilling (HDD) or directional boring is a trenchless technology that is an alternative to slice inserting or trenching in utility lines. During the drilling process, an inadvertent return (IR) may occur. During an IR, slurry is discharged to the surface by seeping through cracks and voids in the soil. This document outlines the procedures and steps needed to remediate an IR. Implementation of this plan is required if an IR occurs in Wetlands or Streams. Please note that additional state specific reporting requirements may be necessary should an IR occur in Streams or Wetlands. Contact the environmental team for reporting requirements. Finally, Inadvertent Returns in Wetlands, Streams or Upland shall be documented thoroughly, and slurry material disposed of properly in accordance with Ohio solid waste regulations.

## Section 2.0 Designated Responsible Person

In addition to the minimum number of personnel required to perform the bore, one additional person is required to be present on-site during the bore process. This designated responsible person will serve as a spotter during active drilling. This designated responsible person shall have authority to stop bore activities and be able to execute this Inadvertent Return Remediation Plan. The spotter shall also be trained in all required OSHA safety procedures for the task they are responsible for.

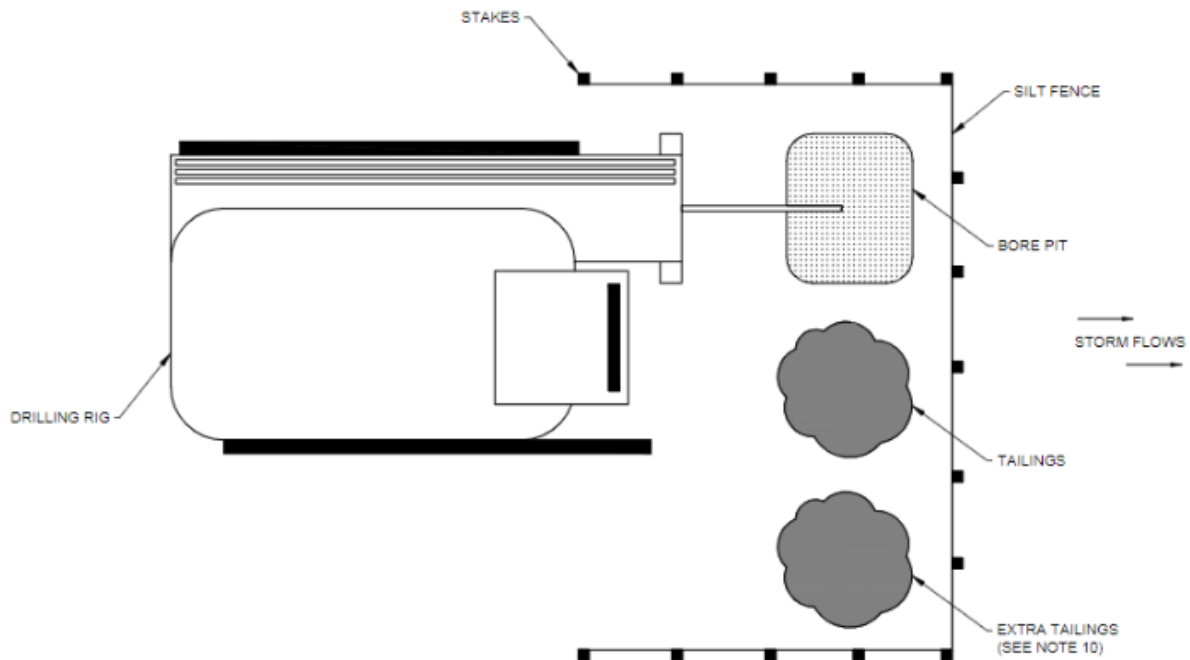
## Section 3.0 Equipment

In addition to the necessary equipment needed to perform the bore, a vacuum pump wagon or vacuum truck, water truck or other equipment that can vacuum and contain slurry is required to be available on site while the bore is in progress. In addition, a sufficient quantity of sandbags, filled with sand, shall be available to capture and contain any inadvertent return that occurs in a stream or a wetland. It should be noted that the depth of the stream should be considered to accurately calculate the quantity of sandbags that will be needed in case an IR does occur. For streams where depth of water makes the use of sandbags infeasible, a corrugated pipe, that is sufficient in length, shall be inserted into stream bed sufficiently enough to contain and capture slurry. On stream banks, and marshy areas, sandbags may also be used to surround corrugated pipe and seal any gaps due to uneven ground surface. 5-gallon buckets or 10-gallon buckets with the bottoms removed may also be used in place of corrugated pipe where feasible. A spill kit shall also be available at the bore location.

### Section 3.1 Equipment List

- Vacuum Pump Wagon or Vacuum Pump Truck
- Tote of sandbags in sufficient quantities
- Plastic Buckets (5-gallon, 10-gallon, etc. with bottom cut out)
- Corrugated Plastic or Metal Pipe of sufficient length
- Best Management Practices (Silt Fence, Fiber Rolls, Hay/Straw Bales, etc.)
- Spill Kit

## Section 3.2 Bore Pit Erosion Control Detail



### NOTES:

1. LOCATE DRILL RIG INSIDE, BORE PIT AND TAILINGS INSIDE SILT FENCE.
2. INSTALL SILT FENCE IN ACCORDANCE WITH SILT FENCE DETAIL.
3. UPON COMPLETION OF BORING OPERATIONS, CONTRACTOR SHALL BACKFILL THE BORE PITS TO MATCH THE SURROUNDING GRADE. CONTRACTOR SHALL INSTALL SEEDING OR OTHER PERMANENT STABILIZATION MEASURES A MAXIMUM OF 14 DAYS AFTER BACKFILL HAS OCCURRED IN ORDER TO LIMIT EROSION.
4. BORE TAILINGS PITS SHALL BE PLACED A MINIMUM OF 50 FEET UPSTREAM OF ANY WATER BODY OR STREAM.
5. BORE TAILINGS SHALL BE PLACED IN THE BORE TAILINGS PIT TO ALLOW WATER TO INFILTRATE.
6. BORE TAILINGS SHALL BE SPREAD OUT AND PLACED IN LIFTS IN ORDER TO APPLY THE AMENDMENTS TO ENSURE REDUCED ADDITIVE CONCENTRATION THAT WILL ALLOW FOR GROWTH.
7. BORE TAILINGS SHALL BE TESTED FOR THE ADDITIVE CONCENTRATION THAT WAS ADDED DURING BORING. IF CONCENTRATION OF ADDITIVES IS HIGH, SUGGESTED AMENDMENTS SHALL BE APPLIED IN ORDER TO REDUCE THE CONCENTRATION.
8. ONCE INFILTRATION IS COMPLETE, BORE TAILINGS SHALL BE DISPOSED OF PROPERLY. IF BORE TAILINGS ARE TO BE LEFT ONSITE, CONTRACTOR SHALL ENSURE THERE IS NO NEGATIVE IMPACTS TO THE NATIVE SOIL. IF NEGATIVE IMPACTS ARE TO OCCUR, CONTRACTOR SHALL DISPOSE OF THE TAILINGS OFFSITE.
9. UPON COMPLETION OF INFILTRATION AND DISPOSAL OF TAILINGS, CONTRACTOR SHALL BACKFILL THE PITS TO MATCH THE SURROUNDING GRADE. CONTRACTOR SHALL INSTALL SEEDING OR OTHER PERMANENT STABILIZATION MEASURES A MAXIMUM OF 14 DAYS AFTER INFILTRATION AND BACKFILL HAS OCCURRED IN ORDER TO LIMIT EROSION.
10. CONTRACTOR SHALL DIG AND UTILIZE ADDITIONAL TAILINGS PITS AS NECESSARY TO ENSURE ALL BORE TAILINGS ARE PROPERLY STORED UNTIL WATER INFILTRATES. BORINGS SHALL BE PLACED IN PITS AS DESCRIBED IN NOTES ABOVE. TAILINGS SHALL NOT BE STORED ABOVE GROUND.

## Section 4.0 IR Remediation Process

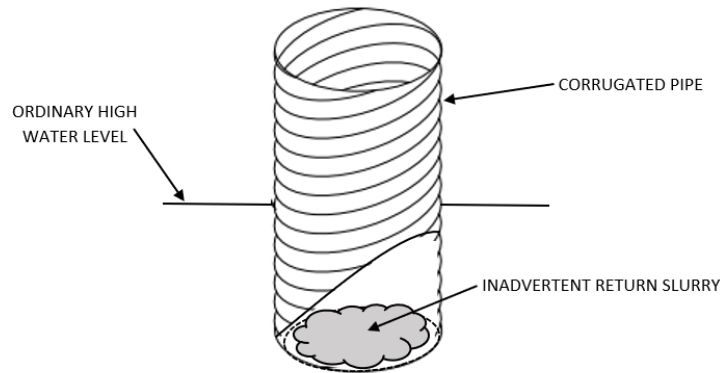
1. **Suspend:** Suspend drilling operations once IR is discovered. Discovery may be visual observation of slurry, measurable pressure release or heaving of soil.
2. **Contact:** Contact Project Superintendent. SOLV Field Team will do daily observations during drilling operations.
3. **Mobilize:** Mobilize necessary equipment to manage IR slurry release.
4. **Contain:** Contain the IR release. The IR must be manageable and must not increase in size.
  - a. **Uplands:** If the IR occurs in an uplands area, drilling may continue but IR release must be remediated as drilling operations continue. Follow steps 5 through 9.
    - i. If swelling of soil is observed, utilize vacuum truck to vacuum excavate center of soil heave location to release pressures to allow soil to subside back to pre-existing contours. Fill in bottom of vacuum excavation with clean sand and top off hole with preexisting volume of topsoil.
  - b. **Natural Resource:** If the IR occurs in a natural resource (i.e., wetlands or stream), drilling must be suspended, and slurry release must be remediated. Follow steps 5 through 9.
    - i. If swelling of soil is observed contact the environmental team for further guidance.
5. **Document IR Release:** Document the IR by:
  - a. Note the time of IR occurrence and location.
  - b. Document quantity of slurry release.
  - c. Take Photographs of IR Release
6. **Restore:** Drilling fluid must be removed from the affected areas such that the area is restored to preexisting conditions.
7. **Document IR Clean-Up:** Document IR clean-up process by:
  - a. Note the time clean-up process began and time clean-up process completed.
  - b. Take Photographs of IR containment, capture, removal of slurry release and final remediated area.
  - c. Document quantity of slurry recovered.
8. **Contact:** Once IR has been addressed, contact SOLV Field Team to review the area and provide approval so that bore may continue.
9. **Submit:** Submit documents to SOLV Energy Project Superintendent, Stormwater Compliance Coordinator, Senior Stormwater Compliance Coordinator or Stormwater Manager by end of day to ensure timely reporting to proper regulatory agency.

### 4.1 State Specific Reporting Requirements

#### Ohio

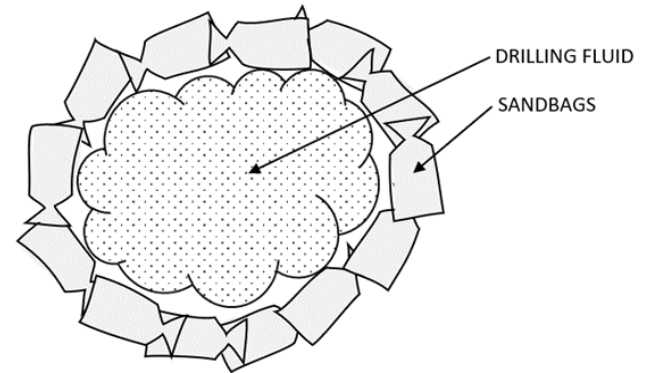
Inadvertent returns should be notified to Ohio EPA via a phone call to Ohio EPA's 24-hour Emergency Spill Hotline at 1-800-282-9378.





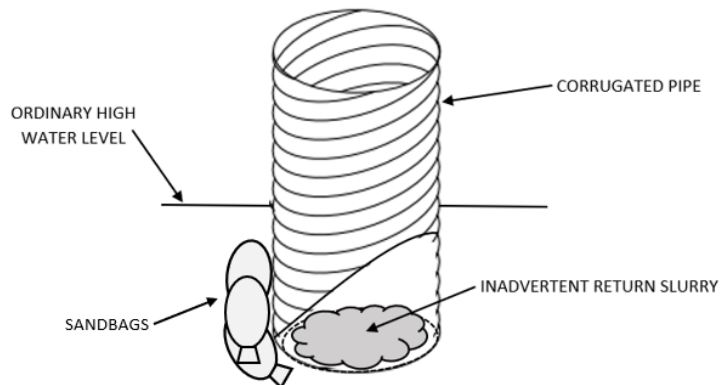
**NOTE:**

1. ONCE IR IS DETECTED IN WATERBODY, MANUALLY INSTALL CORRUGATED PIPE OVER THE SLURRY RELEASE TO CONTAIN AND CAPTURE MATERIAL.
2. REMOVE SLURRY USING A WATER TRUCK OR VACUUM TRUCK.
3. DISPOSE OF DRILLING FLUID IN ACCORDANCE WITH LOCAL SOLID WASTE REGULATIONS



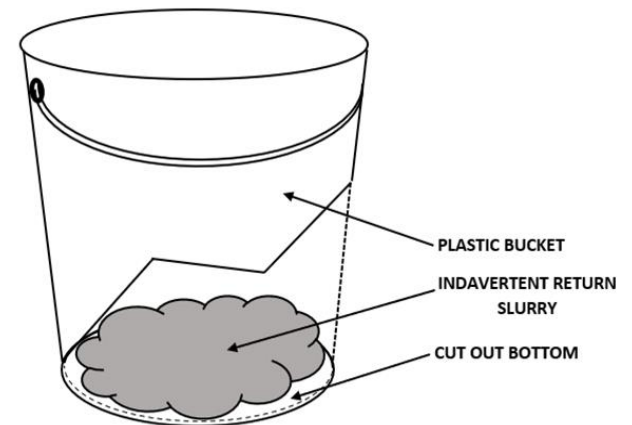
**NOTES:**

1. ADD SUFFICIENT NUMBER OF SANDBAGS TO SURROUND AND CONTAIN SLURRY.
2. REMOVE SLURRY USING A WATER TRUCK, VACUUM TRUCK OR MANUALLY.
3. DISPOSE OF DRILLING FLUID IN ACCORDANCE WITH LOCAL SOLID WASTE REGULATIONS.



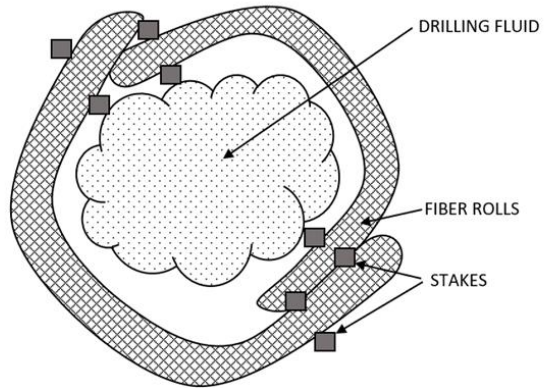
**NOTES:**

1. ONCE IR IS DETECTED, MANUALLY INSTALL CORRUGATED PIPE OVER SLURRY RELEASE TO CONTAIN AND CAPTURE MATERIAL.
2. INSTALL SANDBAGS AROUND CORRUGATED PIPE TO HOLD CORRUGATED PIPE IN PLACE.
3. REMOVE SLURRY RELEASE USING WATER TRUCK OR VACUUM TRUCK.
4. DISPOSE OF DRILLING FLUID IN ACCORDANCE WITH SOLID WASTE REGULATIONS.



**NOTES:**

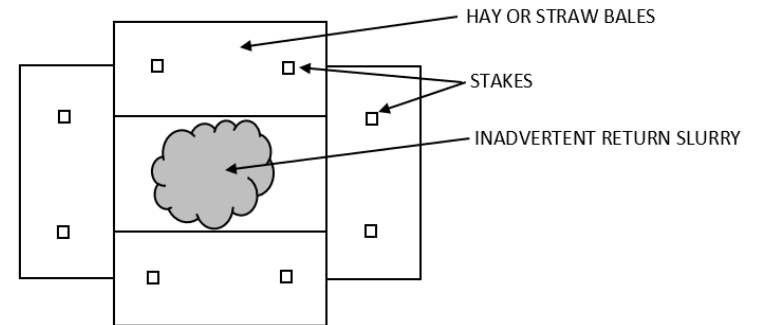
1. ONCE IR IS DETECTED, USE A PLASTIC BUCKET WITH BOTTOM CUT OUT TO CAPTURE AND CONTAIN SLURRY.
2. REMOVE SLURRY USING A WATER TRUCK, VACUUM TRUCK OR MANUALLY.
3. DISPOSE OF DRILLING FLUID IN ACCORDANCE WITH LOCAL SOLID WASTE REGULATIONS.



**NOTES:**

1. ADD SUFFICIENT NUMBER OF FIBER ROLL TO SURROUND AND CONTAIN SLURRY.
2. INSTALL WOOD STAKES IN AN APPROPRIATE MANNER AS TO SUFFICIENTLY ANCHOR THE FIBER ROLL TO SOIL.
3. REMOVE SLURRY USING A WATER TRUCK, VACUUM TRUCK OR MANUALLY.
4. DISPOSE OF DRILLING FLUID IN ACCORDANCE WITH LOCAL SOLID WASTE REGULATIONS.

**TOP VIEW**



**NOTE:**

1. ONCE IR IS DETECTED, MANUALLY INSTALL HAY OR STRAW BALES AROUND RELEASE TO CONTAIN AND CAPTURE MATERIAL.
2. UTILIZE THE APPROPRIATE NUMBER OF STAKES, AT APPROPRIATE LENGTH TO ANCHOR HAY OR STRAW BALES SECURELY TO SOIL.
3. REMOVE SLURRY USING A WATER TRUCK, VACUUM TRUCK OR MANUALLY.
4. DISPOSE OF DRILLING FLUID IN ACCORDANCE WITH LOCAL SOLID WASTE REGULATIONS

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## Section 5.0 Environmental Team Contact List

For additional guidance please contact the Environmental Team. All projects should have Team contact list posted in main trailer on the wall.

<b>ENVIRONMENTAL TEAM CONTACT LIST</b>			
<b>NAME</b>	<b>TITLE</b>	<b>PHONE</b>	<b>EMAIL</b>
Kimberly Borrego	Stormwater Compliance Coordinator	858.226.5117	kimberly.borrego@solvenergy.com
Deyontai Singleton	Stormwater Compliance Coordinator	760.215.9366	deyontai.singleton@solvenergy.com
Isabelle Musmanno	Senior Stormwater Compliance Coordinator	949.303.3657	isabelle.musmanno@solvenergy.com
Yohana Dierolf	Senior Stormwater Compliance Coordinator	435.655.5034	yohana.dierolf@solvenergy.com
Matthew Wood	Senior Stormwater Compliance Coordinator	858.332.0435	matthew.wood@solvenergy.com
Kate Norskog	Stormwater Compliance Manager	949.230.9688	kate.norskog@solvenergy.com
Jennifer Kirby	SWPPP Education & Training Manager	858.357.5006	jennifer.kirby@solvenergy.com
Joel Cantu	Environmental Compliance Training & Education Manager	858.267.7421	joel.cantu@solvenergy.com
Noah Johnson	Environmental Compliance Coordinator	442.400.9549	noah.johnson@solvenergy.com
Taylor Welby	Environmental Compliance Program Manager	425.463.5014	taylor.welby@solvenergy.com
Marisa Dauber	Director of Environmental Compliance	415.559.2607	marisa.dauber@solvenergy.com

## 6.0 Delegation of Authority for Horizontal Directional Drilling and Inadvertent Return Remediation Oversight

I, \_\_\_\_\_ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, during Horizontal Directional Drilling operations, at the \_\_\_\_\_ construction site.

\_\_\_\_\_ (name of person or position)

\_\_\_\_\_ (company)

\_\_\_\_\_ (address)

\_\_\_\_\_ (city, state, zip)

\_\_\_\_\_ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there may be significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:

Company:

Title:

Signature:

Date:

**This foregoing document was electronically filed with the Public Utilities  
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**6/27/2023 4:58:00 PM**

**in**

**Case No(s). 18-1334-EL-BGN**

Summary: Correspondence Regarding Condition 25 Frac-Out Contingency Plan electronically filed by Mr. Michael J. Settineri on behalf of Hecate Energy Highland LLC.