STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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Brad Little, Governor
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March 20, 2020

By e-mail: Afuson@idl.idaho.gov

Amidy Fuson
Idaho Department of Lands
3258 W. Industrial Loop
Coeur d'Alene, ID 83815

Subject: Howard Rude Application to Dredge on the Spokane River – L95S4916E

Dear Ms. Fuson:

Idaho Department of Environmental Quality (DEQ) has reviewed the application to dredge the Spokane riverbed and we offer the following comments and concerns:

1. Potential direct and indirect effects of proposed activity to water quality

The Spokane riverbed sediments contain various metals, including lead and zinc, in heterogeneous mixtures. This contamination is the result of legacy mining impacts to the watershed, upstream of the proposed project site. According to DEQ's 2016 Integrated Report[1], the Spokane River, at the proposed project site, is not supporting its beneficial use for cold water aquatic life. Lead, phosphorus, and zinc are identified as causes of impairment.

The proposed dredging activity identified in the application will result in mobilization and redistribution of sediment particles known to have elevated concentrations of lead. Preliminary sediment sampling results reported by the applicant's consultant, Allwest Testing & Engineering (Limited Environmental Site Evaluation [LESE], June 18, 2019) indicate elevated lead levels within a depth of five feet at the proposed project site, with concentrations ranging from 108 to 1190 mg/kg. The LESE did not include analyses of sediment samples for zinc, but sediments at the project area likely contain elevated zinc concentrations due to continual transport and deposition of contaminated sediments from the Coeur d'Alene watershed[2]. The US Geological Survey (USGS) and the

[1] DEQ (Idaho Department of Environmental Quality). 2018. *Idaho's 2016 Integrated Report*. Boise, ID: DEQ.

[2] URS Group and CH2M Hill. 2004. *Coeur d'Alene Basin Environmental Monitoring Plan*. Olympia, Washington: US EPA. 095-RI-CO-102Q.

Washington Department of Ecology have reported high concentrations of zinc and other metals in Spokane River sediments[3][4].

When inundated, the disturbed riverbed may result in violations of the Idaho Water Quality Standards, including but not limited to water quality criteria for metals (IDAPA 58.01.02.210), turbidity criteria for the protection of cold water aquatic life (IDAPA 58.01.02.250.02.e), and the prohibition on unauthorized point source discharges to waters of the State (IDAPA 58.01.02.400.01.b). Dredging the riverbed in dry conditions would leave unconsolidated sediments containing metals and nutrients more readily available for suspension and mobilization when the water level rises to summer elevation. These unconsolidated pollutants would be more likely to dissolve into the water column than if they had remained in place, and may also be more available for biological uptake. The application proposes no measure intended to stabilize, compact, or re-grade disturbed and unconsolidated sediments post-construction in order to mitigate suspension and mobilization with rising water levels.

2. Absence of comprehensive BMPs

In addition, the lack of comprehensive best management practices (BMPs) for the proposed project raises concern about the applicant's ability to comply with requirements such as water quality standards for hazardous and deleterious material storage (IDAPA 58.01.02.800), hazardous material spills (IDAPA 58.01.02.850), and petroleum releases (IDAPA 58.01.02.851 to .852). The application does not propose BMPs that protect water quality during unforeseen changes in water surface elevation. The fluvial mechanics of this system are dynamic and rain-on-snow events are not uncommon during the winter (low pool) months. As evidenced by long-term USGS flow data, precipitation events during the proposed January through February work window can result in a dramatic increase in discharge, and a consequential rapid (i.e., within hours) rise in water elevation, often without notice (see Figure 1 for one example in 2018). In the Coeur d'Alene basin, the annual hydrograph is characterized by a snowmelt-dominated system with peak flows normally occurring through May (see Figure 2). In the elevation range of 900–1,400 meters (m) (3,000–4,500 feet), winter "rain-on-snow" events occur that cause peaks in discharge that may exceed those observed during snowmelt in the spring months. Such high flows have potential to inundate the project site and could move large amounts of unconsolidated and disturbed sediment from the project site.

The applicant proposes to work over 5-10 business days, January through February. Rain-on-snow events are possible in that timeframe. BMPs intended to prevent, minimize, or mitigate an inundation event resulting from a rapid rise in water elevation at the project site are not proposed in the application. Silt fences are the only proposed structural BMPs for preventing pollutants from moving into the river, and they are proposed to be installed within feet of the low water level. However, such silt fences are not an appropriate BMP for preventing project site inundation, and may not function properly during high flow. In the event of a rapid water level rise, disturbed sediments could leave the project site and move into the river at turbidity levels that exceed Water Quality Standards (see IDAPA 58.01.02.250.02.e). The application does not propose measures for evaluating the project's impact on turbidity in the water adjacent to the project site. Turbidity would need to be measured, and water samples analyzed for metals, if a visible plume of sediment can be seen in the Spokane River resulting

[3] Box, S.E. and J.C. Wallis. 2002. *Surficial geology along the Spokane River, Washington and its relationship to metal content of sediments*. Spokane, Washington: USGS. 02-126.

[4] Johnson, A. 1999. *Metals Concentrations in Spokane River Sediments Collected with USGS in 1998*. Olympia, WA: Washington State Dept. of Ecology. Ecology Report 99-330.

from the proposed project. A monitoring plan should be submitted to DEQ, as well as a sampling plan for metals.

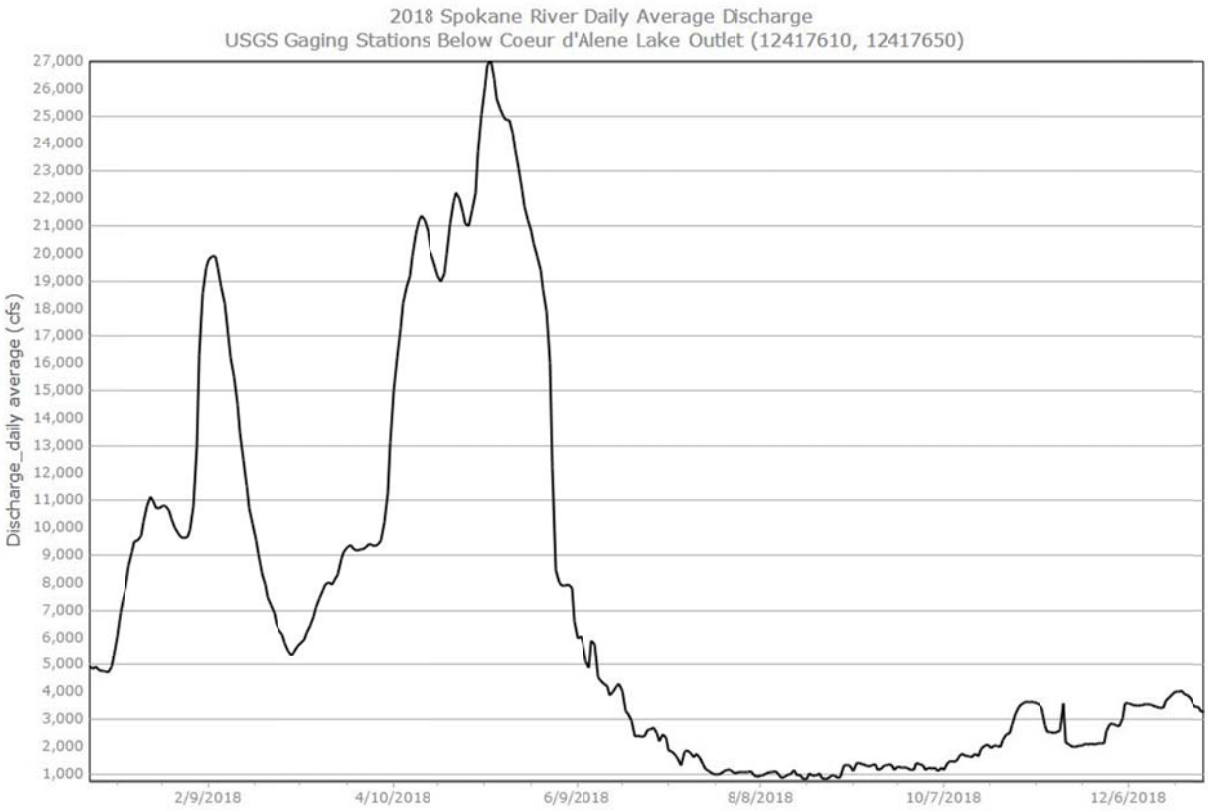

Figure 1. USGS Hydrograph, Spokane River below Coeur d'Alene Lake Outlet, 2018.

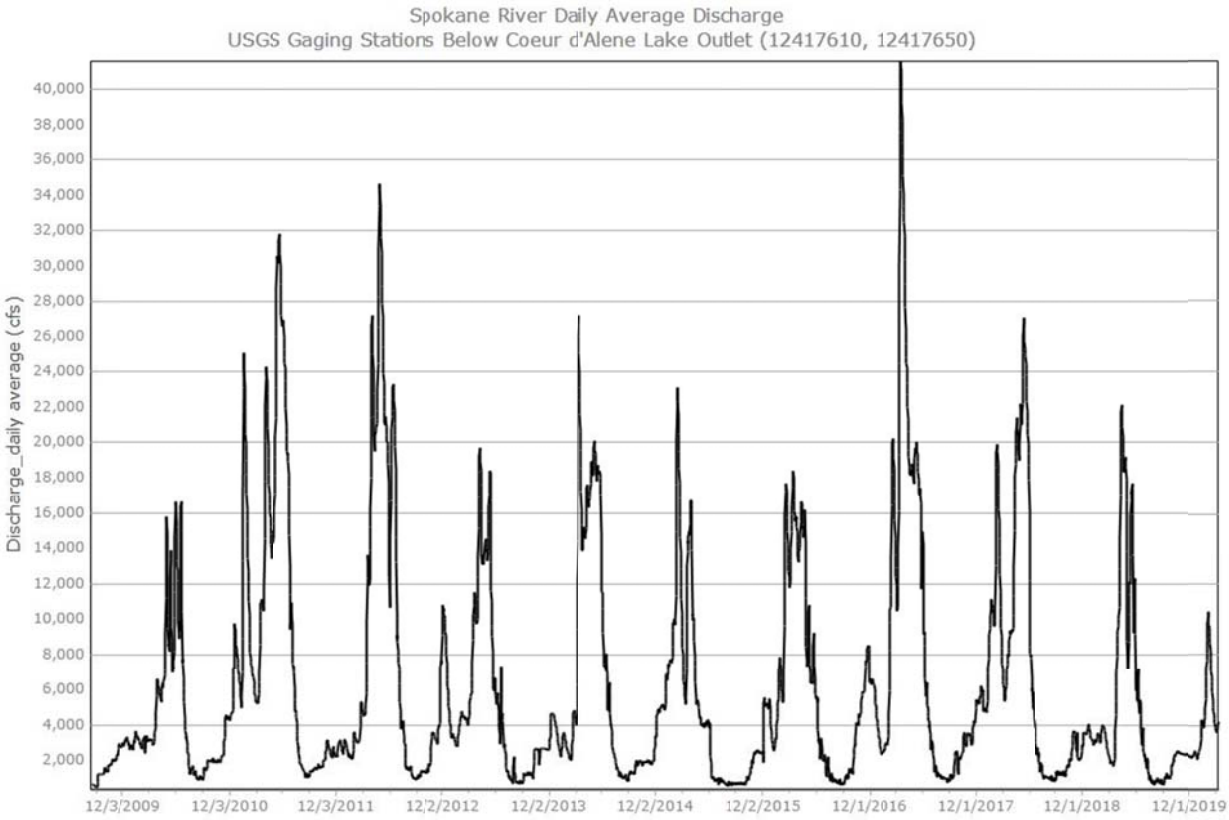

Figure 2. USGS Hydrograph, Spokane River below Coeur d'Alene Lake Outlet, 2009-2020.

The applicant should be required to demonstrate how the project will minimize shoreline disturbance when excavation activities and movement of heavy equipment is in progress, and indicate how shoreline disturbance will be mitigated for post-construction, e.g., re-seeding or re-planting vegetation.

Containment to prevent the release of hazardous materials and petroleum products and spills from equipment should be implemented for this project. Consistent with IDAPA 58.01.02.800, equipment working within the project area should be contained, checked, and maintained such that no petroleum products or other hazardous or deleterious materials are released within the project site or into nearby water. The applicant is responsible for complying with the Idaho Water Quality Standards, including but not limited to the standards for hazardous material spills and petroleum releases (IDAPA 58.01.02.850 to .852).

3. Proposed footprint of excavation

In addition to our concerns regarding dredging sediments in this reach of the Spokane River, the application does not explain why the proposed work cannot be limited to a smaller footprint and volume than the 625 cubic yards currently proposed. DEQ requests additional justification for the necessity to dredge (and in the future, maintain) an additional channel (i.e. cross-sections C-C, D-D, and E-E on the aerial photographs) rather than maintaining the existing dredged channel (i.e. cross-sections A-A and B-B). Note that the January 2005 Army Corps of Engineers Permit and DEQ 401 Water Quality Certification cited in the application were for a separate encroachment to stabilize the

shoreline and did not authorize dredging a channel for access. Thus, DEQ has not previously certified dredging activities for individual access in the vicinity of the project site.

Access to the river already exists via the existing dock. It does not appear necessary to provide additional boat access to the shoreline and dock, and the application does not explain the basis for the proposed project's asserted environmental, social, and economic benefits. Alternatives to dredging in this location should be considered.

4. Management and disposal of contaminated Spokane River sediments

In Idaho, the Federal Resource Conservation and Recovery Act (RCRA) and the Idaho Hazardous Waste Management Act (HWMA) regulate the management of soils, sediments, and wastewater determined to be hazardous waste. EPA Regional Screening Level (RSL) values are used to classify whether constituents that may not rise to the level of hazardous are still considered contaminated. Each classification has specific regulatory requirements for management and disposal depending on whether the constituents are representatively determined to be inert or below regulatory concern, contaminated or hazardous. The Idaho Administrative Code further defines these rules and regulations regarding constituents that may be regulated under Solid Waste Rules, IDAPA 58.01.06 and/or Rules and Standards for Hazardous Waste, IDAPA 58.01.05 and/or Water Quality Standards, IDAPA 58.01.02. As outlined in 40 C.F.R. § 262.11, the applicant will need to make a hazardous waste determination on each waste stream generated and that determination must be based on a representative sample of the waste stream (40 C.F.R. § 260.10). In the proposed application, the applicant does not indicate how dredged soils will be managed in accordance with the applicable rules and regulations, or how representative sampling will occur. To ensure compliance with the applicable rules and regulations, the applicant could submit a site work plan and Quality Assurance Project Plan (QAPP) for DEQ approval, prior to beginning any work. The QAPP would need to identify how the sediment, soil, and wastewater would be characterized and representatively sampled as well as how it will be stored (temporarily or indefinitely) and maintained through the life of the project.

Preliminary results reported by the applicant's consultant, Allwest Testing & Engineering (June 18, 2019), indicate exceedances of the EPA-RSL screening levels for "RCRA 8" pollutants of concern in these soils, specifically arsenic and lead. No additional testing was done to determine whether these contaminated soils qualify as hazardous. The stated limitations on the testing that was performed indicate that the reported results may not be representative of the sediment that will be dredged from the project area. Additionally, in these preliminary results, the values identified by the consultant for EPA-RSL screening levels appear to be in error. Industrial soil screening values are listed instead of the applicable residential soil screening levels.

The application also does not identify permitted RCRA Subtitle C facilities able to accept sediments, soils, and any wastewater that are above RCRA levels, or those which are not above RCRA levels but are considered contaminated based on EPA-RSLs. Transportation and disposal of such wastes can be costly, and the application does not demonstrate that the applicant has adequately evaluated appropriate transport and disposal options. The application does not describe whether consultation with DEQ's Waste and Remediation Division has or will occur regarding hazardous waste management and disposal. The applicant is responsible for complying with all laws and regulations applicable to the proposed project, including laws and regulations for the transport and disposal of any waste generated by the proposed dredging.

5. Need to dredge indefinitely

The location of the proposed project is in an area where fine sediment has been accreting for decades and fluvial processes are likely to fill dredged areas again. Thus, continual maintenance, and associated disturbance of contaminated sediment will be required.

DEQ finds no clear environmental, economic, or social benefit to the public resulting from the work proposed in the application. On the other hand, environmental risk is apparent for the reasons discussed in this letter. There is no basis for the applicant's claim that sediment removal in this location would "restore the flow regime" or reduce the potential for erosion along the riverbed and banks. To the contrary, sediment from upstream will inevitably continue to naturally accumulate in this depositional area, which will fill the proposed channel and require continual maintenance dredging in order to maintain desired access at this location. This continuing need to dredge actually creates additional future risk for degradation or impairment of beneficial uses. Adding to this, localized boat traffic post-dredging could cause localized erosion and turbidity, which could further contribute sediment, nutrients, and metals into the Spokane River by mobilizing sediment disturbed by the proposed work.

6. Cumulative effects of dredging and shoreline access for individual/personal access to the Spokane River

This project may set precedent for future permitting of similar projects in this reach of the Spokane River. DEQ is concerned multiple dredging projects along the banks of the Spokane River for individual boat access could have unacceptable cumulative effects on water quality in the Spokane River through time, especially given recent and projected population growth in the Coeur d'Alene urbanized area.

IDAPA 20.03.04.015.11.b. states, "An excavated or dredged channel or basin to provide access to navigable waters must have a clear environmental, economic, or social benefit to the people of the state, and shall not result in any appreciable environmental degradation. A channel or basin shall not be approved if the cumulative effects of these features in the same navigable lake would be adverse to fisheries or water quality." (underline added)

Further, IDAPA 20.03.04.015.11.c. states, "Whenever practical, such channels or basins shall be located to serve more than one (1) littoral owner or a commercial marina; provided, however, that no basin or channel will be approved that will provide access for watercraft to nonlittoral owners."

As proposed, this project does not provide access for more than one littoral owner. This raises the possibility that adjacent littoral owners who wish to dredge for private access will have to dredge yet another channel. The applicant claims that this work will reduce costs associated with stabilizing streambanks and mitigating damage to aquatic species. However, the application does not substantiate these claims. As currently proposed, there are no clear environmental, economic, or social benefits resulting from this activity. Contrary to what the applicant claims, increases in boat traffic are likely to continue causing erosion, shoreline instability issues, and mobilization of contaminated sediment, particularly if this project sets precedent for more like it to be permitted in the future.

The proposed work is not consistent with watershed improvement actions DEQ, local municipalities, and other stakeholders are currently taking to reduce metals loading to this impaired reach of the Spokane River. Because the designated aquatic life uses of the Spokane River are currently impaired

by lead and zinc, the Clean Water Act and the Idaho Water Quality Standards require regulatory measures aimed at reducing the load of these metals in the Spokane River. For example:

- The Hayden Area Regional Sewer Board and the City of Post Falls Wastewater Treatment Plants (WWTP) have effluent limits for lead and zinc regulated under the EPA's National Pollutant Elimination System (NPDES) program. The City of Coeur d'Alene WWTP has effluent limits for zinc. All three WWTP NPDES permits require end-of-pipe monitoring of effluent once a month for total recoverable lead and zinc.
- Stormwater runoff discharged from municipal separate storm sewer systems (MS4s) to the Spokane River is also regulated under NPDES. The Cities of Post Falls and Coeur d'Alene are required to develop and implement a Storm Water Management Program for their MS4 permits, designed to reduce the discharge of pollutants from the MS4 *to the maximum extent practicable*, and to protect water quality in the receiving water body. Total lead and total zinc are identified as impairment pollutants in these permits.

DEQ is also currently developing a Total Maximum Daily Load (TMDL) for lead and zinc to address impairment through adoption of pollutant allocations. While this TMDL has not yet been finalized or approved by the EPA, it is anticipated that the TMDL will likely not include allocations for lead and zinc loading from dredging activities.

Thank you for the opportunity to comment on this permit application. If you have any questions about our comments please call me at (208) 769-1422.

Sincerely,

Chantilly Higbee
Water Quality Compliance Officer
Idaho Department of Environmental Quality
Coeur d'Alene Regional Office

c: Mike Ahmer, Idaho Department of Lands
Shane Slate, Army Corps of Engineers
Loren Moore, Idaho Department of Environmental Quality