Regional Categorical Permission Alteration Description – 15. Horizontal Directional Drilling (HDD)

The Regional Categorical Permission covers the installation of pipes installed via horizontal directional drilling. In general, the entry and exit points of the horizontal directional drilling pipe should be located no less than 300 feet from the landside toe of the levee. The pipeline should pass no less than 50 feet beneath the levee's landside toe or federal channel depth. If the top of the pipe is less than 50 feet beneath the current channel invert, a scour analysis is required demonstrating that the maximum scour depth will not expose the buried pipe. The total area of disturbance must not exceed 15 acres.

Detailed subsurface investigations should be performed along the proposed directional drilling alignment to determine soil stratigraphy. Pertinent information also may be obtained from the design documents of the flood risk management project.

Other information necessary for USACE review include:

- Pipe diameter, length, material (e.g., concrete and steel), and wall thickness;
- Proposed method for monitoring drilling fluids; and
- Proposed method for monitoring ground surface movement (settlement or heave) caused by the drilling operation.

The pumping rate, pressure at the drill rig, pressure in the annular space behind the drill bit, and viscosity of drilling fluid must be monitored during drilling. In addition, as appropriate, density during the pilot bore, back reaming, or pipe installation stages must be monitored. Drilling mud pressure in the borehole should not exceed levels that can be supported by the levee foundation soils to prevent heaving or hydraulic fracturing of the soil.

Positive closure devices must be included on pipes that carry liquids and gases and penetrate the foundation of the levee.

A contingency plan must be submitted with the permit application and, at a minimum, include instructions for the following:

- How to contain, clean up, and repair areas subject to spills of drilling and hydraulic fluids.
- How, when, and to whom to forward evidence of impending danger to the flood risk management project.
- Who is responsible for monitoring the river stage.
- Whom to contact for all other levee-related emergency notifications.

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The requester is responsible for the restoration of a levee damaged by hydrofracturing or any other aspect of the directional drilling operation. Plans for restoration and repair work must be approved before the work begins.

If a drill hole beneath a levee must be abandoned, the hole should be backfilled in accordance with all appropriate technical guidance.

Regional Categorical Permission Alteration Checklist – 15. Horizontal Directional Drilling (HDD)

Note: The following checklist is intended for planning purposes only, and includes information that USACE reviewers look for when considering a Section 408 request for horizontal directional drilling (HDD) under the Regional Categorical Permission. To be reviewed under the Regional Categorical Permission, the proposed project must adhere to all requirements of the Regional Categorical Permission, including the full alteration description (see previous page). The plans and narrative project description should reflect this information.

1.	☐ New Installation ☐ Replacement ☐ Modification ☐ Authorize Existing
2.	If the top of the pipe is less than 50 feet beneath the current channel invert, a scour analysis has been submitted showing that the maximum scour depth will not expose the buried pipe: ☐ Reference: [Click to enter document source. Example – plan sheet (p. 4), specs, report.] Comment: [Click to enter rationale, explanation, unique situation, etc.]
3.	Maximum total area of disturbance is 15 acres: ☐ Reference: [Click to enter document source. Example – plan sheet (p. 4), specs, report.] Comment: [Click to enter rationale, explanation, unique situation, etc.]
4.	Application includes the following information: Pipe diameter, length, material (e.g., concrete and steel), and wall thickness: ☐ Proposed method for monitoring drilling fluids: ☐ Proposed method for monitoring ground surface movement (settlement or heave) caused by the drilling operation: ☐ Reference: [Click to enter document source. Example – plan sheet (p. 4), specs, report.] Comment: [Click to enter rationale, explanation, unique situation, etc.]
5.	The pumping rate, pressure at the drill rig, pressure in the annular space behind the drill bit, and viscosity of drilling fluid will be monitored during drilling ☐ Reference: [Click to enter document source. Example – plan sheet (p. 4), specs, report.] Comment: [Click to enter rationale, explanation, unique situation, etc.]
6.	The density during the pilot bore, back reaming, or pipe installation stages will be monitored, as appropriate: ☐ Reference: [Click to enter document source. Example – plan sheet (p. 4), specs, report.] Comment: [Click to enter rationale, explanation, unique situation, etc.]
7.	Positive closure devices will be included on pipes that carry liquids and gases and penetrate the foundation of the levee: Yes ☐ N/A ☐ Reference: [Click to enter document source. Example – plan sheet (p. 4), specs, report.] Comment: [Click to enter rationale, explanation, unique situation, etc.]

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8. Contingency plan includes the following information, at a minimum:
   - How to contain, clean up, and repair areas subject to spills of drilling / hydraulic fluids. ☐
   - How, when, and to whom to forward evidence of impending danger to the flood risk management project. ☐
   - Who is responsible for monitoring the river stage. ☐
   - Whom to contact for all other levee-related emergency notifications. ☐

Reference: [Click to enter document source. Example – plan sheet (p. 4), specs, report.]

Comment: [Click to enter rationale, explanation, unique situation, etc.]

– For Official Use Only below this line –

Comment

RCP Eligibility Review

Yes	No	Add'l. Info Requested			
☐	☐	☐	Environmental Reviewer:		Date: Click date
☐	☐	☐	Engineering Reviewer:		Date: Click date