

APPENDIX E HDD INADVERTENT RETURN MITIGATION PLAN

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MAGELLAN PIPELINE COMPANY HDD INADVERTENT RETURN MITIGATION PLAN

OBJECTIVE

The objective of this plan is to minimize the impact of a potential inadvertent return of drilling muds during horizontal directional drilling (HDD) operations by planning, early detection, and adequate containment of the HDD mud.

PLANNING AND PREVENTION

This project will utilize horizontal directional drilling (HDD) as a construction technique. With HDD, there is the potential for an inadvertent return wherein the pressure of the drilling mud pumped through the drill stem is great enough to travel up through loose soils or voids and exit at ground surface. Inadvertent returns most frequently occur very near the entry or exit point of the drill, but there is the potential they could occur anywhere between the entry and exit points. Before commencement of HDD operations, a safety meeting will be conducted to discuss the HDD operation and the Inadvertent Return Mitigation Plan.

The HDD Operations On-site Foreman will have the responsibility and authority for executing the Inadvertent Return Mitigation Plan (IRMP). The On-site Foreman shall be competent in all aspects of the HDD activity and the IRMP.

During the drilling process, the contractor will conduct frequent inspections along the drills path above the location of the drill bit to look for inadvertent returns. Should an inadvertent return occur in an upland area, the drilling operation will be stopped and proper BMPs (e.g. sand bags, hay bales, or silt fencing) will be used to contain the drilling mud within as small an area as possible until it solidifies or a vac truck can arrive to pump mud from the inadvertent return. Should an inadvertent return occur immediately adjacent to or within a wetland or waterbody, the drilling operation will be stopped upon discovery and a drilling plan will be developed to prevent or minimize the potential for additional inadvertent returns prior to restarting the HDD operations. Additionally, the Contractor will insure the following items are available to the HDD drilling crews for containment, response, and cleanup of an inadvertent return.

Available On-Site	Available Within Two Hours
<ul style="list-style-type: none">• MSDS for drilling mud and additives	<ul style="list-style-type: none">• Frac tank or mud pit for excess mud
<ul style="list-style-type: none">• Hay bales	<ul style="list-style-type: none">• Vacuum truck
<ul style="list-style-type: none">• Silt fence	<ul style="list-style-type: none">• Silt curtain/absorbent booms
<ul style="list-style-type: none">• Sand bags	<ul style="list-style-type: none">• Light towers for work at night
<ul style="list-style-type: none">• Plastic sheeting	<ul style="list-style-type: none">• Heavy equipment, such as backhoe or dozer, for containment and cleanup
<ul style="list-style-type: none">• Shovels, brooms, appropriate hand tools	
<ul style="list-style-type: none">• Generator, pump, and hose	

RESPONSE ACTIONS

In the event of an inadvertent return the following actions will be taken.

- The drilling contractor will immediately halt drilling activities and will minimize drill rig activities to only what is necessary to prevent loss of the hole.

- The drilling contractor will notify the On-site Supervisor and the Environmental Inspector.
- Magellan will promptly notify the Minnesota Pollution Control Agency (MPCA) within an hour after the discovery of the incident.
- Locate the inadvertent return and determine best tactic to contain the drilling mud.
- Install the containment measures.
- Begin recovery of the drilling mud.
- If the inadvertent return cannot be controlled and contained, the drilling contractor should suspend drilling operations until appropriate containment is in place and a drilling plan has been developed to minimize additional inadvertent returns.
- If an inadvertent return occurs at or near a creek/river:
 - Magellan environmental staff will promptly notify the appropriate regulatory authority.
 - Utilize appropriate containment measures to contain and recover the drilling mud.
 - Minimize impacts to adjacent vegetation along creek/river banks.
 - Remove affected debris; smooth and revegetate any disturbed areas.