

**RFI 051
Pebble Project EIS**

Request for Information

Title/Subject:	HDD Water Handling
Requestor:	Nancy Darigo, AECOM
Date Transmitted:	6/22/18
Recipient:	Pebble Limited Partnership
Response Requested by:	7/09/18
Rationale:	There is limited information in the December 2017 Project Description regarding the proposed HDD drilling plan for the eastern end of the pipeline on Kenai Peninsula. Previous HDD questions in RFI 011 focused on the HDD layout. As the HDD would intersect aquifers used by several private wells in the area, the information is needed to assess impacts to groundwater flow, groundwater quality, and potentially uplands resources (surface water quality, soils, wetlands, vegetation).
Describe the Information Requested and Level of Detail:	<ol style="list-style-type: none"> 1) How would groundwater be handled during drilling? Would dewatering and aboveground water containment be necessary? If so, provide information on pumping rates and storage volume needed. 2) Would groundwater, drilling fluid, or other water used in drilling be discharged aboveground? If so, provide information on proposed treatment and disposal method, location, and energy dissipation. 3) Describe the type and chemical content of drilling fluid that would be used. 4) Provide a description of proposed hole conditioning, and whether pressurization is anticipated that could result in injection of drilling fluid into the aquifers. 5) Provide location and method for cuttings and drilling fluid disposal.

Recipient Response Form

Date Received from USACE:	6/22/2018
Response from Recipient (Describe Information Requested to the Level of Detail Requested; Provide Attachments as Needed):	<ol style="list-style-type: none"> 1. Dewatering of the local groundwater will not be required for the drilling. 2. Drilling fluid from the HDD operations would not be discharged above ground. Excess returns would be circulated through tanks and run through a separation system to remove the cuttings from the fluid. The cleaned fluid would be re-injected into the HDD borehole or stored in tanks for later disposal at an approved facility. 'Dry' soil cuttings would be disposed of at an approved facility. 3. Drilling fluid is typically composed of only water and bentonite. Any other additives that might be required would be selected and used in compliance with the Alaska Department of Environmental Conservation General Permit AKG320000 – Statewide Oil and Gas Pipelines. 4. Drilling fluid is injected into the HDD bore under pressure. This is required to force cuttings from the drill bit to the surface where they can be separated from the drill fluid. It is possible for drill fluid to travel short distances from the HDD bore due to this pressure. Drilling fluid returns are closely monitored during HDD operations to check that excessive drill fluid loss is not occurring. The drilling specifications and mud plan developed during detailed engineering will provide specifications to avoid the potential for injection of drilling fluid into aquifers. If this is observed during operations, then drilling operations are discontinued until the issue can be resolved per pre-approved procedures. Typical procedures may include lowering drill fluid pressure, adjusting mud viscosity, and adding lost circulation material – for example shell husks – to the drilling fluid to reduce fluid loss and minimize formation erosion at the loss point. 5. Drill fluid and soil cuttings will be disposed of at an approved facility per applicable local, state, and federal regulations. An example of an existing

	vendor that may provide these services on the Kenai Peninsula is M-I SWACO, which operates a drilling fluid processing facility in Nikiski.
List Number and Type of Response Attachments:	None
Date Returned to USACE:	7/13/2018

AECOM Intake Form

Date Response was Received:	7/13/2018
Received by:	Bill Craig, AECOM
Describe any Follow-up Related to this RFI:	None