AVISTA CORPORATION

2020 TO 2024
WATER QUALITY IMPROVEMENT AND EROSION CONTROL PLAN

IDAHO 401 WATER QUALITY CERTIFICATION,

APPENDIX A, SECTION III

Post Falls Hydroelectric Development
Spokane River Hydroelectric Project
FERC Project No. 2545

Prepared By:
Avista Corporation

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1.0 INTRODUCTION

1.1 Background

On June 18, 2009, the Federal Energy Regulatory Commission (FERC) issued a new License for Avista Corporation's Spokane River Project, FERC Project No. 2545-091 for a 50-year license term. The License became effective on June 1, 2009 and includes operation of the Post Falls Hydroelectric Development (HED) in Idaho. Ordering Paragraph D of the License incorporated the Idaho Department of Environmental Quality's (IDEQ) Section 401 Water Quality Certification (Idaho WQC) for the Post Falls Hydroelectric Development. The conditions of the Idaho WQC can be found in Appendix A of the License.

Section III of the Idaho WQC required Avista to complete the initial, five year, *2010 To 2014 Water Quality Improvement and Erosion Control Plan*, (2010 - 2014 Plan) which identified and prioritized actions to protect and improve water quality associated with the Post HED. Upon FERC's October 13, 2010 Order (2010 Order), Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development (Appendix A), Avista began implementing the 2010 - 2014 Plan.

In accordance with the 2010 Order, Avista developed the *2015 To 2019 Water Quality Improvement and Erosion Control Plan* (2015 – 2019 Plan). Upon FERC's September 16, 2014 Order (2014 Order), Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development, Avista began implementing the 2015 - 2019 Plan.

In accordance with the 2010 and 2014 Orders, Avista is required to submit a new five year plan to IDEQ, Idaho Department of Fish and Game (IDFG) and U.S. Fish and Wildlife Service (FWS) for review and comment by June 1. Following IDEQ's approval, the new five year plan is then to be filed with FERC by August 1, starting 2014, and every five years thereafter. This *2020 To 2024 Water Quality Improvement and Erosion Control Plan* (Plan), includes the activities to be conducted during the next five-year timeframe, 2020 to 2024, and is based upon consultation and collaboration with IDEQ, IDFG, and FWS.

1.2 Post Falls HED

The Post Falls HED includes three dams located on the Spokane River approximately nine miles downstream from the outlet of Coeur d'Alene Lake. Coeur d'Alene Lake is a natural lake created by a natural channel restriction, with the outlet serving as the headwaters of the Spokane River. The Post Falls HED's Project boundary encompasses the Spokane River upstream of the Post Falls Dams, Coeur d'Alene Lake, and the lower 30 miles of the Coeur d'Alene and St. Joe Rivers and 9 miles of the lower St. Maries River (Figure 1) at the normal full pool water elevation of 2,128 feet.

The Post Falls HED influences water levels in Coeur d'Alene Lake and the lower reaches of lake's tributaries from early summer through late fall. The summer lake level is held at the 2,128 foot elevation. During the winter and through most of the spring run-off season the water elevations are controlled by Coeur d'Alene Lake's natural channel restriction, not by the HED.

2.0 FUNDING

In accordance with Section III.D. of the Idaho WQC, Avista shall make $75,000 available on an annual basis to implement the approved Plan. Implementation of this Plan and expenditure of funds for specific projects are governed by Section VIII.A. of the Idaho WQC. Sections III and VIII of the Idaho WQC are included as Appendix B.

3.0 LIABILITY

The Bunker Hill Mining and Metallurgical Complex Superfund (Facility) includes mining-contaminated areas with lead being the primary contaminant of concern and additional contaminates of concern including arsenic, cadmium, and zinc. Sediments are the primary contaminated material in the Lower Basin, and as a result, through the implementation of Section III of the Idaho WQC, it is likely Avista will become involved in efforts to reduce erosion along the lower Coeur d'Alene River streambanks, especially in areas with elevated lead concentrations. At these sites, Avista will limit its activities as necessary to avoid incurring liability for the contamination. For example, Avista will not manage, direct, or conduct any operations related to hazardous substances.

Avista will work out the details of its liability on a site-by-site basis in coordination with the Environmental Protection Agency (EPA), with regard to erosion control efforts in the Coeur d'Alene River.. Although Avista may limit its activities to avoid liability, it will meet its obligations under Section III of the Idaho WQC. In the event that Avista has limited involvement in a project, it may still provide funding for others to implement erosion control projects along the lower Coeur d'Alene River in coordination with groups such as the Basin Environmental Improvement Project Commission (BEIPC), its technical arm, the Technical Leadership Group and the Restoration Partnership.

4.0 EROSION CONTROL GOALS

Erosion control activities will be implemented to protect and improve water quality associated with the Post Falls HED with the goal of reducing sedimentation and nutrient loading in order to improve and protect water quality and beneficial uses. Site-specific erosion control actions are to be identified and prioritized in consultation with IDEQ, IDFG, and FWS. These include riverbank stabilization projects, as well as upland land use projects such as pasture and recreation management activities designed to reduce erosion.

5.0 EROSION CONTROL STUDIES

The following studies are either on-going or have occurred since the approval of the initial Water Quality Improvement and Erosion Control Plan in 2010, and are associated with erosion control evaluations and/or mitigation measures in the Spokane River upstream of the Post Falls Dams, Coeur d'Alene Lake, and the lower reaches of the Coeur d'Alene, St. Joe, and St. Maries Rivers.

5.1 Avista, 4(e) Condition No. 4: Coeur d'Alene Reservation Erosion Inventory and Assessment

Avista and the Tribe conducted the Coeur d'Alene Reservation Lake and Tributary Shoreline Erosion Control Inventory and Assessment (December 2011) during 2009 and 2010 which included an erosion inventory and assessment of all shoreline erosion occurring on lands within the Coeur d'Alene Indian Reservation (Reservation), including shorelines located along the St. Joe River downstream of the City of St. Maries, along the lower portion of Coeur d'Alene Lake, and the pertinent lateral lake shorelines. The Erosion Inventory and Assessment was completed as a requirement of 4(e) Condition No. 4, (Coeur d'Alene Reservation Lake and Tributary Shoreline Erosion Control), within Appendix D of the License.

The total length inventoried along the St. Joe River, within the Post Falls Project area and the Reservation was 169,850 linear feet, of which the Inventory and Assessment classified 124,067 linear feet as eroding. Of this, Avista is responsible for 50% of the total linear feet of all erosion sites on the St. Joe River, which totals 63,130 feet.

Following the development of detailed erosion control designs for six initial sites located on the lower St. Joe River levees, the Coeur d'Alene Tribal Council issued a resolution to implement erosion control, or purchase similar lands, elsewhere within the Reservation.

5.2 Lake Management Plan, 3-Year Nutrient Source Inventory, St. Joe and St. Maries Rivers

As one of the objectives identified to meet the goal of the Coeur d'Alene Lake Management Plan (March 2009), the Coeur d'Alene Tribe (Tribe) and IDEQ initiated a 3-Year Nutrient Source Inventory Water Quality Sampling Work Plan and Quality Assurance Plan ("3-Year Nutrient Inventory Plan") for the St. Joe and St. Maries Rivers in March of 2010. The 3-Year Nutrient Inventory Plan included a short-term water sampling program at six selected locations within the St. Joe and St. Maries Rivers. The goal of the program was to fill data gaps and determine the contributions of the nutrient loads from the St. Maries River and its tributaries relative to loads measured at the mouth of the St. Joe River in previous studies.

The water sampling program was implemented as a coordinated effort between IDEQ and the Tribe; it began in March of 2010, and was completed over a three year timeframe. The nutrient inventory also included a collection and summary of historical and current nutrient data collected

in the watershed. Results of the monitoring identified two subwatersheds in the St. Maries drainage that are the highest contributors of nutrients to the system.

5.3 IDEQ St. Joe Riverbank Erosion Potential Inventory

Starting in 2010, IDEQ conducted a riverbank erosion inventory along approximately 16 miles (32 miles of bank) of the St. Joe River, from the confluence of the St. Maries River to St. Joe City following the Bank Erosion Hazard Index (BEHI) method (IDEQ 2011). Several variables for classifying riverbanks (i.e. bank height, bankfull height, root depth, root density, bank angle, etc.) are measured as part of the inventory to determine riverbank erosion potential and its severity. Riverbank erosion classification types include very low, low, moderate, high, very high, and extreme.

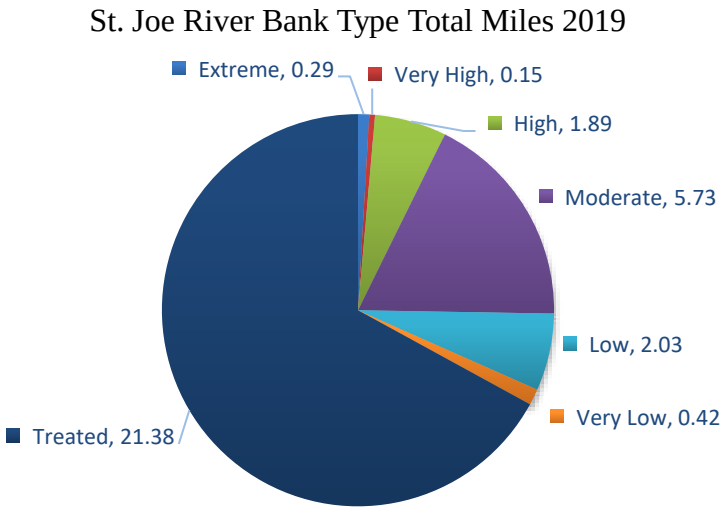
As part of IDEQ's 2010 effort, bank pins were driven horizontally into the riverbank to determine the lateral recession rate (bank erosion) of each bank type. IDEQ revisited the bank pins in the summer, following the spring runoff, and again in the fall, on an annual basis from 2011 to 2014, to measure the erosion rates associated with summer water level erosion. During each visit, the length of the pin exposed was measured and the pin was driven back into the bank. Although the lateral recession rate data is not statistically robust, it helps to validate the bank type classification. The primary objective of the inventory was to classify the erosion potential to help direct future bank stabilization efforts.

Table 1 below and Figure 2 illustrate the total river miles per category of bank type, as updated in 2019. These results do not include erosion control projects completed by the Natural Resource Conservation Service (NRCS) on the St. Joe River from 2014 - 2019. Results to date indicate the following:

- Most of the recent bank stabilization effort has occurred on the high erosion classification potential.
- Sixty-seven percent of the riverbank has received a treatment for stabilization.
- Seven percent has been classified as very low or low erosion potential.
- Twenty-six percent has been classified as moderate to extreme erosion potential.

Table 1: Results of IDEQ's St. Joe Riverbank Erosion Potential Inventory (Further illustrated in the pie chart below Table).

IDEQ Erosion Potential Classification (2019)	Riverbank (miles)	Percent of total (whole numbers)
Treated	21.38	67
Very low	0.42	1
Low	2.03	6
Moderate	5.73	18
High	1.89	6
Very High	0.14	1
Extreme	0.29	1



6.0 PRIORITIZED PROJECTS AND ACTIONS

6.1 Selection Priorities and Evaluation Criteria

The prioritization and evaluation criteria, shown in Table 2, was developed in the 2010 - 2014 Plan, revised in the 2015 – 2019 Plan and the 2020 – 2024 Plan, and will be utilized for all projects and/or activities that will be implemented through this Plan.

Table 2: Prioritization and Evaluation Criteria for Erosion Control Sites.

Prioritization and Evaluation Criteria
High Ranking Criteria
Projects that have a high degree of erosion control urgency
Projects that are consistent with existing plans and are identified as having significant potential for water quality improvement, such as reducing nutrients and temperature, and improving habitat, vegetation, natural channel design and floodplain function.
Projects with multiple partners and/or projects providing significant non-Avista funds (regardless of whether the land is privately or publically owned).
Projects that can be funded within a five-year budget cycle
Medium Ranking Criteria
Projects that are publically owned and/or where public access is secured
Projects with intact cultural artifacts
Projects incorporating bioengineered stabilization designs
Low Ranking Criteria
Filling in gaps between areas where riverbank stabilization has already taken place and has shown effective.

Potential projects will be evaluated and ranked against the above criteria using the Project Ranking Rubric (Appendix C). The rubric is a tool to assist in the project selection process in conjunction with partner dialogue and other project information.

6.2 Collaborative Parties & Project Identification

Avista and IDEQ will coordinate efforts to work with other entities to identify cost share potentials for erosion control projects. The entities include, but are not limited to, IDEQ, IDFG, the Kootenai Shoshone Soil and Water Conservation District (KSSWCD), the Benewah Soil and Water Conservation District (BSWCD), Natural Resources Conservation Service (NRCS), U.S. Forest Service (USFS), FWS, Idaho Soil and Water Conservation Commission, Benewah County, Shoshone County, Kootenai County, the Coeur d'Alene Tribe, and the Coeur d'Alene Basin Restoration Partnership.

This Plan focuses on erosion sites located on the St. Maries, the St. Joe, and the Coeur d'Alene Rivers in an effort to be consistent with the LMP and target the upstream sources of nutrient input to Coeur d'Alene Lake. The Spokane River, in Idaho, provides an additional area of

potential erosion control projects. The following provides the mechanism for which the erosion sites and potential cost share opportunities will be further identified.

Project Identification: Spokane River

Avista will work with IDEQ to identify potential projects located on the Spokane River, in the event one may be identified within the next five years. These projects would be evaluated with the consulting agencies and in accordance with the prioritization and evaluation criteria.

Project Identification: St. Maries & St. Joe Rivers

There are projects in various stages of planning where landowners are seeking to cost share with USDA Farm Bill, or other similar programs, along the lower St. Maries and the St. Joe Rivers (from the town of St. Maries upstream to St. Joe City). IDEQ and others, will consult with staff of the BSWCD and the NRCS Plummer field office to explore three-way cost shares which could leverage funds from a landowner, the Farm Bill, and Avista. In addition, the TMDL Watershed Advisory Group (WAG) for the St. Joe and St. Maries basin may also provide assistance to landowners with eroding riverbank property to participate in cost share opportunities.

Project Identification: Coeur d'Alene River

Avista will work with IDEQ to facilitate coordination on the approximately 60% of riverbanks owned by IDFG for the lower Coeur d'Alene River. Cost share opportunities could be leveraged with the Clean Water Action Section 319 grants (§319 grant), with 60% of the funds from EPA and 40% from Avista. A third-party could be the sponsor of §319 grant applications on the lower Coeur d'Alene River. Proposed projects on the lower Coeur d'Alene River would involve consultation with EPA staff to ensure that these riverbank stabilization projects would not fall under the purview of current or future Superfund Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedies.

Potential projects and measures may be identified by Avista, IDEQ and any of the entities previously identified. They will be evaluated through a collaborative process with these entities and then prioritized and selected according to the prioritization and evaluation criteria identified in Table 2. Summaries of previous work activities and other pertinent information will be used to help determine project effectiveness. Potential erosion control information may include, but not be limited to: the project name; size; location; ownership; current and estimated future extent of erosion; cultural resources and vegetation present; soil type and drainage; and effectiveness of desired erosion control measures. Other relevant information includes the known presence of contaminated sediments, participating partners, planning and management objectives.

It is essential that adequate funding and project oversight to complete any action is available prior to and during implementation.

7.0 EROSION CONTROL IMPLEMENTATION STANDARD METHODS/PRACTICES

7.1 General Site Approach

Sites selected for projects that have acceptable access and/or cooperative management agreements will be mapped and a basic engineering/soil assessment will be conducted to provide site specific characterization for engineering design, permitting, bid, and monitoring documents. However, it should be noted not all sites will need these characterizations as some may already have this type of information documented or it may be deemed unnecessary for the type of work to be conducted. Appropriate riverbank site characterization (including site-specific channel features), mapping, or survey work will be determined by the project designer/engineer.

7.2 Standard Design Methods

Standard and modified NRCS methods have been utilized to guide the design of the erosion control projects, as appropriate, including the following:

- NRCS National Engineering Manual (NEM).
- NRCS National Engineering Handbook (NEH).
  - Part 650, Engineering Field Handbook (Chapters 14, 16, and 18)
  - Part 653, Stream Corridor Restoration Handbook
- NRCS Cultural Resources Handbook.
- NRCS National Environmental Compliance Handbook.

The NRCS has teamed with the local conservation districts (KSSWCD and BSWCD) and hase completed 12 years of review, design, and construction of over 14 miles of bank erosion control projects along the St Joe and Coeur d'Alene Rivers. Their standard design typically includes a rock wedge with live stake plantings which provides both hard armor and vegetation to address the combined influence of boat waves, flood erosion, and the altered vegetation line. Their standard design maybe utilized as a basis for proposed projects.

Moving forward, Avista will focus on incorporation of bioengineered designs and continue to identify sites to demonstrate these alternative design techniques. These alternatives, combined with traditional riprap armoring, and other hard engineering practices, may alleviate system-wide impacts of bank stabilization projects. Consideration will be given to potential increases in downstream erosive forces resulting from potential stabilization projects. Additional NRCS guidance's, specific to Idaho that may be utilized to guide the design of stream bank and shoreline erosion controls include:

- NRCS Idaho Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard – Streambank and Shoreline Protection, 580 and Idaho Construction Specifications.
- NRCS Idaho Operation and Maintenance Worksheet, Streambank and Shoreline Protection.

- NRCS Idaho Documentation Check List, Streambank and Shoreline Protection.
- Idaho Plant Materials Technical Note No. 32 Users Guide to Description, Propagation and Establishment of Native Shrubs and Trees for Riparian Areas.
- Idaho Plant Materials Technical Note No. 38 Users Guide to Description, Propagation and Establishment of Wetland Plant Species and Grasses for Riparian Areas.
- NRCS Idaho, The Practical Streambank Bioengineering Guide.
- NRCS-Idaho, Engineering Technical Note 13, "Design of Rock Weirs".
- NRCS-Idaho, Engineering Technical Note 6, "Design of Dumped Rock Riprap Stream Channel Stabilization".
- NRCS-Idaho, Engineering Technical Note 12, "Design of Stream Barbs".
- NRCS-Idaho, Engineering Technical Note 15, "Incorporation of Large Wood into Engineering Structures".

Design teams, consisting of various partners listed previously, may be utilized in development of alternative approaches. Typically the NRCS standard design for the St. Joe and Coeur d'Alene Rivers does not incorporate large woody debris or large riprap. As such, Avista does not anticipate utilizing these materials as erosion control measures. However, if these materials, or other alternative methods, are determined to be the preferred erosion control method on a specific site, Avista shall consult with the FWS prior to the implementation of those methods. Should consultation with the appropriate resource agencies on the use of large woody debris or large riprap occur, documentation will be included in the subsequent five year summary report.

8.0 SITE SPECIFIC EROSION CONTROL ACTIONS

Avista evaluated high priority sites based on existing knowledge of shoreline erosion occurring within the Coeur d'Alene Lake Basin inside the Project boundary, in addition to consultations with IDEQ, IDFG, FWS, USFS, NRCS, KSSWCD, BSWCD and the Idaho Soil and Water Conservation Commission. Avista then focused erosion control mitigation measures on areas located along the Coeur d'Alene, St. Joe and St. Maries Rivers. These mitigation measures were conducted in cooperation with the other parties' plans to implement erosion control measures. As a product of such focus, over the third five-year work cycle of the License (2020 through 2024), the planned erosion control actions and maintenance of completed erosion control projects are centered on the St. Joe River. Other projects may arise within this five-year work cycle on the St. Maries River, Coeur d'Alene River, or the Spokane River, and will be considered and evaluated according to the priorities of this Plan. Table 3 outlines the upcoming site specific erosion control actions and is followed by a description of each of these actions identified for implementation during the 2020 through 2024 timeframe.

Table 3: 2020-2024 Site Specific Erosion Control Actions

Activity Year(s)	Site Specific Erosion Control Actions Description
2019 - 2020	St. Joe River, Shadowy St. Joe Log Landing Site
2020 - 2024	St. Joe River, Shadowy St. Joe Stabilization, Maintenance and Vegetation Monitoring
2020 – 2024	St. Joe River, BSWCD Section 319 Grant Opportunities
2020 - 2024	St. Joe River, Shadowy St. Joe Log Landing Site Monitoring
2020 - 2024	Education/Outreach
2020 - 2024	Additional Sites as appropriate and agreed upon by the consultation agencies[1]

Notes: (1) = Additional sites may be identified as new information becomes available.

8.1 St. Joe River, Shadowy St. Joe Log Landing Site

The Shadowy St. Joe Log Landing, a demonstration site for future erosion control projects, is located on Avista-owned property in Section 24, T46N R1W, about 11 miles upstream of the city of St. Maries (Figure 3). The project is located within the southeastern corner of the Shadowy St. Joe Site and consists of an approximate 500 foot long timber crib, which was historically used as a log landing. The depth of the river at the base of the timber crib appears fairly deep. Photos showing this site follow.

Photographs of the timber crib at the Shadowy St. Joe Log Landing Site.

The timber crib is eroding over time and is located adjacent to approximately 6,004 feet of recently stabilized shoreline. Should the timber crib have a catastrophic failure it would most likely deposit a large amount of nutrient rich fine sediment into the St. Joe River. Given one of the goals of the Coeur d'Alene Lake Management Plan is to reduce the current amount of total phosphorus loading into the southern portion of Coeur d'Alene Lake, this site is an excellent opportunity to prevent a potentially large sediment load into the St. Joe River, and ultimately the southern portion of Coeur d'Alene Lake.

This site has a high priority ranking based upon the following factors:

- At the March 17, 2014 annual erosion meeting, Avista and the agency partners discussed utilizing this site as a demonstration site using a bioengineered design instead of the standard NRCS design. This project would allow for a side-to-side comparison of two different erosion control measures implemented on the Shadowy St. Joe site. Additionally, the site is immediately adjacent to the recently restored Shadowy St. Joe Wetland Complex located on Avista and IDFG property.
- The project is consistent with existing plans and has significant potential for water quality improvement.
- The project would have multiple partners, namely IDEQ, IDFG, NRCS, and the USFS.
- The project is located on an Avista-owned parcel, is situated between public land, and will continue to provide public access.

The timeline for Shadowy St. Joe Log Landing project has adapted as the project progressed, with construction anticipated to be complete during the 2019 through 2020 winter drawdown.

Table 4: Tasks and Timeframe of completed and future erosion control activities at the Shadowy St. Joe Log Landing Site.

Year	Task No.	Task Description
2016 - 2017	1	Worked with agency partners to further identify a site specific characterization and an analysis of the erosion control measure focusing on a bioengineered design.
2018 - 2019	2	Completed design drawings and specifications.
2017 - 2018	3	Prepared and obtained permit documents.
2019 - 2020	4	Construction to implement the bioengineered erosion control measures.

In 2017, Avista contracted with River Design Group (RDG) to begin site characterization and develop designs and specifications. Following several agency meetings and consultation, final designs were stamped in March 2019. The bioengineered design consists of removing the 500 foot length of crib-wall and excavating 5,260 cubic yards of material to construct a 100-foot wide sloping floodplain bench. Following excavation, 500 feet of bioengineered bank treatment will be installed including toe rock material, coir logs, biodegradable netting, anchoring stakes and willow cuttings placed between soil lifts. Upland of the treatment, the sloping floodplain bench will be roughened with partially buried saw-cut logs and brush to create a natural appearance with approximately 20 percent of the total surface area in each treatment area consisting of furrows and 20 percent consisting of ridges. Both the riparian floodplain and riparian slope will have native containerized plantings installed (Table 5), and the riparian zone, upland staging area and haul route will be seeded with native fescue and wheatgrass. Browse protection fencing enclosures will be placed around planted and seeded areas on the riparian floodplain and riparian slope.

Table 5. Shadowy St. Joe Log Landing anticipated riparian zone containerized plant species, spacing, and quantity plan.

Location	Species		Spacing (ft)	Quantity
Riparian Floodplain	Black Cottonwood	*Populus trichocarpa*	12	21
	Spring birch	*Betula occidentalis*	10	11
	Red Osier Dogwood	*Cornus sericea*	8	29
	Drummond Willow	*Salix drummondiana*	8	23
Riparian Slope	Black cottonwood	*Populus trichocarpa*	15	8
	Blue Elderberry	*Sambucus nigra ssp. caerulea*	15	7
	Creambush Oceanspray	*Holodiscus discolor*	8	23

	Mallow Leaf Ninebark	*Physocarpus malvaceus*	8	23
	Snowberry	*Sumphoricarpos albus*	8	18

RDG will provide a final report summarizing the project and highlighting the bioengineering techniques utilized at this site. Additionally, following the completion of the construction portion of the project, Avista, IDEQ and IDFG will monitor the site to assess erosion control treatment and vegetation success, by means of annual or biannual comparisons at established photo-monitoring locations. Avista will capture the results of this monitoring and assessment, including the performance of the design and vegetation success over time, in the Five Year Summary Report (2020 through 2024).

8.2 Shadowy St. Joe Stabilization Site, Maintenance and Vegetation Monitoring

In November and December 2013, approximately 6,004 feet of riverbank stabilization was completed on the Avista and IDFG, Shadowy St. Joe site. This site is located just downstream of the Shadowy St. Joe Log Landing site (Figure 4). Avista, IDEQ, IDFG, and the Idaho Soil and Water Conservation Commission will continue to monitor the vegetation success at the Shadowy St. Joe site, by means of annual or biannual comparisons at established photo-monitoring locations.

Additionally, success of the erosion control design will be monitored, specifically long term durability. Monitoring will focus on evaluating the stability of the shoreline treatment such as whether the rock is remaining in place, and if not, where in the vertical shoreline it seems to be eroding, build-up of deposited sediment over the rock, and any continued erosion underneath or between the treatment over time.

As part of the riverbank stabilization and wetland restoration work (conducted under Sections III and IV of the Idaho WQC, respectively), Avista and IDFG may plant additional upland vegetation, above the Ordinary High Water Mark (OHWM), to further enhance the riparian plant community at this site. Any upland vegetation planting associated with the riverbank stabilization, wetland restoration, or for both projects, will be completed in coordination with the Wetland and Riparian Habitat group.

8.3 Future Section 319 Grant Cost Share Project

In 2017 BSWCD received a Section 319 Grant to treat a group of private landowner shorelines classified as having “Extreme” eroding riverbanks according to IDEQ’s St. Joe Riverbank Erosion Potential Inventory. The site consisted of nine privately owned parcels that totaled 1,456 linear feet of river bank. Bank treatment consisted of armoring and planting of riparian species. Avista cost shared on this project, with funds provided in accordance with Section III.D. of the ID WQC. Construction was completed by December 2018. Due to the visibility of these sites and the spread of information concerning erosion control cost share opportunities, the BSWCD has

received over twenty inquiries from private landowners on the St. Joe requesting assistance with their eroding shorelines.

In an effort to address this need, the BSWCD is prioritizing and grouping a number of these privately owned parcels into a future, single project. BSWCD is concurrently drafting a second Section 319 Grant application, to be submitted to EPA and IDEQ. BSWCD will work with IDEQ, IDFG, and Avista as it prepares its application to determine whether the Avista ID WQC Section III.D. erosion control funds would be an appropriate cost-share opportunity, . This project would then be evaluated according to the priorities listed in Table 2. An approximate timeline of this process is listed in Table 6.

Table 6. Anticipated timeline of potential BSWCD Section 319 Grant project on the St. Joe River

Year	Task No.	Task Description
2019	1	Section 319 Grant application submitted to EPA and IDEQ by BSWCD and Idaho State Water Conservation Commission
2020	2	Section 319 Grants awarded
2020	3	Obtain design drawings and specifications.
2021	4	Cost share proposal submitted to Avista and collaborating agencies
2021	5	Prepare and obtain permit documents.
2021-2022	6	Construction to implement the erosion control measures.

8.4 Education and Awareness

Avista will participate in education and awareness programs which are led and coordinated by Agencies with regard to determining the best method(s) to increase public awareness of how to reduce bank erosion with minimal impact to downstream properties and maintain or improve fish habitat. This may include vegetation management combined with other appropriate methods. The targeted audience would consist of waterfront property owners, realtors, and other interested persons or groups.

These efforts will be coordinated by IDEQ, within the broader goals of one of the LMP Objectives, to increase public awareness of lake conditions and influences on water quality. Avista will provide financial support with erosion funds established by Section III.D of the ID WQC, to IDEQ as appropriate, for the implementation of the LMP's education and awareness efforts. Educational opportunities may arise from various partners within the Coeur d'Alene basin and will be evaluated for alignment with the aforementioned goals.

During the 2019 annual erosion meeting the group discussed developing a handout designed for new shoreline landowners on the St. Joe River and St. Maries River. The handout would target the frequent turnover of ownership of small shoreline parcels along the St. Joe River as many new waterfront landowners are unaware of ways to prevent erosion and protect water quality. BSWCD will take the lead in developing the handout and will coordinate its efforts with Benewah County concerning potential distribution mechanisms. BSWCD will work with Avista, IDEQ, IDFG and FWS regarding funding for design and printing costs of such educational materials.

Education and awareness efforts may also include holding an agency coordinated tour of the Shadowy St. Joe Stabilization site and the Shadowy St. Joe Log Landing site to educate local landowners and interested members of the public, of the erosion control efforts to date and discuss potential cost-share opportunities. An additional focus of this tour could be to demonstrate the differences in erosion control design and methods between the two sites. Depending on the level of success of the Shadowy St. Joe Log Landing site, it may also be a good opportunity to show land owners who have already contacted the BSWCD, seeking assistance with erosion control, that a bioengineered design is a viable alternative to traditional designs.

8.5 Additional Efforts

It should be noted that due to the multiple avenues of information available, Avista and/or the cooperating agencies may become aware of an erosion control site with a high degree of erosion control urgency. As such, additional sites may be identified as new information becomes available, including results from the following studies/sources.

- IDEQ's LMP, St. Joe Riverbank Erosion and Prioritization Survey and future updates
- IDEQ's identification of cost share opportunities with private landowners, Section 319 grants, USDA Farm Bill Programs, and Avista for project sites along the lower St. Maries River and the St. Joe River from St. Maries upstream to St. Joe City, as well as the Spokane River.
- IDEQ's identification of cost share opportunities on project sites owned by IDFG, located along the banks of the Coeur d'Alene River.
- Additional studies which have not been proposed or identified to date.

9.0 REFERENCES

Avista and Coeur d'Alene Tribe. 2011. Coeur d'Alene Reservation Lake and Tributary Erosion Control Inventory and Assessment. December 14.

FERC. 2009. Order Issuing New License and Approving Annual Charges For Use of Reservation Lands. Project Nos. 2545-091 and 12606-000. June 18.

FERC. 2010. Order Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development – Article 401. Project No. 2545-128. October 13.

FERC. 2014. Order Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development – Article 401. Project No. 2545-128. September 16.

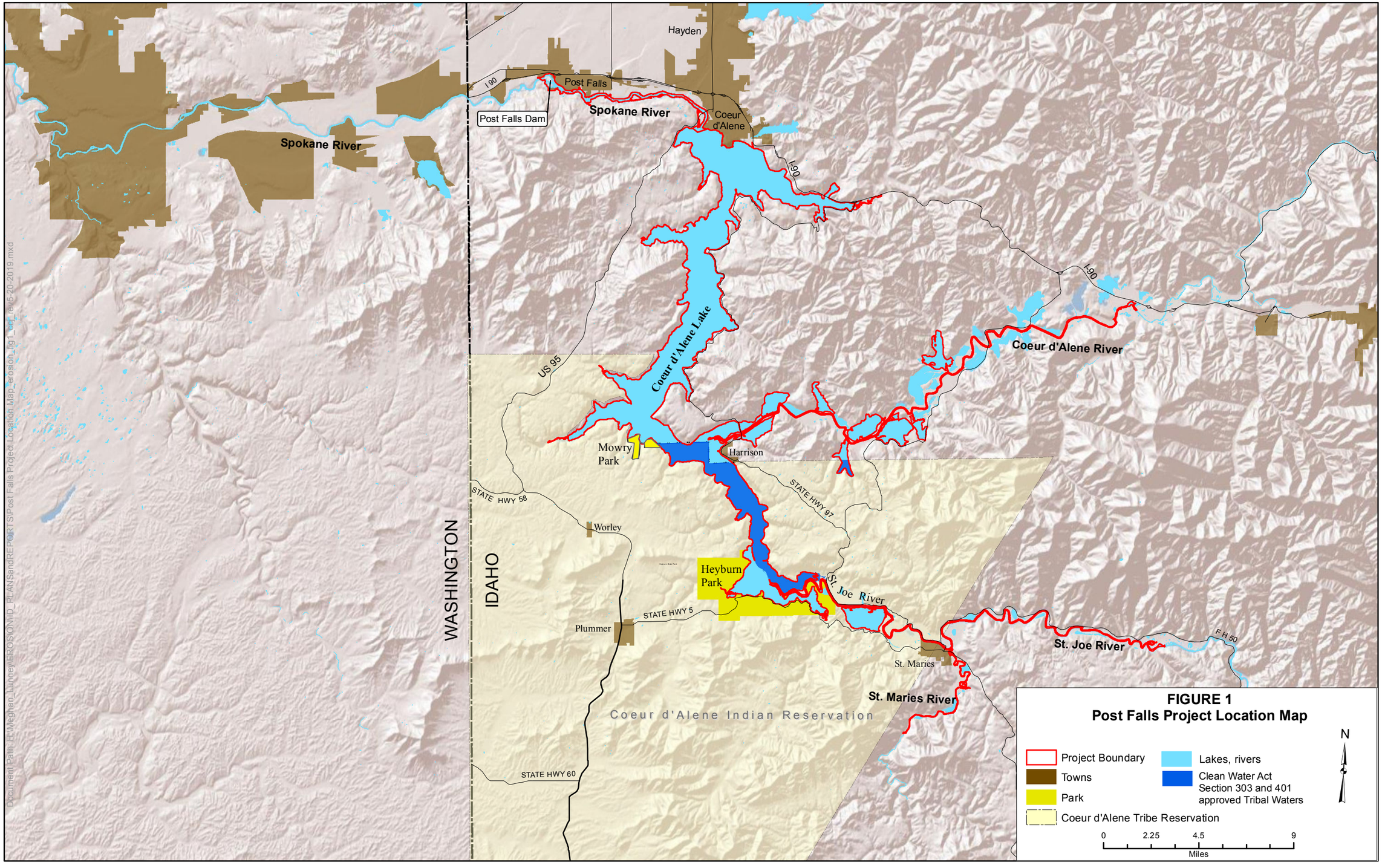
IDEQ. 2008. Idaho Department of Environmental Quality Certification Under Section 401 of the Federal Clean Water Act. June 5.

IDEQ and the Coeur d'Alene Tribe. 2009. Coeur d'Alene Lake Management Plan. March.

IDEQ. 2011. St. Joe Riverbank Erosion Potential Inventory.

NRCS. 2010. Conservation Engineering (CED). NRCS Web Site: http://www.nrcs.usda.gov/technical/ENG/

FIGURES


Hayden
I 90
Post Falls
Post Falls Dam
Spokane River
Spokane River
Coeur d'Alene
I-90
Coeur d'Alene Lake
US 95
Coeur d'Alene River
Mowry Park
Harrison
STATE HWY 58
STATE HWY 97
Worley
WASHINGTON
IDAHO
Heyburn Park
St. Joe River
STATE HWY 5
Plummer
St. Joe River
F H 50
St. Maries
St. Maries River
Coeur d'Alene Indian Reservation
STATE HWY 60
FIGURE 1
Post Falls Project Location Map
Project Boundary
Towns
Park
Coeur d'Alene Tribe Reservation
Lakes, rivers
Clean Water Act Section 303 and 401 approved Tribal Waters
N
0
2.25
4.5
9
Miles
Document Path: K:\Meghan_Lunney\EROSION\ID_PLAN\and\REPORT SI\Post Falls Project Location Map_erosion_fig1_sept_to_6-20-2019.mxd

St. Joe Bank Inventory (2011-2018)

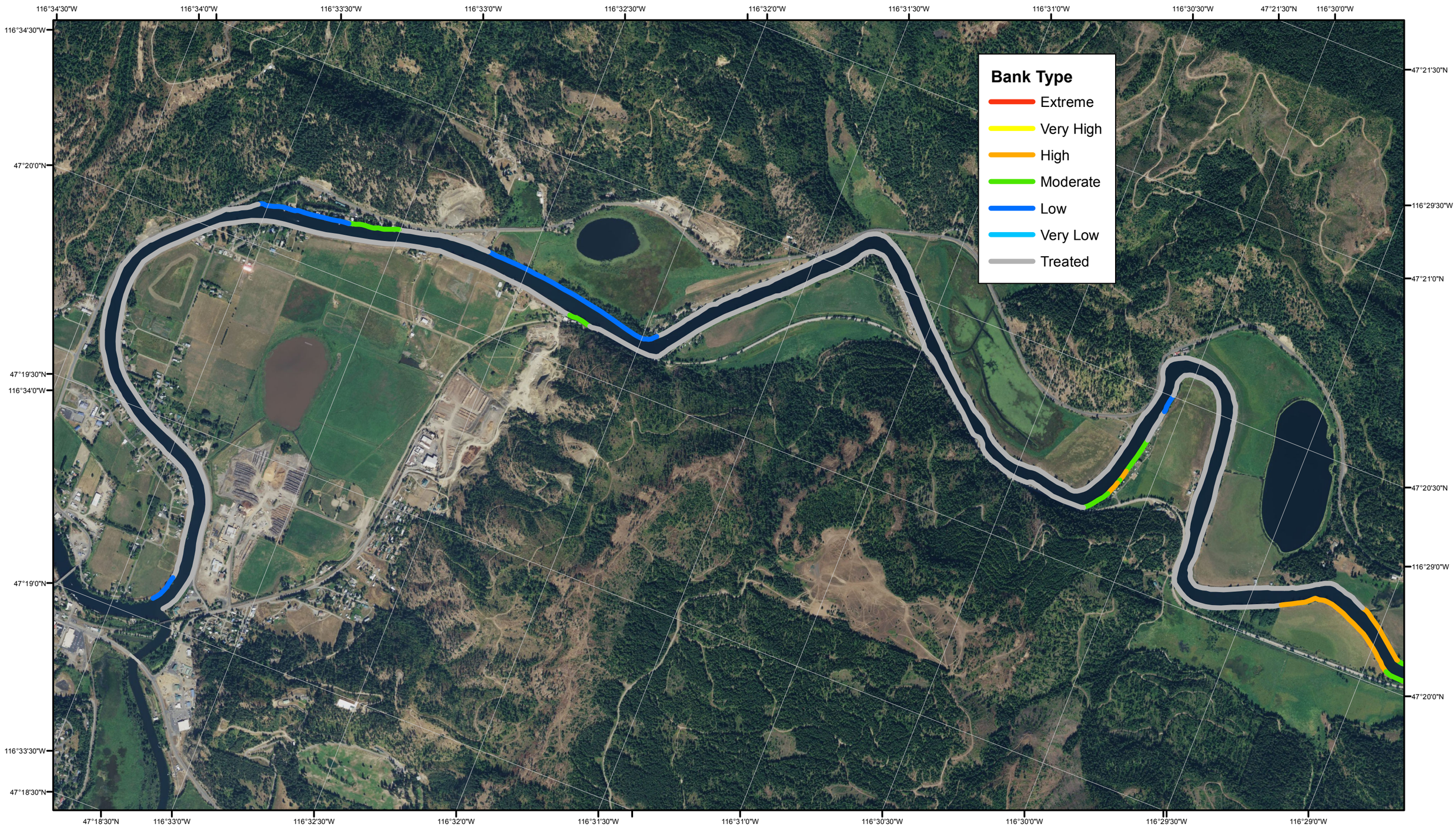


Figure 2a
IDEQ's St. Joe Riverbank Erosion Potential Inventory
Erosion Control Plan, 2020 - 2024

St. Joe Bank Inventory (2011-2018)

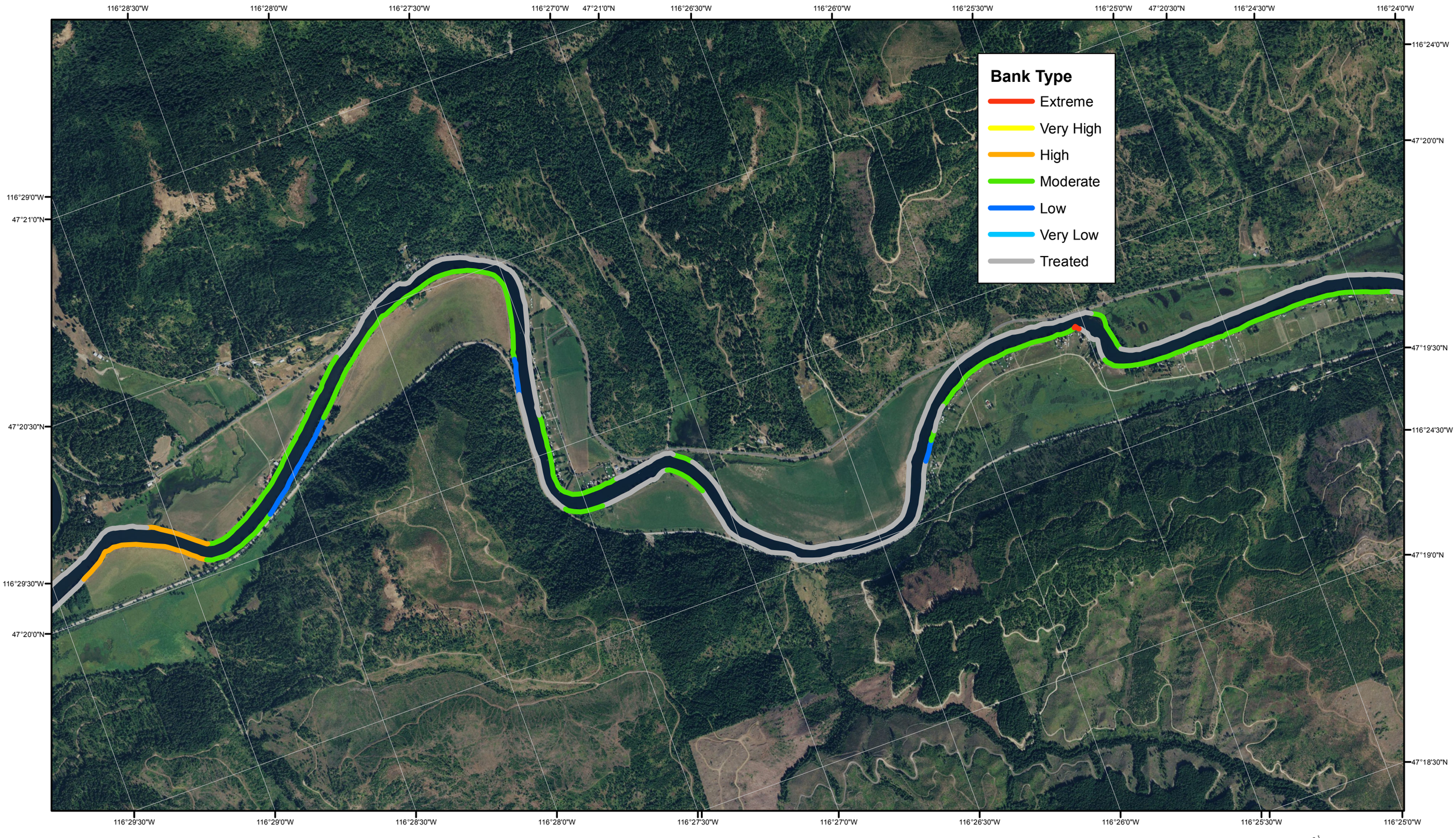


Figure 2b
IDEQ's St. Joe Riverbank Erosion Potential Inventory
Erosion Control Plan, 2020 - 2024

St. Joe Bank Inventory (2011-2018)

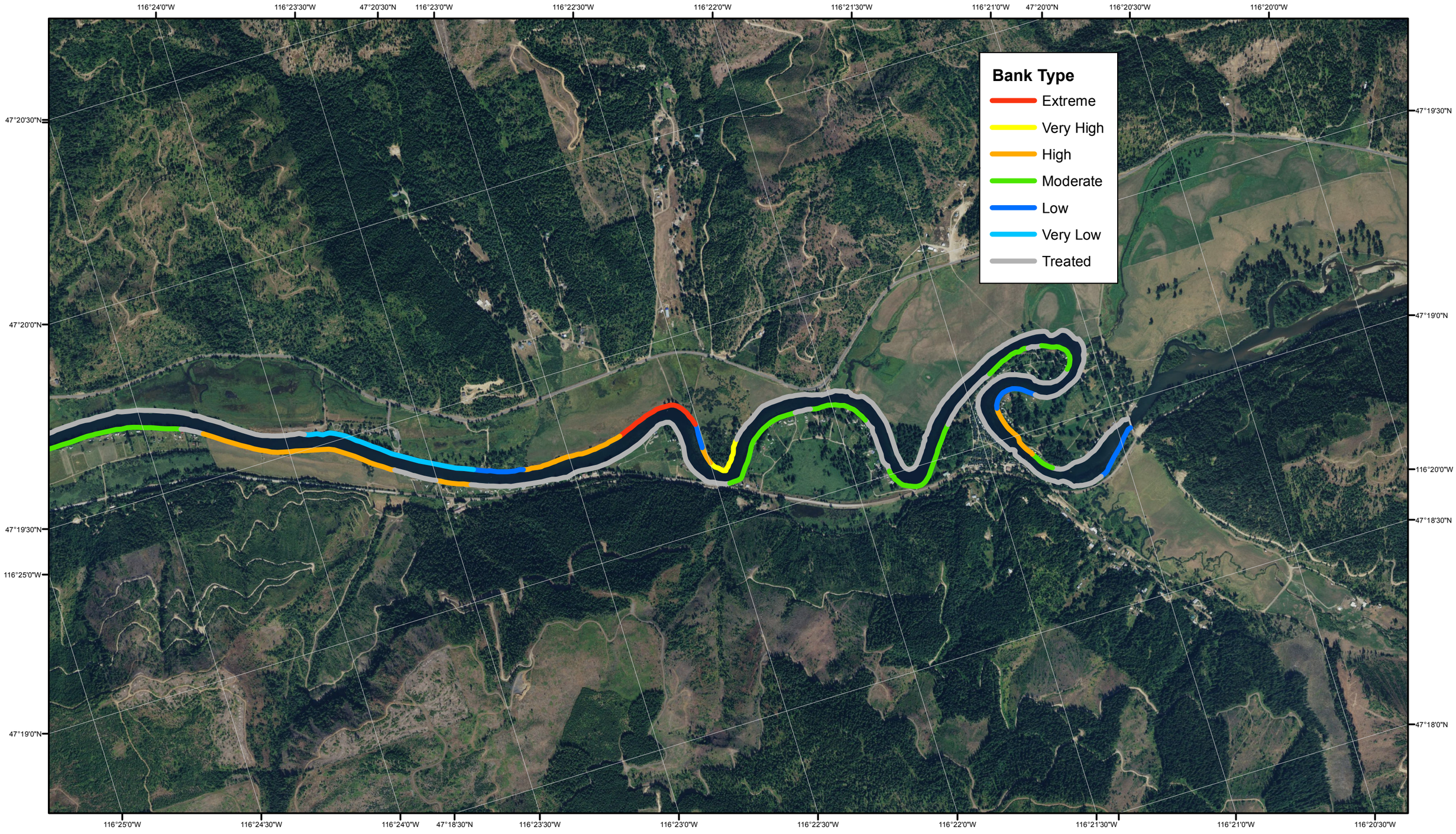
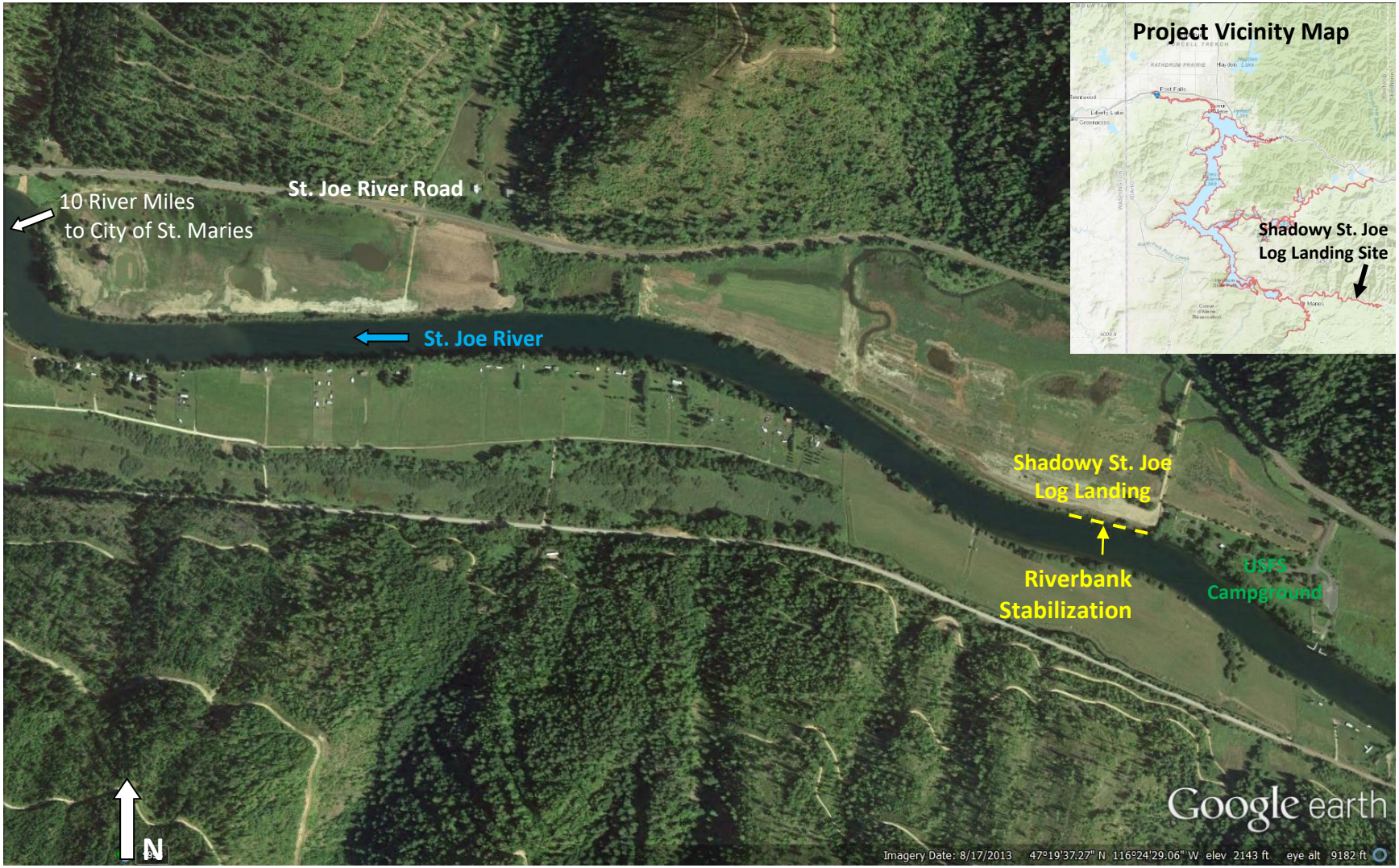


Figure 2c
IDEQ's St. Joe Riverbank Erosion Potential Inventory
Erosion Control Plan, 2020 - 2024



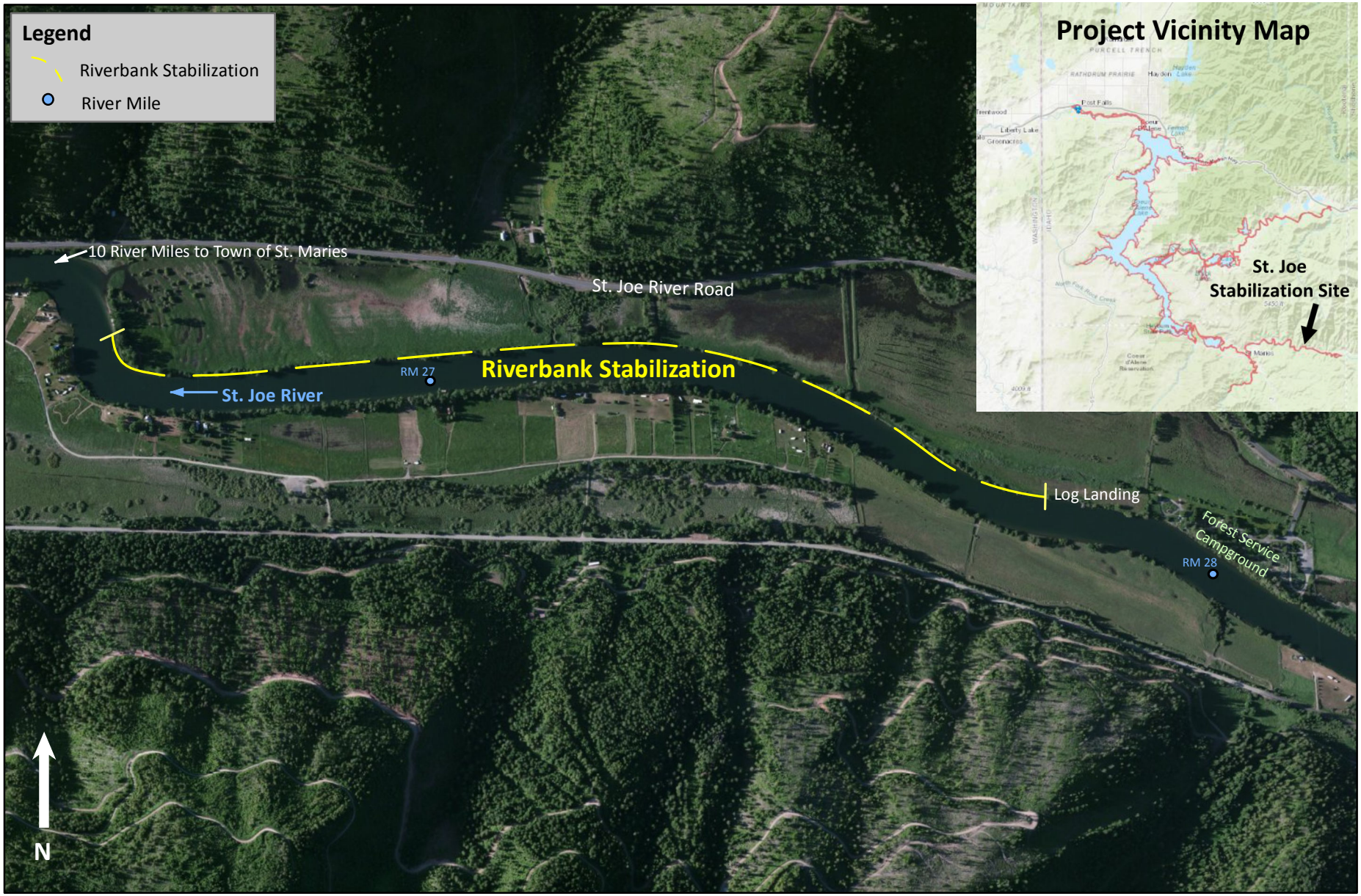
Approximate Scale:

0 1,000 feet

Map Source: Google earth

FIGURE 3

Shadowy St. Joe Log Landing Site Location, St. Joe River
Erosion Control Plan, 2020 - 2024



Approximate Scale:

0 450 900 1,800 Feet

1 inch = 900 feet

FIGURE 4
Shadowy St. Joe Stabilization Site Location,
St. Joe River
Erosion Control Plan, 2020 - 2024

APPENDIX A

A.1. FERC October 13, 2010 Order Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development

133 FERC ¶ 62,043
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Avista Corporation Project No. 2545-128

ORDER MODIFYING AND APPROVING WATER QUALITY IMPROVEMENT AND EROSION CONTROL PLAN FOR THE POST FALLS DEVELOPMENT – ARTICLE 401

(Issued October 13, 2010)

1. On June 11, 2010, Avista Corporation (licensee) filed its Water Quality Improvement and Erosion Control Plan for the Post Falls Development of the Spokane River Hydroelectric Project (FERC Project No. 2545). The licensee filed its plan pursuant to Article 401 of the project license,[1] and condition III of Idaho Department of Environmental Quality's (IDEQ) 401 water quality certificate (WQC) issued for the project.[2] The Spokane River Hydroelectric Project is located on the Spokane River in Spokane, Lincoln, and Stevens Counties, Washington, and in Kootenai and Benewah Counties, Idaho.

LICENSE REQUIREMENTS

2. The project license and WQC, issued by the IDEQ, require the licensee to develop a Water Quality Improvement and Erosion Control Plan. The plan shall identify and prioritize actions to protect and improve water quality associated with the Post Falls Development. The plan shall include site-specific erosion control actions that could be implemented to reduce sedimentation, reduce nutrient loading, or improve water quality and protect beneficial uses.

3. The plan shall identify and describe measures to be implemented during the first five years following license issuance. Every five years after the new license becomes effective, and continuing for the term of the license, the licensee shall update and revise the plan to describe those measures to be implemented within the following five years.

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[1] *See* Order Issuing New License and Approving Annual Charges for Use of Reservation Lands 127 FERC ¶ 61,265 (issued June 18, 2009).

[2] Issued on June 5, 2008, and attached as Appendix A to the project license.

The five year plans shall be submitted to IDEQ for approval. The licensee shall consult annually with IDEQ regarding those measures to be carried out within the year.

4. Every five years, the licensee shall prepare and submit to IDEQ a summary report documenting implementation of the measures described in the plan. The report shall be submitted to IDEQ, within six months of the end of each reporting period. The report shall summarize: the activities conducted under the plan during the preceding five years and the results achieved; the overall results achieved to date; and the general nature of the activities that will be implemented during the next five year period.

5. In addition to preparing the Water Quality Improvement and Erosion Control Plan in consultation with IDEQ, Article 401 requires the licensee to prepare the plan in consultation with Idaho Department of Fish and Game (IDFG) and the U.S. Fish and Wildlife Service (FWS). The licensee shall file the plan, for Commission approval, within one year of license issuance. The filing should include documentation of consultation with the IDEQ, IDFG, and FWS. If the licensee does not adopt an agency recommendation, the filing should include the licensee's reasons, based on project-specific information.

LICENSEE'S PLAN

6. The licensee's plan includes a description of the criteria that will be used to prioritize potential erosion control projects to be implemented under the plan. In addition, the plan identifies past, current, and future erosion control studies, which will be used to identify and select erosion control projects to be implemented. The licensee also describes the process and identifies parties to collaborate with during the implementation of the plan.

7. The plan describes a general approach to site characterization, which will be performed at sites selected for erosion control projects. In addition, the licensee lists many standard methods, which will be used to guide the design of the erosion control measures to be implemented at the chosen sites. Many of the potential erosion control methods are from the Natural Resources Conservation Service (NRCS) and include: rock weirs; bioengineering; dumped rock riprap; stream barbs; and incorporation of large wood into engineered structures. The licensee states that the NRCS has completed a large amount of erosion control projects along the St. Joe and Coeur d'Alene Rivers and that the NRCS's method of rock wedge with live stake plantings will most likely be utilized as the standard approach for erosion control projects under the plan.

8. The proposed plan includes a description of the activities which will be carried out during each of the first five years (2009-2014). Generally, the following activities will continue throughout the five year period on an ongoing basis: identification and prioritization of erosion control project sites; continuation of erosion control surveys and studies; and implementation of specific erosion control projects.

9. Generally, the first two years of the plan would include continuing surveys and studies to identify sites. In the third year the licensee, in cooperation with resource agencies, would implement erosion control measures at the Shadowy St. Joe project. The Shadowy St. Joe is a wetland restoration project on the St. Joe River which has been identified by the licensee and the resource agencies as a very high priority site for erosion control activities. In the fourth and fifth years, the licensee and collaborating parties would continue to identify, prioritize, and implement erosion control projects. Also, in the fifth year the licensee would revise the plan to include those measures to be implemented in the next five year cycle (2014-2019).

10. The licensee's plan includes preparing a summary report every five years, as required by the project license. The licensee states that the reports will be submitted to IDEQ and the Commission by December 1, 2014 (six months after the end of the first five year cycle). In addition, the licensee proposes to update the plan every five years as required by the project license. The next plan would be submitted to IDEQ by June 1, 2014, for review and approval and then the final plan would be filed for Commission approval. The licensee states that it will consult annually with IDEQ regarding implementation of the plan.

COMMENTS AND CONSULTATION

11. The licensee's plan includes documentation of consultation with IDEQ, IDFG, and FWS. One of IDEQ's comments regarding the plan is that it does not support including projects from the Wetland and Riparian Protection and Habitat Enhancement Plan in the Water Quality Improvement and Erosion Control Plan. Although IDEQ supports the inclusion of the Shadowy St. Joe project, it feels that there are sufficient other erosion control projects such that the licensee does not need to use any other projects from the Wetland and Riparian Protection Plan. The licensee responds by stating that it agrees that there will most likely be no shortage of erosion control projects available, but states that sites in the Wetland and Riparian Protection Plan (along with all identified sites) will be evaluated and prioritized as potential erosion control projects.

12. In addition, IDEQ expressed concerns regarding the roles of IDEQ, the licensee, and all the different agencies and entities that are currently involved in erosion control and stream bank stabilization on the project river systems. The licensee addressed IDEQ's concern in section 5.2 of the plan which lists many of the entities and includes the licensee's commitment to work with those entities in the implementation of the plan.

13. In its comments on the plan, FWS states that it agrees with the licensee's use of NRCS's rock wedge and live plantings method for erosion control projects under the plan. The FWS also states that it discourages the use of large woody debris and large riprap as erosion control measures because they may provide habitat and cover for non-native piscivorous fish that prey on native salmonids. The licensee responds by stating

that it "will incorporate the FWS's opposition into all erosion control work completed under the plan."

DISCUSSION

14. The licensee's response to the FWS's concern is vague and does not clarify whether large woody debris and large riprap may be used as erosion control measures under the plan. The licensee does not identify under what circumstances, if any, it may consider the use of these materials, nor does it commit to avoiding their use. However, the plan does state that rock wedge and live plantings would likely be the standard erosion control method used under the plan. In order to address the FWS's concern, if the licensee (in consultation with appropriate entities) identifies large woody debris or large riprap as the preferred erosion control method at any site under the plan, the licensee should consult with the FWS prior to implementation of those methods. The licensee should include documentation of the consultation in the five year reports.

15. The IDEQ raised concerns regarding the inclusion of the same sites in both the erosion control and wetland protection plans. The IDEQ also raised concerns regarding the coordination of erosion control efforts between the licensee, IDEQ, and the many other agencies that are also involved in erosion control efforts in the project area.

16. In order to ensure that IDEQ, IDFG, FWS, and other relevant entities are included in ongoing discussions and decisions regarding site selection and implementation of the plan, Commission staff considered requiring the licensee to submit annual implementation reports which would document ongoing consultation and implementation of the plan. However, Commission staff also does not want to burden the implementation process with additional reporting requirements if they are not necessary. In its plan, the licensee makes a commitment to consult and work collaboratively with numerous agencies and entities, including IDEQ, IDFG and FWS, during the implementation of the plan. In addition, the five year summary reports and new five year plans should include documentation of consultation and will provide the resource agencies the opportunity to comment and make suggestions to improve the consultation process if it is needed.

17. The licensee proposes to submit new five year plans to IDEQ by June 1 (every five years starting in 2014) for review and approval, and then file the plans for Commission approval. In addition, the licensee proposes to submit five year reports to IDEQ and the Commission by December 1 (every five years starting in 2014). The licensee's proposal does not include submitting the five year reports and plans to IDFG or FWS. In addition, under the proposed schedule, the resource agencies and the Commission would not have reviewed the five year report when reviewing or acting on the new five year plan. In order to allow IDFG and FWS the opportunity to review and comment on the five year summary reports and five year plans, the licensee should submit five year summary reports and plans to these agencies as well as IDEQ. In addition, in order to take into account the history of plan implementation during the

previous five years, it would be useful for the resource agencies and the Commission to review the five year report prior to, or during, their review of the next five year plan.

18. Because implementation of the plan will occur on a continuous basis over the five year period, and the licensee will be consulting regularly with the resource agencies and other appropriate entities, the licensee should be able to compile the five year reports and submit them to the resource agencies at the end of the five year period (by June 1). At the same time, the licensee should also submit the new five year plan for IDEQ approval and for IDFG and FWS review and comment. By email communication with Commission staff, the licensee and IDEQ agree that a simultaneous filing of the five year reports and new five year plans (by June 1 every five years) would better facilitate the planning and review process.

19. The agencies should be allowed a minimum of 30 days to review and comment prior to the licensee filing the final reports and plans with the Commission by August 1. The final reports and plans should include copies of any comments received from the agencies and the licensee's response to those comments. If the licensee does not adopt an agency recommendation, the filing should include the licensee's reasons, based on project specific information. In addition, the Commission should reserve the right to modify the Water Quality Improvement and Erosion Control Plan in order to meet the objectives of the plan and ensure compliance with license requirements.

20. The licensee's Water Quality Improvement and Erosion Control Plan, as modified, meets the requirements of Article 401 and Condition III of IDEQ's water quality certificate for the project, and should be approved.

The Director orders:

(A) Avista Corporation's (licensee) Water Quality Improvement and Erosion Control Plan for the Post Falls Development, filed June 11, 2010, under Article 401 of the license and Condition III of Idaho's water quality certificate for the Spokane River Hydroelectric Project (FERC No. 2545), as modified by paragraphs (B) through (D), is approved.

(B) If the licensee (in consultation with appropriate entities) identifies large woody debris or large riprap as the preferred erosion control method at any site under the plan, the licensee shall consult with the U.S. Fish and Wildlife Service prior to the implementation of those methods. The licensee shall include documentation of the consultation with the resource agencies on the use of large woody debris or large riprap in the five year reports.

(C) The licensee shall submit five year reports to the Idaho Department of Environmental Quality (IDEQ), Idaho Department of Fish and Game (IDFG), and U.S. Fish and Wildlife Service (FWS) by June 1 starting in 2014 and then every five years

thereafter. At the same time, the licensee shall also submit the new five year plan to IDEQ for approval and to IDFG and FWS for review and comment prior to filing the five year plans for Commission approval. The agencies shall be allowed a minimum of 30 days to review the final reports and plans. The final reports and plans shall be filed with the Commission by August 1 starting in 2014 and every five years thereafter. The final reports and plans shall include copies of any comments received from the agencies and the licensee's response to those comments. If the licensee does not adopt an agency recommendation, the filing shall include the licensee's reasons, based on project specific information.

(D) The Commission reserves the right to modify the Water Quality Improvement and Erosion Control Plan in order to meet the objectives of the plan and ensure compliance with license requirements.

(E) The licensee shall file any document required by this order with the Secretary of the Commission. Filings may be submitted electronically via the Internet, see 18 CFR 385.2001 (a)(1)(iii) and the instructions on the Commission's web site under the "e-filing" link. The Commission strongly encourages electronic filings. In lieu of electronic filing, an original and eight copies of all documents may be mailed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, Mail Code: DHAC, PJ-12.3, 888 First Street, N.E., Washington, D.C. 20426.

(F) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 CFR § 385.713.

Steve Hocking
Chief, Biological Resources Branch
Division of Hydropower Administration
and Compliance

A.2. FERC September 16, 2014 Order Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development

148 FERC ¶ 62,201
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Avista Corporation — Project No. 2545-128, 2545-165

ORDER APPROVING WATER QUALITY IMPROVEMENT AND EROSION CONTROL PLAN FOR THE POST FALLS DEVELOPMENT

(Issued September 16, 2014)

1. On July 31, 2014, Avista Corporation, licensee for the Spokane River Hydroelectric Project No. 2545 filed its 2015-2019 Water Quality Improvement and Erosion Control Plan for the Post Falls Development. The licensee filed its plan pursuant to Article 401 of the project license,[1] Condition III of the Idaho Department of Environmental Quality's (Idaho DEQ) 401 water quality certificate (WQC) issued for the project,[2] and ordering paragraph (C) of an Order Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development – Article 401.[3][4] The project is located on the Spokane River in Spokane, Lincoln, and Stevens counties, Washington, and in Kootenai and Benewah counties, Idaho.

[1] *Avista Corporation*, 127 FERC ¶ 61,265 (2009).

[2] Issued on June 5, 2008, filed on June 19, 2008, incorporated into the license by ordering paragraph (D), and attached as Appendix A to the license.

[3] *Avista Corporation*, 133 FERC ¶ 62,043 (2010).

[4] The licensee also filed its 2010-2014 Water Quality Improvement and Erosion Control Report on July 31, 2014, pursuant to Condition III of the WQC and ordering paragraph (C) of order. Commission staff no longer issues acknowledgement of reports under this requirement, unless the Commission needs to take further action. The licensee may consider the posting of the filing of this requirement, and future filings, on the Commission's e-library system as acknowledgment of the Commission's receipt of the submittal.

License Requirements

2. The project license and the WQC issued by the Idaho DEQ, require the licensee to develop a Water Quality Improvement and Erosion Control Plan. The plan shall identify and prioritize actions to protect and improve water quality associated with the Post Falls Development. The plan shall include site-specific erosion control actions that the licensee could implement to reduce sedimentation, reduce nutrient loading, or improve water quality and protect beneficial uses.

3. The plan shall identify and describe measures that the licensee will implement during the first five years following license issuance. Every five years after the new license becomes effective, and continuing for the term of the license, the licensee shall update and revise the plan to describe those measures that it will implement within the following five years. The licensee shall submit the five year plans to the Idaho DEQ for approval. The licensee shall consult annually with the Idaho DEQ regarding those measures that it will carry out within the year.

4. Every five years, the licensee shall prepare and submit to the Idaho DEQ a summary report documenting implementation of the measures described in the plan. The licensee must submit the report to the Idaho DEQ, within six months of the end of each reporting period. The report shall summarize: the activities conducted under the plan during the preceding five years and the results achieved; the overall results achieved to date; and the general nature of the activities that the licensee will implement during the next five year period.

5. In addition to preparing the Water Quality Improvement and Erosion Control Plan in consultation with the Idaho DEQ, Article 401 requires the licensee to prepare the plan in consultation with the Idaho Department of Fish and Game (Idaho DFG) and the U.S. Fish and Wildlife Service (FWS). The licensee shall file the plan, for Commission approval, within one year of license issuance. The filing should include documentation of consultation with the Idaho DEQ, the Idaho DFG, and the FWS. If the licensee does not adopt an agency recommendation, the filing should include the licensee's reasons, based on project-specific information.

Background

6. The licensee filed its first plan, titled Water Quality Improvement and Erosion Control Plan 2010 to 2014, on June 11, 2010. The Commission, in an October 13, 2010 order, approved and modified the plan. Ordering paragraph (C) required the licensee to submit five year reports to the Idaho DEQ, the Idaho DFG, and the FWS by June 1 starting in 2014 and then every five years thereafter. At the same time, the licensee must submit the new five year plan to Idaho DEQ for approval and to Idaho DFG and FWS for review and comment prior to filing the five year plans for Commission approval. The licensee must allow the agencies a minimum of 30 days to review the final reports and

plans. The licensee must file the final reports and plans with the Commission by August 1 starting in 2014, and every five years thereafter. The final reports and plans shall include copies of any comments received from the agencies and the licensee's response to those comments. If the licensee does not adopt an agency recommendation, the filing shall include the licensee's reasons, based on project specific information.

Licensee's 2015-2019 Plan

7. The licensee's plan includes a description of the criteria that it will use to prioritize potential erosion control projects that it will implement under the plan. The prioritization and evaluation criteria that the licensee will use are the same as the Water Quality Improvement and Erosion Control Plan 2010 to 2014. In addition, the plan identifies past, current, and future erosion control studies that the licensee will use to identify and select erosion control projects that it will implement. The licensee also describes the process and identifies parties to collaborate with during the implementation of the plan.

8. The plan describes a general approach to site characterization that the licensee will perform at sites selected for erosion control projects. In addition, the licensee states that it will use standard and modified Natural Resources Conservation Service (NRCS) methods to guide the design of the erosion controls for each project. The licensee states that the NRCS has completed a large amount of erosion control projects along the St. Joe and Coeur d'Alene Rivers and that the NRCS's method of rock wedge with live stake plantings will most likely be utilized as the standard approach for erosion control projects under the plan. The licensee will give additional consideration to bioengineering techniques and other hard engineering practices in addition to riprap armoring that may alleviate system-wide impacts of bank stabilization projects.

9. The proposed plan includes a description of the activities that it plans to carry out during the next five years (2015-2019). Generally, the following activities will continue throughout the five year period on an ongoing basis: identification and prioritization of erosion control project sites; continuation of erosion control surveys and studies; and implementation of specific erosion control projects.

10. The licensee has identified three site specific erosion control projects that it plans to implement during the next five years. The three projects are the St. Joe River, Bank Pin No. 9 Site, the St. Joe River, Shadowy St. Joe Log Landing Site, and the St. Joe River, Shadowy St. Joe Stabilization Monitoring. In addition to these site specific projects, the licensee will continue to participate in education and awareness programs which are led and coordinated by the resource agencies with regard to determining the best methods to increase public awareness of how to reduce bank erosion with minimal impact to downstream properties and maintain or improve fish habitat.

Comments and Consultation

11. The licensee's plan includes documentation of consultation with the Idaho DEQ, the Idaho DFG, and the FWS. The Idaho DFG commented that it agrees with the order of site specific erosion control actions identified in Table 3 of the plan. The Idaho DFG also commented that the St. Joe River, Bank Pin No. 9 Site and Shadowy St. Joe Log Landing Site are good candidate sites, as they are adjacent to the recently completed Shadowy St. Joe Stabilization Project. The Idaho DFG agrees with the licensee that different stream bank stabilization design standards, such as a combination of several bioengineering techniques, will need to be developed for the Shadowy St. Joe Site instead of utilizing the standard NRCS design due to the high vertical wall.

12. The FWS commented that it has no substantive comments on the plan. The licensee provided several drafts of the plan to the Idaho DEQ in which the Idaho DEQ provided comments on the drafts to the licensee. The licensee received approval of the plan from the Idaho DEQ on July 30, 2014, after adequately incorporating the Idaho DEQ's and the other agencies' comments into the final plan.

Discussion

13. The licensee's 2015-2019 Water Quality Improvement and Erosion Control Plan meets the requirements of Article 401, Condition III of the Idaho DEQ's WQC for the project, and ordering paragraph (C) of the Commission's October 13, 2010 order. Ordering paragraph (A) of this order approves the plan. In addition, ordering paragraph (B) reserves the Commission's right to modify the Water Quality Improvement and Erosion Control Plan in order to meet the objectives of the plan and ensure compliance with license requirements. The licensee must file its next plan with the Commission by August 1, 2019.

The Director orders:

(A) Avista Corporation's 2015-2019 Water Quality Improvement and Erosion Control Plan for the Post Falls Development, filed July 31, 2014, under Article 401 of the license, Condition III of the Idaho DEQ's WQC, and ordering paragraph (C) of the Commission's October 13, 2010 Order Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development – Article 401, for the Spokane River Hydroelectric Project No. 2545 is approved.

(B) The Commission reserves the right to modify the Water Quality Improvement and Erosion Control Plan in order to meet the objectives of the plan and ensure compliance with license requirements.

(C) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section

313(a) of the Federal Power Act, 16 U.S.C. § 825*l* (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2014). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Kelly Houff
Chief, Engineering Resources Branch
Division of Hydropower Administration
and Compliance

APPENDIX B

Idaho WQC Sections III and VIII

B. Avista shall make available $50,000 annually for the term of the New License to implement the water quality monitoring described in Section II.A. of this certification. The $50,000 shall be made available on or before July 1 of the first year of the New License, and on or before July 1 every year thereafter for the term of the New License. The funding provided by Avista shall be used to pay for work performed IDEQ or any agreed-upon contractor to the state of Idaho, for the planning, implementing, or reporting components of this condition. Any funds not expended within one (1) year shall carry over and can be used in following years consistent with Section VIII.A. of the certification. Any funds carried over shall be in addition to the annual $50,000 provided by Avista. The fact that funds have not been expended in one (1) year are carried over and does not diminish Avista's responsibility for providing $50,000 annually for the life of the New License. Provided, however, funds which are carried over and not expended within five (5) years will no longer be available in accordance with section VIII.A. of the certification. The $50,000 annual payment shall be adjusted in accordance with Section VIII.B. of this certification.

Avista's internal administrative costs to implement this condition shall be part of Avista's overall costs for license implementation and compliance. The funds described in this Section II.B. shall not be used to support Avista's internal administrative costs to implement this condition.

III. WATER QUALITY IMPROVEMENT AND EROSION CONTROL

A. Avista shall develop and implement a Water Quality Improvement and Erosion Control Plan ("Plan"). The Plan shall include the following components:

1. **Water Quality Improvement and Erosion Control Plan**. Avista shall develop a Water Quality Improvement and Erosion Control Plan that identifies and prioritizes actions to protect and improve water quality associated with the Post Falls Project and protect beneficial uses. Avista shall include in the Water Quality Improvement and Erosion Control Plan site-specific erosion control actions. Consultation with stakeholders through the alternative licensing process ("ALP") has provided guidance regarding potential locations and types of erosion control actions that may be included in the Plan. (Stoker, 2004). The current Coeur d'Alene Lake Management Plan, or any revisions to the Lake Management Plan, may also provide Avista with a set of potential actions that could be implemented to reduce sedimentation, reduce nutrient loading, or improve water quality and protect beneficial uses.

2. **Five (5) Year Plan**: The Plan shall describe prioritized measures to be implemented in the first five-year period following the issuance of the New License.

B. Within the first year after the New License becomes effective, Avista shall develop and submit to IDEQ for approval the Water Quality Improvement and Erosion Control Plan. Upon approval by IDEQ, Avista shall implement the Plan. Every five (5) years after the New License becomes effective and continuing for the term of the license, Avista shall update and revise the Plan to describe those measures to be implemented within the following five (5) years. The updated Plan shall be submitted to IDEQ for approval, and upon approval by IDEQ, shall be implemented by Avista. Avista shall consult with IDEQ annually regarding those measures to be carried out within the year. Implementation of the Plan and expenditure of funds for specific projects will be governed by Section VIII.A. of this certification.

C. Avista will prepare and submit to IDEQ a summary report every five (5) years documenting implementation of the measures described in the Water Quality Improvement and Erosion Control Plan. The report shall be submitted to IDEQ, within six (6) months of the end of each reporting period. The report will summarize the activities conducted under this condition during the preceding five (5) years and the results achieved, the overall results achieved to date (subsequent to first 5-year period), and the general nature of the activities that will be implemented during the next 5-year period.

D. By July 1st after the effective date of the New License, and every July 1st thereafter for the term of the New License, Avista shall make available $75,000 to implement this condition. Any funds not expended within one (1) year shall carry over and can be used in the following year consistent with Section VIII.A. of this certification. Any funds carried over shall be in addition to the annual $75,000 provided by Avista. The fact that funds have not been expended in one (1) year and are carried over does not diminish Avista's responsibility for providing $75,000 annually for the term of the New License. Provided, however, that funds which are carried over and not expended within five (5) years shall no longer be available in accordance with Section VIII.A. of the certification. The funding provided by Avista shall be used to pay for work by Avista, IDEQ or their contractors for planning, implementing, or reporting components of this measure. The $75,000 annual payment shall be adjusted in accordance with section VIII.B. of this certification.

Avista's internal administrative costs to implement this measure shall be part of Avista's internal costs for license implementation and compliance. The funds described in this Section III.B. shall not be used to support Avista's internal administrative costs to implement this condition.

VII. FISHERY PROTECTION AND ENHANCEMENT

A. Avista shall develop and implement a Fishery Protection and Enhancement Plan in accordance with Exhibit 1 of this certification.

VIII. FUNDING

A. Except as otherwise provided in this Section VIII., all funds to be provided by Avista described in this certification will be subject to the cost caps set forth in the certification and will remain in Avista's control until individual measures or activities required by this certification are implemented. Avista will fund individual measures and activities as they are implemented, in accordance with the plans required by this certification, and in coordination with IDEQ and, when applicable, IDFG. All funds required by this certification to carry out measures or activities include the costs of permitting such measures and undertaking any necessary studies and monitoring. If funds are made available for measures or activities conducted IDEQ or IDFG, IDEQ or IDFG shall provide an accounting/invoice to Avista quarterly. Within 30 days of receipt, Avista shall reimburse IDEQ or IDFG for the costs set forth in the accounting/invoice, up to the cost caps set forth in this certification. Funds not expended in a given year will remain available during the subsequent five (5) years and will not bear interest or be further escalated pursuant to Section VIII.B. below. Any funds provided by Avista pursuant to this certification or any funds carried over may be used to carry out and fund any measures set forth in Sections II, III, IV and VII of this certification. Funds carried over and not spent within five (5) years will no longer be available to implement the conditions of the certification.

B. Unless otherwise indicated, all costs or payment amounts specified in dollars shall be deemed to be stated as of the year the New License is issued. Annual funding required by this certification will be adjusted according to a formula agreed to by IDEQ, IDFG, and Avista.

C. In the event conditions in the New License require actions on the part of Avista that duplicate or overlap with the requirements of this certification, IDEQ and Avista shall cooperate to avoid duplication of effort and cost. IDEQ and Avista may agree that actions required by FERC in the New License also fulfill, in whole or in part, certain funding and other obligations required under this certification. In the event IDEQ agrees that there is such overlap or duplication, Avista's obligations under this certification will be proportionately reduced and accounted for in the reports and plans required in this certification.

APPENDIX C

Agency Water Quality Improvement and Erosion Control: Project Ranking Rubric

Appendix C

Avista Water Quality Improvement and Erosion Control
Project Ranking Rubric

This project ranking rubric is a tool to assist in the project selection process and should be used in conjunction with partner dialogue and other project information.

Project Name: _____

Project Sponsor: _____

Reviewers: _____

Date Reviewed: _____

Ranking Criteria	**Project Rank**			
	1	**2**	**3**	**4**
High – x3				
Project has a high degree of erosion control urgency				
Project is consistent with existing plans and is identified as having significant potential for water quality improvement. *(such as reducing nutrients and temperature, and improving habitat, vegetation, natural channel design and floodplain function)*				
Project has multiple partners and/or project provides significant non-Avista funds				
Project can be funded within the current 5-Year Plan				
Point Subtotal: (multiply individual scores by 3)				
Medium – x2				
Project is on publically owned land and/or public access is secured				
Project includes preserving intact cultural artifacts				
Project includes bioengineered stabilization designs				
Point Subtotal: (multiply individual scores by 2)				
Low – x1				
Project fills in gaps between areas where riverbank stabilization has already taken place and has been effective				
Point Subtotal: (use individual score)				
Total Points Total possible points = 76				

APPENDIX D

Agency Comments and Avista Responses

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 31, 2019

Mr. Dan Redline, Regional Administrator
Idaho Department of Environmental Quality
2110 Ironwood Parkway
Coeur d'Alene, ID 83814

Subject: **Spokane River Hydroelectric Project, FERC Project No. 2545**
2020 To 2024 Water Quality Improvement and Erosion Control Plan and 2015 To 2019 Erosion Summary Report, as Required by the Spokane River License, Appendix A, Section III

Dear Mr. Redline:

On June 18, 2009 the Federal Energy Regulatory Commission (FERC) issued a new license for the Spokane River Hydroelectric Project, FERC Project No. 2545 (License). Ordering Paragraph D of the License incorporated the Idaho Department of Environmental Quality's (IDEQ) Section 401 Water Quality Certification (Idaho WQC) for the Post Falls Hydroelectric Development. The conditions of the Idaho WQC can be found in Appendix A of the License.

Section III of the Idaho WQC required Avista to complete the initial, five year, *2010 To 2014 Water Quality Improvement and Erosion Control Plan* (2010 - 2014 Plan), which identified and prioritized actions to protect and improve water quality associated with the Post Falls HED. Upon FERC's October 13, 2010 Order (2010 Order), Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development, Avista began implementing the 2010 - 2014 Plan.

In accordance with the 2010 Order, Avista developed *the 2015 To 2019 Water Quality Improvement and Erosion Control Plan* (2015 – 2019 Plan). Consecutively, Avista submitted the *2010 To 2014 Erosion Summary Report*, which summarized the work accomplished under the 2010 - 2014 Plan. Upon FERC's September 16, 2014 Order (2014 Order), Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development, Avista began implementing the 2015 - 2019 Plan.

The 2014 Order required Avista to prepare the *2015 To 2019 Erosion Summary Report* (Report) which summarizes the work accomplished under the 2015 – 2019 Plan and to provide copies of it to IDEQ, Idaho Department of Fish and Game (IDFG) and U.S. Fish and Wildlife Service (FWS). As such, we have enclosed a copy of the Report for your reference.

Additionally and in accordance with FERC's Orders, Avista is required to submit a new five year plan to IDEQ, IDFG and FWS for review and comment by June 1, 2019 and following IDEQ's approval of the new five year plan, Avista will file it with FERC by August 1, 2019.

Avista has enclosed the *2020 To 2024 Water Quality Improvement and Erosion Control Plan* for your review and comment. Please provide your comments and recommendations on the Plan, if you have any, by **June 30, 2019**. Following consultation, we are required to submit an IDEQ approved plan to FERC for final approval by August 1, 2019.

If you have any questions regarding the Report or Plan, please feel free to call me at (509) 495-4651.

Sincerely,

Monica Ott

Monica Ott
Water Quality Specialist

Enclosures (2)

cc: Jamie Brunner, IDEQ
Andy Dux, IDFG
David Leptich, IDFG
Katy Fitzgerald, FWS
Meghan Lunney, Avista

Utt, Haylee

From: Jamie.Brunner@deq.idaho.gov
Sent: Tuesday, July 2, 2019 6:38 AM
To: Ott, Monica
Cc: Daniel.Redline@deq.idaho.gov; Thomas.Herron@deq.idaho.gov
Subject: [External] RE: 2020 To 2024 Water Quality Improvement and Erosion Control Plan, and 2015 To 2019 Erosion Summary Report

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Monica,
IDEQ's comments on the 2020-2024 erosion control plan are below. Let me know if you would prefer them in a letter format. I'm happy to chat if you would like further clarification on these comments.
Regards,
Jamie

Page 2
3.0 LIABILITY

1) "Avista will work out the details of its involvement in each project on a site-by-site basis and in coordination with the Basin Environmental Improvement Project Commission (BEIPC), including its technical arm, the Technical Leadership Group and other appropriate groups, such as the Restoration Partnership, with regard to erosion control efforts in the Coeur d'Alene River."

It would be more appropriate to coordinate directly with EPA for the site-by-site details with regards to erosion control efforts in the Coeur d'Alene River, CERCLA liability, and cleanup activities rather than the BEIPC. The BEIPC, Technical Leadership Group and other groups, such as the Restoration Partnership would also be helpful, but EPA has the most direct authority over CERCLA liability and the details of cleanup activities.

2) "Although Avista may limit its activities to avoid liability, it will meet its obligations under Section III of the Idaho WQC."

Somewhere we would like to see something to make it clearer there are still opportunities to utilize Avista erosion control funding on the Coeur d'Alene River. Maybe something like, "However, Avista may provide funding for others to implement erosion control projects..."

Page 3
5.2 Lake Management Plan, 3-Year Nutrient Source Inventory, St. Joe and St. Maries Rivers
"The goal of the program was to determine whether sources of suspended sediment concentrations, and associated levels of total phosphorus measured at the mouth of the St. Joe River, may be traced to active riverbank erosion and sloughing occurring along the lower to mid portions of the St. Joe River and possibly sections of the St. Maries River. "

The goal of the water quality monitoring was to fill data gaps related to nutrient loading to inform the basin-wide inventory. The intended use is to prioritize treatment areas for *all* nutrient sources (not just bank erosion). There was no intention of this monitoring effort to be able to single out bank erosion sources specifically. The work plan acknowledged them as one source, and we performed a separate erosion survey to determine relative erosion rates, which you included in 5.3.

Maybe something more like this would be appropriate: "The goal of the program was to determine the contributions of the nutrient loads from the St. Maries River and its tributaries relative to loads measured at the mouth of the St. Joe River in previous studies."

Page 4

5.3 IDEQ St. Joe Riverbank Erosion Potential Inventory

"IDEQ revisited the bank pins in the summer, following the spring runoff, and again in the fall, on an annual basis to measure the erosion rates associated with summer water level erosion."

These follow-up measurements were performed annually from 2011-2014 to validate the classifications (just FYI in case you'd like to clarify-we are not still taking annual measurements).

Page 6

6.2 IDEQ St. Joe Riverbank Erosion Potential Inventory

"This Plan focuses on erosion sites located on the St. Maries, St. Joe, and the Coeur d'Alene Rivers. The following provides the mechanism for which the erosion sites and potential cost share opportunities will be further identified"

We would like to see the Spokane River included in this plan. Our near-term projects may not be on the Spokane, but there may be opportunities before the end of the five years. The Spokane River in Idaho is also listed for nutrients in addition to metals, so sediment reduction projects along the Spokane River should be beneficial to this water quality concern.

Second to last paragraph (*Project Identification:St. Maries and St. Joe Rivers)*: remove "via the BSWCD" at the end (to allow more flexibility in possible sponsors and partners).

1st sentence of the last paragraph (*Project Identification: Coeur d'Alene River):* Removing KSSWCD and NRCS from this statement would leave more flexibility in partnership opportunities on IDFG land (not excluding KSSWCD and NRCS).

3rd sentence of same paragraph, remove KSSWCD and just list a third-party sponsor (to provide flexibility in potential sponsors).

Add the Restoration Partnership as potential funding partner for both the St. Joe and Coeur d'Alene River sections.

Page 7

7.0 EROSION CONTROL IMPLEMENTATION STANDARD METHODS/PRACTICES

General comments: We would like less emphasis on strictly NRCS and more on bioengineering. Given the recent changes in NRCS objectives to incorporate bioengineering, it would be relevant to reflect it in this plan. Also, the plan should stress utilizing sites to demonstrate alternative techniques, where used, such as the log landing, and look for more of those opportunities.

Last sentence on Page 7: Keep it more open to utilize non-NRCS designs. Maybe mention their standard design MAY be utilized, rather than "will most likely be?"

Page 8

8.0 SITE SPECIFIC EROSION CONTROL ACTIONS

General comment: Although the St. Joe, St. Maries, and Coeur d'Alene Rivers are high priority for Coeur d'Alene Lake (since the Spokane River is the outflow), there are some high eroding banks on the Spokane River. These are within the project boundary and offer opportunities for high exposure demonstration sites. We would like to see some language that is more inclusive of consideration for possible future projects.

Page 9

8.1 St. Joe River, Shadowy St. Joe Log Landing Site

The log landing project shows a brief summary of the number of plants planned for this project in Table 5. The 2015 – 2019 Erosion Summary Report mentions a 38% survivability rate for willows along the existing Shadowy St. Joe project. Should the design consider the mortality rate and include more plantings knowing that only about 1/3 will survive?

Also, it might be good to include some kind of deliverable report on the log landing site which highlights the bioengineering techniques and how they performed over time. It seems that any projects that we are hoping to use as a demonstration should have some follow-up report to indicate whether the alternative approach was successful.

Page 14

8.4 Education and Awareness
It would be prudent to include language to acknowledge educational efforts could also be pursued with other partners throughout the CDA Basin (not just the Benewah portion).

3rd bullet: Remove 319 and specific partners to broaden the focus

---

From: Ott, Monica [mailto:Monica.Ott@avistacorp.com]
Sent: Friday, May 31, 2019 4:59 PM
To: Daniel Redline
Cc: Jamie Brunner
Subject: FW: 2020 To 2024 Water Quality Improvement and Erosion Control Plan, and 2015 To 2019 Erosion Summary Report
Importance: High

Hi Dan,

Please see below email. I will be sending a second email containing the 2015 To 2019 Erosion Summary Report, just in case file size was an issue.

Monica

From: Ott, Monica
Sent: Friday, May 31, 2019 4:33 PM
To: 'Dan.Redline@deq.idaho.gov' <Dan.Redline@deq.idaho.gov>
Cc: Jamie Brunner (Jamie.Brunner@deq.idaho.gov) <Jamie.Brunner@deq.idaho.gov>; 'david.leptich@idfg.idaho.gov' <david.leptich@idfg.idaho.gov>; Andy Dux (andy.dux@idfg.idaho.gov) <andy.dux@idfg.idaho.gov>; 'Katy_fitzgerald@fws.gov' <Katy_fitzgerald@fws.gov>; Lunney, Meghan <Meghan.Lunney@avistacorp.com>
Subject: 2020 To 2024 Water Quality Improvement and Erosion Control Plan, and 2015 To 2019 Erosion Summary Report
Importance: High

Dan,

I have attached the *2015 To 2019 Erosion Summary Report* (Report) for your files. The Report summarizes the work accomplished under the *2015 To 2019 Water Quality Improvement and Erosion Control Plan*.

Additionally, Avista has attached the *2020 To 2024 Water Quality Improvement and Erosion Control Plan* (2020 – 2024 Plan) for your review and comment. As your aware, Avista is required to submit a new five year plan to IDEQ, IDFG and FWS for review and comment by June 1, 2019 and following IDEQ's approval of the new five year plan, Avista will file it with FERC by August 1, 2019.

We would appreciate your review of the 2020 – 2024 Plan by **June 30, 2019**. This will allow us time to incorporate your comments and recommendations, if you have any, and submit it to FERC by August 1, 2019.

Please feel free to call me at (509) 495-4651 if you have any questions, or would like to discuss the contents of the Plan or Report.

Thank you,
Monica

Monica Ott, Water Quality Specialist
1411 E Mission Ave MSC-1, Spokane, WA, 99202
P 509.495.4651 | **F** 509.495.8469

Ott, Monica

From: Ott, Monica
Sent: Monday, July 22, 2019 12:13 PM
To: Daniel.Redline@deq.idaho.gov
Cc: Jamie Brunner (Jamie.Brunner@deq.idaho.gov); Thomas.Herron@deq.idaho.gov; Lunney, Meghan
Subject: Revised 2020 To 2024 Water Quality Improvement and Erosion Control Plan
Attachments: Revised Avista_2020-2024 WQ Improvement Erosion Control Plan.pdf

Importance: High

Dan,

I've attached the Revised 2020 To 2024 Water Quality Improvement and Erosion Control Plan (Plan) for your review. I've included a red-line version of the Plan so that you can see the track-changes. Please note that IDEQ's July 2nd email with comments, as well as our responses to those comments are included in Appendix D of the Plan. Also included in Appendix D is the comment letter received from the Idaho Department of Fish and Game, along with our responses. Additionally, per Craig Nelson's June 4rth email, the St. Joe Bank Inventory Figures have been updated, removing the recession rate charts.

With this, please review the Plan for final approval so that we can submit an IDEQ-approved Plan to FERC by August 1, 2019. If you have any questions regarding the Plan please feel free to call me at 509-495-4651.

Thank you,
Monica

Monica Ott, Water Quality Specialist
1411 E Mission Ave MSC-1, Spokane, WA, 99202
P 509.495.4651 | **F** 509.495.8469
www.myavista.com

IDEQ Comments and Avista Responses

3.0 LIABILITY

IDEQ Comment 1:

It would be more appropriate to coordinate directly with EPA for the site-by-site details with regards to erosion control efforts in the Coeur d'Alene River, CERCLA liability, and cleanup activities rather than the BEIPC. The BEIPC, Technical Leadership Group and other groups, such as the Restoration Partnership would also be helpful, but EPA has the most direct authority over CERCLA liability and the details of cleanup activities.

Avista Response:

Comment noted and Avista has modified the text in Section 3.0 to incorporate this comment.

IDEQ Comment 2:

Somewhere we would like to see something to make it clearer there are still opportunities to utilize Avista erosion control funding on the Coeur d'Alene River. Maybe something like, "However, Avista may provide funding for others to implement erosion control projects..."

Avista Response:

Comment noted and Avista has modified the text in Section 3.0 to incorporate this comment.

5.2 Lake Management Plan, 3-Year Nutrient Source Inventory, St. Joe and St. Maries Rivers

IDEQ Comment 3:

"The goal of the program was to determine whether sources of suspended sediment concentrations, and associated levels of total phosphorus measured at the mouth of the St. Joe River, may be traced to active riverbank erosion and sloughing occurring along the lower to mid portions of the St. Joe River and possibly sections of the St. Maries River. "

The goal of the water quality monitoring was to fill data gaps related to nutrient loading to inform the basin-wide inventory. The intended use is to prioritize treatment areas for all nutrient sources (not just bank erosion). There was no intention of this monitoring effort to be able to single out bank erosion sources specifically. The work plan acknowledged them as one source, and we performed a separate erosion survey to determine relative erosion rates, which you included in 5.3.

Maybe something more like this would be appropriate: "The goal of the program was to determine the contributions of the nutrient loads from the St. Maries River and its tributaries relative to loads measured at the mouth of the St. Joe River in previous studies."

Avista Response:

Comment noted and Avista has modified the text in Section 5.2 to incorporate this comment.

5.3 IDEQ St. Joe Riverbank Erosion Potential Inventory

IDEQ Comment 4:

"IDEQ revisited the bank pins in the summer, following the spring runoff, and again in the fall, on an annual basis to measure the erosion rates associated with summer water level erosion."

These follow-up measurements were performed annually from 2011-2014 to validate the classifications (just FYI in case you'd like to clarify-we are not still taking annual measurements).

Avista Response:

Avista appreciates the clarification and has modified the text in Section 5.3 to incorporate this comment.

6.2 Collaborative Parties & Project Identification

IDEQ Comment 4:

"This Plan focuses on erosion sites located on the St. Maries, St. Joe, and the Coeur d'Alene Rivers. The following provides the mechanism for which the erosion sites and potential cost share opportunities will be further identified"

We would like to see the Spokane River included in this plan. Our near-term projects may not be on the Spokane, but there may be opportunities before the end of the five years. The Spokane River in Idaho is also listed for nutrients in addition to metals, so sediment reduction projects along the Spokane River should be beneficial to this water quality concern.

Avista Response:

Avista has modified Section 6.2 to incorporate this comment.

IDEQ Comment 5:

Second to last paragraph (Project Identification: St. Maries and St. Joe Rivers): remove "via the BSWCD" at the end (to allow more flexibility in possible sponsors and partners).

Avista Response:

Avista has modified Section 6.2 to incorporate this comment, removing BSWCD to allow more flexibility in possible sponsors and partners.

IDEQ Comment 6:

1st sentence of the last paragraph (Project Identification: Coeur d'Alene River): Removing KSSWCD and NRCS from this statement would leave more flexibility in partnership opportunities on IDFG land (not excluding KSSWCD and NRCS).

Avista Response:

Avista has modified Section 6.2 to incorporate this comment, removing KSSWCD and NRCS to allow more flexibility in possible partnership opportunities on IDFG land.

IDEQ Comment 7:

3rd sentence of same paragraph, remove KSSWCD and just list a third-party sponsor (to provide flexibility in potential sponsors).

Avista Response:

Avista has modified Section 6.2 to incorporate this comment.

IDEQ Comment 8:

Add the Restoration Partnership as potential funding partner for both the St. Joe and Coeur d'Alene River sections.

Avista Response:

We agree the Restoration Partnership is a potential funding partner for both the St. Joe and Coeur d'Alene River sections and they are identified as such in the first paragraph of Section 6.2 (last sentence).

7.0 EROSION CONTROL IMPLEMENTATION STANDARD METHODS/PRACTICES

IDEQ Comment 9:

General comments: We would like less emphasis on strictly NRCS and more on bioengineering. Given the recent changes in NRCS objectives to incorporate bioengineering, it would be relevant to reflect it in this plan. Also, the plan should stress utilizing sites to demonstrate alternative techniques, where used, such as the log landing, and look for more of those opportunities.

Avista Response:

Avista has modified the text in Section 7.2 to place more focus on incorporating and demonstrating bioengineered designs.

IDEQ Comment 10:

Last sentence on Page 7: Keep it more open to utilize non-NRCS designs. Maybe mention their standard design MAY be utilized, rather than "will most likely be?"

Avista Response:

Avista modified the text in Section 7.2 to incorporate this comment.

8.0 SITE SPECIFIC EROSION CONTROL ACTIONS

IDEQ Comment 11:

General comment: Although the St. Joe, St. Maries, and Coeur d'Alene Rivers are high priority for Coeur d'Alene Lake (since the Spokane River is the outflow), there are some high eroding banks on the Spokane River. These are within the project boundary and offer opportunities for high exposure demonstration sites. We would like to see some language that is more inclusive of consideration for possible future projects.

Avista Response:

Avista modified the text in Section 8.0 to incorporate language which includes the potential for projects located along the Spokane River.

8.1 St. Joe River, Shadowy St. Joe Log Landing Site

IDEQ Comment 12:

The log landing project shows a brief summary of the number of plants planned for this project in Table 5. The 2015 – 2019 Erosion Summary Report mentions a 38% survivability rate for willows along the existing Shadowy St. Joe project. Should the design consider the mortality rate and include more plantings knowing that only about 1/3 will survive?

Avista Response:

Avista appreciates and shares concern pertaining to plant survivability, given the results of the 2018 willow monitoring for the Shadowy St. Joe Stabilization project, which is described in Section 8.2. However, the Shadowy St. Joe Log Landing project has an entirely different design than the Shadowy St. Joe Stabilization Project. Some differences specific to the plantings include a sloping soil floodplain rather than rock armor, a variety of species suited to a floodplain environment rather than willows alone, and clusters of potted plants with browse protection rather than linear willows every five feet. Comparisons of survival when using fundamentally different planting strategies cannot be made. Consequently, Avista will rely on the design engineer's experience and recommendations for incorporating the expected mortality rate, for bioengineered projects, into the projected plant quantities.

IDEQ Comment 13:

Also, it might be good to include some kind of deliverable report on the log landing site which highlights the bioengineering techniques and how they performed over time. It seems that any projects that we are hoping to use as a demonstration should have some follow-up report to indicate whether the alternative approach was successful.

Avista Response:

Avista agrees and has modified the text in Section 8.1 to include a final report provided by the Design Engineer (RDG) which will highlight the bioengineering techniques utilized on-site. Additional text was incorporated to reference Avista's Five Year Summary Report (2020 through 2024) which will capture the performance of the design, as well as the vegetation success.

8.4 Education and Awareness

IDEQ Comment 14:

It would be prudent to include language to acknowledge educational efforts could also be pursued with other partners throughout the CDA Basin (not just the Benewah portion).

Avista Response:

Avista agrees and has modified the text in Section 8.4 to incorporate this comment.

IDEQ Comment 15:

3rd bullet: Remove 319 and specific partners to broaden the focus.

Avista Response:

Avista has modified the text in bullet 3, removing "319" and specific partners per the recommendation.

AVISTA CORPORATION

2020 TO 2024
WATER QUALITY IMPROVEMENT AND EROSION CONTROL PLAN

IDAHO 401 WATER QUALITY CERTIFICATION,

APPENDIX A, SECTION III

Post Falls Hydroelectric Development
Spokane River Hydroelectric Project
FERC Project No. 2545

Prepared By:
Avista Corporation

July 19, 2019

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TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 Background

On June 18, 2009, the Federal Energy Regulatory Commission (FERC) issued a new License for Avista Corporation's Spokane River Project, FERC Project No. 2545-091 for a 50-year license term. The License became effective on June 1, 2009 and includes operation of the Post Falls Hydroelectric Development (HED) in Idaho. Ordering Paragraph D of the License incorporated the Idaho Department of Environmental Quality's (IDEQ) Section 401 Water Quality Certification (Idaho WQC) for the Post Falls Hydroelectric Development. The conditions of the Idaho WQC can be found in Appendix A of the License.

Section III of the Idaho WQC required Avista to complete the initial, five year, *2010 To 2014 Water Quality Improvement and Erosion Control Plan*, (2010 - 2014 Plan) which identified and prioritized actions to protect and improve water quality associated with the Post HED. Upon FERC's October 13, 2010 Order (2010 Order), Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development (Appendix A), Avista began implementing the 2010 - 2014 Plan.

In accordance with the 2010 Order, Avista developed the *2015 To 2019 Water Quality Improvement and Erosion Control Plan* (2015 – 2019 Plan). Upon FERC's September 16, 2014 Order (2014 Order), Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development, Avista began implementing the 2015 - 2019 Plan.

In accordance with the 2010 and 2014 Orders, Avista is required to submit a new five year plan to IDEQ, Idaho Department of Fish and Game (IDFG) and U.S. Fish and Wildlife Service (FWS) for review and comment by June 1. Following IDEQ's approval, the new five year plan is then to be filed with FERC by August 1, starting 2014, and every five years thereafter. This *2020 To 2024 Water Quality Improvement and Erosion Control Plan* (Plan), includes the activities to be conducted during the next five-year timeframe, 2020 to 2024, and is based upon consultation and collaboration with IDEQ, IDFG, and FWS.

1.2 Post Falls HED

The Post Falls HED includes three dams located on the Spokane River approximately nine miles downstream from the outlet of Coeur d'Alene Lake. Coeur d'Alene Lake is a natural lake created by a natural channel restriction, with the outlet serving as the headwaters of the Spokane River. The Post Falls HED's Project boundary encompasses the Spokane River upstream of the Post Falls Dams, Coeur d'Alene Lake, and the lower 30 miles of the Coeur d'Alene and St. Joe Rivers and 9 miles of the lower St. Maries River (Figure 1) at the normal full pool water elevation of 2,128 feet.

The Post Falls HED influences water levels in Coeur d'Alene Lake and the lower reaches of lake's tributaries from early summer through late fall. The summer lake level is held at the 2,128 foot elevation. During the winter and through most of the spring run-off season the water elevations are controlled by Coeur d'Alene Lake's natural channel restriction, not by the HED.

2.0 FUNDING

In accordance with Section III.D. of the Idaho WQC, Avista shall make $75,000 available on an annual basis to implement the approved Plan. Implementation of this Plan and expenditure of funds for specific projects are governed by Section VIII.A. of the Idaho WQC. Sections III and VIII of the Idaho WQC are included as Appendix B.

3.0 LIABILITY

The Bunker Hill Mining and Metallurgical Complex Superfund (Facility) includes mining-contaminated areas with lead being the primary contaminant of concern and additional contaminates of concern including arsenic, cadmium, and zinc. Sediments are the primary contaminated material in the Lower Basin, and as a result, through the implementation of Section III of the Idaho WQC, it is likely Avista will become involved in efforts to reduce erosion along the lower Coeur d'Alene River streambanks, especially in areas with elevated lead concentrations. At these sites, Avista will limit its activities as necessary to avoid incurring liability for the contamination. For example, Avista will not manage, direct, or conduct any operations related to hazardous substances.

Avista will work out the details of its liability on a site-by-site basis in coordination with the Environmental Protection Agency (EPA) ~~the Basin Environmental Improvement Project Commission (BEIPC), including its technical arm, the Technical Leadership Group and other appropriate groups, such as the Restoration Partnership~~, with regard to erosion control efforts in the Coeur d'Alene River.~~–~~. Although Avista may limit its activities to avoid liability, it will meet its obligations under Section III of the Idaho WQC. In the event that Avista has limited involvement in a project, it may still provide funding for others to implement erosion control projects along the lower Coeur d'Alene River in coordination with groups such as the Basin Environmental Improvement Project Commission (BEIPC), its technical arm, the Technical Leadership Group and the Restoration Partnership.

4.0 EROSION CONTROL GOALS

Erosion control activities will be implemented to protect and improve water quality associated with the Post Falls HED with the goal of reducing sedimentation and nutrient loading in order to improve and protect water quality and beneficial uses. Site-specific erosion control actions are to be identified and prioritized in consultation with IDEQ, IDFG, and FWS. These include riverbank stabilization projects, as well as upland land use projects such as pasture and recreation management activities designed to reduce erosion.

5.0 EROSION CONTROL STUDIES

The following studies are either on-going or have occurred since the approval of the initial Water Quality Improvement and Erosion Control Plan in 2010, and are associated with erosion control evaluations and/or mitigation measures in the Spokane River upstream of the Post Falls Dams, Coeur d'Alene Lake, and the lower reaches of the Coeur d'Alene, St. Joe, and St. Maries Rivers.

5.1 Avista, 4(e) Condition No. 4: Coeur d'Alene Reservation Erosion Inventory and Assessment

Avista and the Tribe conducted the Coeur d'Alene Reservation Lake and Tributary Shoreline Erosion Control Inventory and Assessment (December 2011) during 2009 and 2010 which included an erosion inventory and assessment of all shoreline erosion occurring on lands within the Coeur d'Alene Indian Reservation (Reservation), including shorelines located along the St. Joe River downstream of the City of St. Maries, along the lower portion of Coeur d'Alene Lake, and the pertinent lateral lake shorelines. The Erosion Inventory and Assessment was completed as a requirement of 4(e) Condition No. 4, (Coeur d'Alene Reservation Lake and Tributary Shoreline Erosion Control), within Appendix D of the License.

The total length inventoried along the St. Joe River, within the Post Falls Project area and the Reservation was 169,850 linear feet, of which the Inventory and Assessment classified 124,067 linear feet as eroding. Of this, Avista is responsible for 50% of the total linear feet of all erosion sites on the St. Joe River, which totals 63,130 feet.

Following the development of detailed erosion control designs for six initial sites located on the lower St. Joe River levees, the Coeur d'Alene Tribal Council issued a resolution to implement erosion control, or purchase similar lands, elsewhere within the Reservation.

5.2 Lake Management Plan, 3-Year Nutrient Source Inventory, St. Joe and St. Maries Rivers

As one of the objectives identified to meet the goal of the Coeur d'Alene Lake Management Plan (March 2009), the Coeur d'Alene Tribe (Tribe) and IDEQ initiated a 3-Year Nutrient Source Inventory Water Quality Sampling Work Plan and Quality Assurance Plan ("3-Year Nutrient Inventory Plan") for the St. Joe and St. Maries Rivers in March of 2010. The 3-Year Nutrient Inventory Plan included a short-term water sampling program at six selected locations within the St. Joe and St. Maries Rivers. The goal of the program was to fill data gaps and determine the contributions of the nutrient loads from the St. Maries River and its tributaries relative to loads measured at the mouth of the St. Joe River in previous studies. ~~The goal of the program was to determine whether sources of suspended sediment concentrations, and associated levels of total phosphorus measured at the mouth of the St. Joe River, may be traced to active riverbank erosion and sloughing occurring along the lower to mid portions of the St. Joe River and possibly sections of the St. Maries River.~~

The water sampling program was implemented as a coordinated effort between IDEQ and the Tribe; it began in March of 2010, and was completed over a three year timeframe. The nutrient inventory also included a collection and summary of historical and current nutrient data collected in the watershed. Results of the monitoring identified two subwatersheds in the St. Maries drainage that are the highest contributors of nutrients to the system.

5.3 IDEQ St. Joe Riverbank Erosion Potential Inventory

Starting in 2010, IDEQ conducted a riverbank erosion inventory along approximately 16 miles (32 miles of bank) of the St. Joe River, from the confluence of the St. Maries River to St. Joe City following the Bank Erosion Hazard Index (BEHI) method (IDEQ 2011). Several variables for classifying riverbanks (i.e. bank height, bankfull height, root depth, root density, bank angle, etc.) are measured as part of the inventory to determine riverbank erosion potential and its severity. Riverbank erosion classification types include very low, low, moderate, high, very high, and extreme.

As part of IDEQ's 2010 effort, bank pins were driven horizontally into the riverbank to determine the lateral recession rate (bank erosion) of each bank type. IDEQ revisited the bank pins in the summer, following the spring runoff, and again in the fall, on an annual basis from 2011 to 2014, to measure the erosion rates associated with summer water level erosion. During each visit, the length of the pin exposed was measured and the pin was driven back into the bank. Although the lateral recession rate data is not statistically robust, it helps to validate the bank type classification. The primary objective of the inventory was to classify the erosion potential to help direct future bank stabilization efforts.

Table 1 below and Figure 2 illustrate the total river miles per category of bank type, as updated in 2019. These results do not include erosion control projects completed by the Natural Resource Conservation Service (NRCS) on the St. Joe River from 2014 - 2019. Results to date indicate the following:

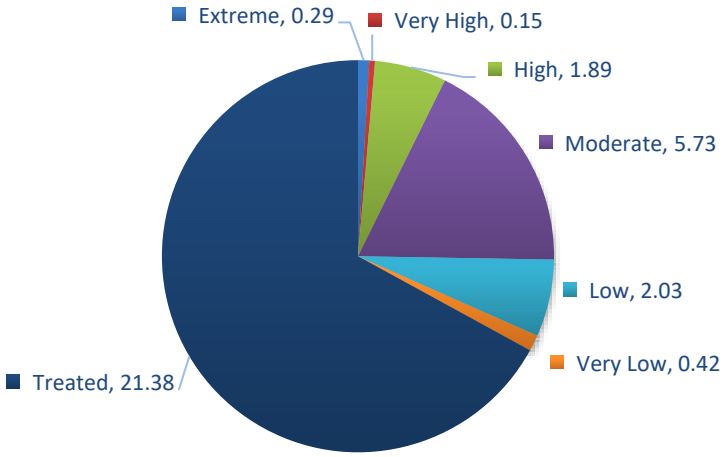
- Most of the recent bank stabilization effort has occurred on the high erosion classification potential.
- Sixty-seven percent of the riverbank has received a treatment for stabilization.
- Seven percent has been classified as very low or low erosion potential.
- Twenty-six percent has been classified as moderate to extreme erosion potential.

Table 1: Results of IDEQ's St. Joe Riverbank Erosion Potential Inventory (Further illustrated in the pie chart below Table).

IDEQ Erosion Potential Classification (2019)	Riverbank (miles)	Percent of total (whole numbers)

Treated	21.38	67
Very low	0.42	1
Low	2.03	6
Moderate	5.73	18
High	1.89	6
Very High	0.14	1
Extreme	0.29	1

St. Joe River Bank Type Total Miles 2019



6.0 PRIORITIZED PROJECTS AND ACTIONS

6.1 Selection Priorities and Evaluation Criteria

The prioritization and evaluation criteria, shown in Table 2, was developed in the 2010 - 2014 Plan, revised in the 2015 – 2019 Plan and the 2020 – 2024 Plan, and will be utilized for all projects and/or activities that will be implemented through this Plan.

Table 2: Prioritization and Evaluation Criteria for Erosion Control Sites.

Prioritization and Evaluation Criteria
High Ranking Criteria~~Projects that have a high degree of erosion control urgency~~
Projects that have a high degree of erosion control urgency

Projects that are consistent with existing plans and are identified as having significant potential for water quality improvement, such as reducing nutrients and temperature, and improving habitat, vegetation, natural channel design and floodplain function.
Projects with multiple partners and/or projects providing significant non-Avista funds (regardless of whether the land is privately or publically owned).
Projects that can be funded within a five-year budget cycle
Medium Ranking Criteria
Projects that are publically owned and/or where public access is secured
Projects with intact cultural artifacts
Projects incorporating bioengineered stabilization designs
Low Ranking Criteria
Filling in gaps between areas where riverbank stabilization has already taken place and has shown effective.

Potential projects will be evaluated and ranked against the above criteria using the Project Ranking Rubric (Appendix C). The rubric is a tool to assist in the project selection process in conjunction with partner dialogue and other project information.

6.2 Collaborative Parties & Project Identification

Avista and IDEQ will coordinate efforts to work with other entities to identify cost share potentials for erosion control projects. The entities include, but are not limited to, IDEQ, IDFG, the Kootenai Shoshone Soil and Water Conservation District (KSSWCD), the Benewah Soil and Water Conservation District (BSWCD), Natural Resources Conservation Service (NRCS), U.S. Forest Service (USFS), FWS, Idaho Soil and Water Conservation Commission, Benewah County, Shoshone County, Kootenai County, the Coeur d'Alene Tribe, and the Coeur d'Alene Basin Restoration Partnership.

This Plan focuses on erosion sites located on the St. Maries, the St. Joe, and the Coeur d'Alene Rivers in an effort to be consistent with the LMP and target the upstream sources of nutrient input to ~~Lake~~ Coeur d'Alene Lake. The Spokane River, in Idaho, provides an additional ~~is an~~ area of potential erosion control projects. The following provides the mechanism for which the erosion sites and potential cost share opportunities will be further identified.

Project Identification: Spokane River

Avista will work with IDEQ to identify potential projects located on the Spokane River, in the event one may be identified within the next five years. These projects would be evaluated with the consulting agencies and in accordance with the prioritization and evaluation criteria.

Project Identification: St. Maries & St. Joe Rivers

There are projects in various stages of planning where landowners are seeking to cost share with USDA Farm Bill, or other similar programs, along the lower St. Maries and the St. Joe Rivers (from the town of St. Maries upstream to St. Joe City). IDEQ and others, will consult with staff of the BSWCD and the NRCS Plummer field office to explore three-way cost shares which could leverage funds from a landowner, the Farm Bill, and Avista. In addition, the TMDL Watershed Advisory Group (WAG) for the St. Joe and St. Maries basin may also provide assistance to ~~solicit~~ landowners with~~of~~ eroding riverbank property to participate in ~~a~~ cost share opportunities~~y~~.. ~~via the BSWCD.~~

Project Identification: Coeur d'Alene River

Avista will work with IDEQ to facilitate coordination ~~between KSSWCD, NRCS, and IDFG~~ on the approximately 60% of riverbanks owned by IDFG for the lower Coeur d'Alene River. Cost share opportunities could be leveraged with the Clean Water Action Section 319 grants (§319 grant), with 60% of the funds from EPA and 40% from Avista. ~~The KSSWCD~~A third-party could be the sponsor of §319 grant applications on the lower Coeur d'Alene River. Proposed projects on the lower Coeur d'Alene River would involve consultation with EPA staff to ensure that these riverbank stabilization projects would not fall under the purview of current or future Superfund Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedies.

Potential projects and measures may be identified by Avista, IDEQ and any of the entities previously identified. They will be evaluated through a collaborative process with these entities and then prioritized and selected according to the prioritization and evaluation criteria identified in Table 2. Summaries of previous work activities and other pertinent information will be used to help determine project effectiveness. Potential erosion control information may include, but not be limited to: the project name; size; location; ownership; current and estimated future extent of erosion; cultural resources and vegetation present; soil type and drainage; and effectiveness of desired erosion control measures. Other relevant information includes the known presence of contaminated sediments, participating partners, planning and management objectives.

It is essential that adequate funding and project oversight to complete any action is available prior to and during implementation.

7.0 EROSION CONTROL IMPLEMENTATION STANDARD METHODS/PRACTICES

7.1 General Site Approach

Sites selected for projects that have acceptable access and/or cooperative management agreements will be mapped and a basic engineering/soil assessment will be conducted to provide

site specific characterization for engineering design, permitting, bid, and monitoring documents. However, it should be noted not all sites will need these characterizations as some may already have this type of information documented or it may be deemed unnecessary for the type of work to be conducted. Appropriate riverbank site characterization (including site-specific channel features), mapping, or survey work will be determined by the project designer/engineer.

7.2 Standard Design Methods

Standard and modified NRCS methods have been ~~that will be~~ utilized to guide the design of the erosion control~~s for each~~ project~~s~~, as appropriate, ~~and may~~ includ~~inge~~ the following:

- NRCS National Engineering Manual (NEM).
- NRCS National Engineering Handbook (NEH).
  - Part 650, Engineering Field Handbook (Chapters 14, 16, and 18)
  - Part 653, Stream Corridor Restoration Handbook
- NRCS Cultural Resources Handbook.
- NRCS National Environmental Compliance Handbook.

The NRCS has~~,~~ teamed with the local conservation districts (KSSWCD and BSWCD) and~~,~~ has~~v~~e completed 12 years of review, design, and construction of over 14 miles of bank erosion control projects along the St Joe and Coeur d'Alene Rivers. Their standard design typically includes a rock wedge with live stake plantings which provides both hard armor and vegetation to address the combined influence of boat waves, flood erosion, and the altered vegetation line. Their standard design may~~will most likely~~ be utilized as a basis for proposed projects.

Moving forward, Avista will focus on incorporation of bioengineered~~ing techniques~~designs and continue to identify sites to demonstrate these alternative design techniques. These alternatives, combined with traditional ~~and other hard engineering practices in addition to~~ riprap armoring, and other hard engineering practices, ~~that~~ may alleviate system-wide impacts of bank stabilization projects. Consideration will be given to potential increases in downstream erosive forces resulting from potential stabilization projects. Additional NRCS guidance's, specific to Idaho that may be utilized to guide the design of stream bank and shoreline erosion controls include:

- NRCS Idaho Field Office Technical Guide (eFOTG), Section IV, Conservation Practice Standard – Streambank and Shoreline Protection, 580 and Idaho Construction Specifications.
- NRCS Idaho Operation and Maintenance Worksheet, Streambank and Shoreline Protection.
- NRCS Idaho Documentation Check List, Streambank and Shoreline Protection.
- Idaho Plant Materials Technical Note No. 32 Users Guide to Description, Propagation and Establishment of Native Shrubs and Trees for Riparian Areas.
- Idaho Plant Materials Technical Note No. 38 Users Guide to Description, Propagation and Establishment of Wetland Plant Species and Grasses for Riparian Areas.

- NRCS Idaho, The Practical Streambank Bioengineering Guide.
- NRCS-Idaho, Engineering Technical Note 13, "Design of Rock Weirs".
- NRCS-Idaho, Engineering Technical Note 6, "Design of Dumped Rock Riprap Stream Channel Stabilization".
- NRCS-Idaho, Engineering Technical Note 12, "Design of Stream Barbs".
- NRCS-Idaho, Engineering Technical Note 15, "Incorporation of Large Wood into Engineering Structures".

Design teams, consisting of various partners listed previously, may be utilized in development of alternative approaches. Typically the NRCS standard design for the St. Joe and Coeur d'Alene Rivers does not incorporate large woody debris or large riprap. As such, Avista does not anticipate utilizing these materials as erosion control measures. However, if these materials, or other alternative methods, are determined to be the preferred erosion control method on a specific site, Avista shall consult with the FWS prior to the implementation of those methods. Should consultation with the appropriate resource agencies on the use of large woody debris or large riprap occur, documentation will be included in the subsequent five year summary report.

8.0 SITE SPECIFIC EROSION CONTROL ACTIONS

Avista evaluated high priority sites based on existing knowledge of shoreline erosion occurring within the Coeur d'Alene Lake Basin inside the Project boundary, in addition to consultations with IDEQ, IDFG, FWS, USFS, NRCS, KSSWCD, BSWCD and the Idaho Soil and Water Conservation Commission. ~~As such,~~ Avista ~~will~~ then focused erosion control mitigation measures ~~for~~on areas located along the Coeur d'Alene, St. Joe and St. Maries Rivers. ~~-~~These mitigation measures were~~will be~~ conducted in cooperation with the other parties' plans to implement erosion control measures. As a product of such focus, over the third five-year work cycle of the License (2020 through 2024), the planned erosion control actions and maintenance of completed erosion control projects are centered on the St. Joe River. Other projects may arise within this five-year work cycle on the St. Maries River, Coeur d'Alene River, or the Spokane River, and will be considered and evaluated according to the priorities of this Plan. Table 3 outlines the upcoming site specific erosion control actions and is followed by a description of each of these actions identified for implementation during the 2020 through 2024 timeframe.

Table 3: 2020-2024 Site Specific Erosion Control Actions

Activity Year(s)	Site Specific Erosion Control Actions Description
2019 - 2020	St. Joe River, Shadowy St. Joe Log Landing Site
2020 - 2024	St. Joe River, Shadowy St. Joe Stabilization, Maintenance and Vegetation Monitoring
2020 – 2024	St. Joe River, BSWCD Section 319 Grant Opportunities
2020 - 2024	St. Joe River, Shadowy St. Joe Log Landing Site Monitoring
2020 - 2024	Education/Outreach

2020 - 2024	Additional Sites as appropriate and agreed upon by the consultation agencies[1]

~~8.1~~ **Notes: (1) = Additional sites may be identified as new information becomes available.**

~~8.2~~8.1 St. Joe River, Shadowy St. Joe Log Landing Site

The Shadowy St. Joe Log Landing, a demonstration site for future erosion control projects, is located on Avista-owned property in Section 24, T46N R1W, about 11 miles upstream of the city of St. Maries (Figure 3). The project is located within the southeastern corner of the Shadowy St. Joe Site and consists of an approximate 500 foot long timber crib, which was historically used as a log landing. The depth of the river at the base of the timber crib appears fairly deep. Photos showing this site follow.

Photographs of the timber crib at the Shadowy St. Joe Log Landing Site.

The timber crib is eroding over time and is located adjacent to approximately 6,004 feet of recently stabilized shoreline. Should the timber crib have a catastrophic failure it would most likely deposit a large amount of nutrient rich fine sediment into the St. Joe River. Given one of the goals of the Coeur d'Alene Lake Management Plan is to reduce the current amount of total phosphorus loading into the southern portion of Coeur d'Alene Lake, this site is an excellent opportunity to prevent a potentially large sediment load into the St. Joe River, and ultimately the southern portion of Coeur d'Alene Lake.

This site has a high priority ranking based upon the following factors:

- At the March 17, 2014 annual erosion meeting, Avista and the agency partners discussed utilizing this site as a demonstration site using a bioengineered design instead of the standard NRCS design. This project would allow for a side-to-side comparison of two different erosion control measures implemented on the Shadowy St. Joe site. Additionally, the site is immediately adjacent to the recently restored Shadowy St. Joe Wetland Complex located on Avista and IDFG property.
- The project is consistent with existing plans and has significant potential for water quality improvement.
- The project would have multiple partners, namely IDEQ, IDFG, NRCS, and the USFS.
- The project is located on an Avista-owned parcel, is situated between public land, and will continue to provide public access.

The timeline for Shadowy St. Joe Log Landing project has adapted as the project progressed, with construction anticipated to be complete during the 2019 through 2020 winter drawdown.

Table 4: Tasks and Timeframe of completed and future erosion control activities at the Shadowy St. Joe Log Landing Site.

Year	Task No.	Task Description
2016 - 2017	1	Worked with agency partners to further identify a site specific characterization and an analysis of the erosion control measure focusing on a bioengineered design.
2018 - 2019	2	Completed design drawings and specifications.
2017 - 2018	3	Prepared and obtained permit documents.
2019 - 2020	4	Construction to implement the bioengineered erosion control measures.

In 2017, Avista contracted with River Design Group (RDG) to begin site characterization and develop designs and specifications. Following several agency meetings and consultation, final designs were stamped in March 2019. The bioengineered design consists of removing the 500 foot length of crib-wall and excavating 5,260 cubic yards of material to construct a 100-foot wide sloping floodplain bench. Following excavation, 500 feet of bioengineered bank treatment will be installed including toe rock material, coir logs, biodegradable netting, anchoring stakes and willow cuttings placed between soil lifts. Upland of the treatment, the sloping floodplain bench will be roughened with partially buried saw-cut logs and brush to create a natural appearance with approximately 20 percent of the total surface area in each treatment area consisting of furrows and 20 percent consisting of ridges. Both the riparian floodplain and riparian slope will have native containerized plantings installed (Table 5), and the riparian zone, upland staging area and haul route will be seeded with native fescue and wheatgrass. Browse protection fencing enclosures will be placed around planted and seeded areas on the riparian floodplain and riparian slope.

Table 5. Shadowy St. Joe Log Landing anticipated riparian zone containerized plant species, spacing, and quantity plan.

Location	Species		Spacing (ft)	Quantity
Riparian Floodplain	Black Cottonwood	*Populus trichocarpa*	12	21
	Spring birch	*Betula occidentalis*	10	11
	Red Osier Dogwood	*Cornus sericea*	8	29
	Drummond Willow	*Salix drummondiana*	8	23
Riparian Slope	Black cottonwood	*Populus trichocarpa*	15	8
	Blue Elderberry	*Sambucus nigra ssp. caerulea*	15	7
	Creambush Oceanspray	*Holodiscus discolor*	8	23

	Mallow Leaf Ninebark	*Physocarpus malvaceus*	8	23
	Snowberry	*Sumphoricarpos albus*	8	18

RDG will provide a final report summarizing the project and highlighting the bioengineering techniques utilized at this site. Additionally, ~~F~~following the completion of the construction portion of the project, Avista, IDEQ and IDFG will monitor the site to assess erosion control treatment and vegetation success, by means of annual or biannual comparisons at established photo-monitoring locations. Avista will capture the results of this monitoring and assessment, including the performance of the design and vegetation success over time, in the Five Year Summary Report (2020 through 2024).

~~8.3~~8.2 Shadowy St. Joe Stabilization Site, Maintenance and Vegetation Monitoring

In November and December 2013, approximately 6,004 feet of riverbank stabilization was completed on the Avista and IDFG, Shadowy St. Joe site. This site is located just downstream of the Shadowy St. Joe Log Landing site (Figure 4). Avista, IDEQ, IDFG, and the Idaho Soil and Water Conservation Commission will continue to monitor the vegetation success at the Shadowy St. Joe site, by means of annual or biannual comparisons at established photo-monitoring locations.

Additionally, success of the erosion control design will be monitored, specifically long term durability. Monitoring will focus on evaluating the stability of the shoreline treatment such as whether the rock is remaining in place, and if not, where in the vertical shoreline it seems to be eroding, build-up of deposited sediment over the rock, and any continued erosion underneath or between the treatment over time.

As part of the riverbank stabilization and wetland restoration work (conducted under Sections III and IV of the Idaho WQC, respectively), Avista and IDFG may plant additional upland vegetation, above the Ordinary High Water Mark (OHWM), to further enhance the riparian plant community at this site. Any upland vegetation planting -associated with the riverbank stabilization, wetland restoration, or for both projects, will be completed in coordination with the Wetland and Riparian Habitat group.

~~8.4~~8.3 Future Section 319 Grant Cost Share Project

In 2017 BSWCD received a Section 319 Grant to treat a group of private landowner shorelines classified as having “Extreme” eroding riverbanks according to IDEQ’s St. Joe Riverbank Erosion Potential Inventory. The site consisted of nine privately owned parcels that totaled 1,456 linear feet of river bank. Bank treatment consisted of armoring and planting of riparian species. Avista cost shared on this project, with funds provided in accordance with Section III.D. of the ID WQC. Construction was completed by December 2018. Due to the visibility of these sites and the spread of information concerning erosion control cost share opportunities, the BSWCD has

received over twenty inquiries from private landowners on the St. Joe requesting assistance with their eroding shorelines.

In an effort to address this need, the BSWCD is prioritizing and grouping a number of these privately owned parcels into a future, single project. BSWCD is concurrently drafting a second Section 319 Grant application, to be submitted to EPA and IDEQ. BSWCD will work with IDEQ, IDFG, and Avista as it prepares its application to determine whether the Avista ID WQC Section III.D. erosion control funds would be an appropriate cost-share opportunity, . This project would then be evaluated according to the priorities listed in Table 2. An approximate timeline of this process is listed in Table 6.

Table 6. Anticipated timeline of potential BSWCD Section 319 Grant project on the St. Joe River

Year	Task No.	Task Description
2019	1	Section 319 Grant application submitted to EPA and IDEQ by BSWCD and Idaho State Water Conservation Commission
2020	2	Section 319 Grants awarded
2020	3	Obtain design drawings and specifications.
2021	4	Cost share proposal submitted to Avista and collaborating agencies
2021	5	Prepare and obtain permit documents.
2021-2022	6	Construction to implement the erosion control measures.

~~8.5~~8.4 Education and Awareness

Avista will participate in education and awareness programs which are led and coordinated by Agencies with regard to determining the best method(s) to increase public awareness of how to reduce bank erosion with minimal impact to downstream properties and maintain or improve fish habitat. This may include vegetation management combined with other appropriate methods. The targeted audience would consist of waterfront property owners, realtors, and other interested persons or groups.

These efforts will be coordinated by IDEQ, within the broader goals of one of the LMP Objectives, to increase public awareness of lake conditions and influences on water quality. Avista will provide financial support with erosion funds established by Section III.D of the ID WQC, to IDEQ as appropriate, for the implementation of the LMP's education and awareness efforts. Educational opportunities may arise from various partners within the Coeur d'Alene basin and will be evaluated for alignment with the aforementioned goals.

During the 2019 annual erosion meeting the group discussed developing a handout designed for new shoreline landowners on the St. Joe River and St. Maries River. The handout would target the frequent turnover of ownership of small shoreline parcels along the St. Joe River as many new waterfront landowners are unaware of ways to prevent erosion and protect water quality. BSWCD will take the lead in developing the handout and will coordinate its efforts with Benewah County concerning potential distribution mechanisms. BSWCD will work with Avista, IDEQ, IDFG and FWS regarding funding for design and printing costs of such educational materials.

Education and awareness efforts may also include holding an agency coordinated tour of the Shadowy St. Joe Stabilization site and the Shadowy St. Joe Log Landing site to educate local landowners and interested members of the public, of the erosion control efforts to date and discuss potential cost-share opportunities. An additional focus of this tour could be to demonstrate the differences in erosion control design and methods between the two sites. Depending on the level of success of the Shadowy St. Joe Log Landing site, it may also be a good opportunity to show land owners who have already contacted the BSWCD, seeking assistance with erosion control, that a bioengineered design is a viable alternative to traditional designs.

~~8.6~~8.5 Additional Efforts

It should be noted that due to the multiple avenues of information available, Avista and/or the cooperating agencies may become aware of an erosion control site with a high degree of erosion control urgency. As such, additional sites may be identified as new information becomes available, including results from the following studies/sources.

- IDEQ's LMP, St. Joe Riverbank Erosion and Prioritization Survey and future updates
- IDEQ's identification of cost share opportunities with private landowners, Section 319 grants, USDA Farm Bill Programs, and Avista for project sites along the lower St. Maries River and the St. Joe River from St. Maries upstream to St. Joe City, as well as the Spokane River.
- IDEQ's identification of ~~Section319 grant~~ cost share opportunities on ~~between KSSWCD, NRCS, IDFG, and Avista on~~ project sites owned by IDFG, ~~and~~ located along the banks of the Coeur d'Alene River.
- Additional studies which have not been proposed or identified to date.

9.0 REFERENCES

Avista and Coeur d'Alene Tribe. 2011. Coeur d'Alene Reservation Lake and Tributary Erosion Control Inventory and Assessment. December 14.

FERC. 2009. Order Issuing New License and Approving Annual Charges For Use of Reservation Lands. Project Nos. 2545-091 and 12606-000. June 18.

FERC. 2010. Order Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development – Article 401. Project No. 2545-128. October 13.

FERC. 2014. Order Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development – Article 401. Project No. 2545-128. September 16.

IDEQ. 2008. Idaho Department of Environmental Quality Certification Under Section 401 of the Federal Clean Water Act. June 5.

IDEQ and the Coeur d'Alene Tribe. 2009. Coeur d'Alene Lake Management Plan. March.

IDEQ. 2011. St. Joe Riverbank Erosion Potential Inventory.

NRCS. 2010. Conservation Engineering (CED). NRCS Web Site: http://www.nrcs.usda.gov/technical/ENG/

FIGURES

APPENDIX A

A.1. FERC October 13, 2010 Order Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development

A.2. FERC September 16, 2014 Order Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development

APPENDIX B

Idaho WQC Sections III and VIII

APPENDIX C

Agency Water Quality Improvement and Erosion Control: Project Ranking Rubric~~Comments and Avista Responses~~

APPENDIX D

Agency Comments and Avista Responses

Ott, Monica

From: Daniel.Redline@deq.idaho.gov
Sent: Tuesday, July 30, 2019 1:06 PM
To: Lunney, Meghan; Ott, Monica
Cc: Jamie.Brunner@deq.idaho.gov; Kristie.McEnroe@deq.idaho.gov
Subject: [External] DEQ Approval Letter for 2020-2024 Erosion Plan
Attachments: Avista 2020 Erosion 5 Year Plan_Approval Letter_July 2019.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Meghan and Monica,

Attached is the DEQ approval letter for the updated erosion plan. Let me know if you have any questions. Thanks,

Dan Redline | Regional Administrator
Idaho Department of Environmental Quality
2110 Ironwood Parkway, Coeur d'Alene, Idaho 83814
Office: (208) 666-4621
Cell: (208)514-6433
http://www.deq.idaho.gov/

Our mission is to protect human health and the quality of Idaho's air, land, and water.

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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www.deq.idaho.gov

Brad Little, Governor
John Tippets, Director

July 30, 2019

Monica Ott, Water Quality Specialist
Avista Corporation
1411 East Mission Avenue
P.O. Box 3727
Spokane, WA 99220-3727

Subject: Spokane River Hydroelectric Project, FERC Project No. 2545 2020 To 2024 Water Quality Improvement and Erosion Control Plan and 2015 To 2019 Erosion Summary Report, as Required by the Spokane River License, Appendix A, Section III

Dear Ms. Ott:

Thank you for sending a copy of the *2015 To 2019 Erosion Summary Report* for Idaho Department of Environmental Quality's (IDEQ) reference and a copy of the draft *2020 To 2024 Water Quality Improvement and Erosion Control Plan* for review and comment. We have reviewed your draft that has incorporated the comments we submitted to you July 2, 2019.

IDEQ approves the report as edited and emailed to our office July 22, 2019. As demonstrated over the past ten years, these five year work plans provide a good foundation for the identification, prioritization, and implementation of projects to improve water quality in the Coeur d'Alene Lake Basin. We appreciate the technical and financial support that Avista provides through the Spokane River License agreement, and look forward to an ongoing partnership with Avista staff and other stakeholders throughout the basin to improve water quality.

If you have any questions, feel free to contact Jamie Brunner, Coeur d'Alene Lake Management Supervisor, at Jamie.brunner@deq.idaho.gov, or 208-666-4623.

Sincerely,

Dan Redline
Coeur d'Alene Regional Administrator

c: Thomas Herron, IDEQ
Jamie Brunner, IDEQ
Meghan Lunney, Avista

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 31, 2019

Mr. Andy Dux
Idaho Department of Fish and Game
2885 W. Kathleen Ave.
Coeur d'Alene, ID 83815

Subject: **Spokane River Hydroelectric Project, FERC Project No. 2545**
2020 To 2024 Water Quality Improvement and Erosion Control Plan and 2015 To 2019 Erosion Summary Report, as Required by the Spokane River License, Appendix A, Section III

Dear Mr. Dux:

On June 18, 2009 the Federal Energy Regulatory Commission (FERC) issued a new license for the Spokane River Hydroelectric Project, FERC Project No. 2545 (License). Ordering Paragraph D of the License incorporated the Idaho Department of Environmental Quality's (IDEQ) Section 401 Water Quality Certification (Idaho WQC) for the Post Falls Hydroelectric Development. The conditions of the Idaho WQC can be found in Appendix A of the License.

Section III of the Idaho WQC required Avista to complete the initial, five year, *2010 To 2014 Water Quality Improvement and Erosion Control Plan* (2010 - 2014 Plan), which identified and prioritized actions to protect and improve water quality associated with the Post Falls HED. Upon FERC's October 13, 2010 Order (2010 Order), Modifying and Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development, Avista began implementing the 2010 - 2014 Plan.

In accordance with the 2010 Order, Avista developed *the 2015 To 2019 Water Quality Improvement and Erosion Control Plan* (2015 – 2019 Plan). Consecutively, Avista submitted the *2010 To 2014 Erosion Summary Report*, which summarized the work accomplished under the 2010 - 2014 Plan. Upon FERC's September 16, 2014 Order (2014 Order), Approving Water Quality Improvement and Erosion Control Plan for the Post Falls Development, Avista began implementing the 2015 - 2019 Plan.

The 2014 Order required Avista to prepare the *2015 To 2019 Erosion Summary Report* (Report) which summarizes the work accomplished under the 2015 – 2019 Plan and to provide copies of it to IDEQ, Idaho Department of Fish and Game (IDFG) and U.S. Fish and Wildlife Service (FWS). As such, we have enclosed a copy of the Report for your reference.

Additionally and in accordance with FERC's Orders, Avista is required to submit a new five year plan to IDEQ, IDFG and FWS for review and comment by June 1, 2019 and following IDEQ's approval of the new five year plan, Avista will file it with FERC by August 1, 2019.

Avista has enclosed the *2020 To 2024 Water Quality Improvement and Erosion Control Plan* for your review and comment. Please provide your comments and recommendations on the Plan, if you have any, by **June 30, 2019**. Following consultation, we are required to submit an IDEQ approved plan to FERC for final approval by August 1, 2019.

If you have any questions regarding the Report or Plan, please feel free to call me at (509) 495-4651.

Sincerely,

Monica Ott

Monica Ott
Water Quality Specialist

Enclosures (2)

cc: Dan Redline, IDEQ
Jamie Brunner, IDEQ
David Leptich, IDFG
Katy Fitzgerald, FWS
Meghan Lunney, Avista

Ott, Monica

From: Leptich,David <david.leptich@idfg.idaho.gov>
Sent: Friday, June 14, 2019 1:33 PM
To: Ott, Monica
Cc: Lunney, Meghan
Subject: [External] Draft 2020-2024 Erosion Plan Comments
Attachments: IDFG 2020-2024 Draft Plan Comments 061419.PDF

Hi Monica:

Here are a couple comments of the draft 2020-2024 Erosion Plan that I hope will prove helpful. Thanks for the opportunity to review this. Feel free to contact me if you have any questions or want to discuss any point.

Have a great weekend.

Dave

David J Leptich

David J. Leptich
Regional Wildlife Habitat Biologist
Idaho Department of Fish and Game
2885 W. Kathleen Avenue
Coeur d'Alene ID 83815
Office: 208-769-1414
Cell: 208-660-0755
e-mail: david.leptich@idfg.idaho.gov

IDAHO DEPARTMENT OF FISH AND GAME
PANHANDLE REGION
2885 West Kathleen Avenue
Coeur d'Alene, Idaho 83815

Brad Little / Governor
Ed Schriever / Director

Monica Ott
Water Quality Specialist
AVISTA Corporation
1411 E Mission Ave.
Spokane, WA, 99202

14 June, 2019

Subject: Spokane River Hydroelectric Project, FERC Project No. 2545
2020 To 2024 Water Quality Improvement and Erosion Control Plan and 2015 To 2019 Erosion Summary Report, as Required by the Spokane River License, Appendix A, Section III

Dear Ms. Ott:

Thank you for providing a copy of the ***Draft*** **2020-2024 Water Quality Improvement and Erosion Control Plan** for Idaho Department of Fish and Game review. We appreciate the opportunity to review and comment on the plan and are providing the following brief comments for your consideration.

1. Section 3.0 Liability:

IDFG appreciates AVISTA specifically identifying that funds available through the Water Quality Improvement and Erosion Control Plan and AVISTA Section III of the Idaho WQC obligations is available for project work in areas that have experienced historic mine waste contamination. Evaluating projects on a site-by-site basis in coordination with resource management partners to ensure important work can get completed in these area in a manner that does not expand any existing AVISTA liability is a proactive strategy. It will benefit resources and protect AVISTA interests. We support this approach.

2. Section 6.1 Selection Priorities and Evaluation Criteria Table 2:

IDFG suggests that as presented Table 2 is of limited value in helping either project proponents understand what makes a project "desirable" or project evaluators consistently evaluate and rank project proposals for potential funding. For example: Projects on public land or that have public access have "medium value" but leaves unclear if projects on private land are more or less valuable and rank higher or lower. Similarly, sites with intact cultural resources are ranked medium. However this leaves unclear if a site with no artifacts is high value because there is no risk of construction disturbance or low value because the erosion protection measures don't provide the added value of protecting cultural resources. Finally, projects that incorporate bioengineering stabilization designs are ranked medium without explanation. Does this suggest that, for example, straight rip rap has low desirability since it is most intrusive and ecologically

destructive lacking those benefits inherent in bio-engineered designs at appropriate sites? Again the rank status of alternative approaches or context conditions are not stipulated and so subject to diverse interpretations.

IDFG recommends providing a rationale for each Prioritization and Evaluation Criteria by which a project proposal would be scored low, medium, or high for that particular criteria. Additionally, we recommend adopting and adapting the AVISTA WETLAND AND RIPARIAN HABITAT PROTECTION AND ENHANCEMENT PLAN model and developing an actual points based Project Ranking Score Sheet and including it in the appendix. We believe these changes and additions will better inform the process, result in project proponents bringing forward projects that better fit the intent of the program, and lead to a more consistent evaluation and ranking of project proposals through time, especially as staff evaluators change.

Thank you again for the opportunity to review and comment on the draft Plan. Please feel free to contact me if you have any questions or concerns.

Sincerely,

David J. Leptich
Regional Wildlife Habitat Biologist
Idaho Department of Fish and Game
2885 W. Kathleen Avenue
Coeur d'Alene ID 83815
Office: 208-769-1414
Cell: 208-660-0755
e-mail: david.leptich@idfg.idaho.gov

IDFG Comments and Avista Responses

3.0 LIABILITY

IDFG Comment 1:

IDFG appreciates Avista specifically identifying that funds are available through the Water Quality Improvement and Erosion control Plan and Avista Section III of the Idaho WQC obligations is available for project work in areas that have experiences historic mine waste contamination. Evaluating projects on a site-by-site basis in coordination with resource management partners to ensure important work can get completed in these area in the manner that does not expand any existing Avista liability is a proactive strategy. It will benefit resources and protect Avista interests. We support this approach.

Avista Response:

Avista appreciates IDFG's support on its approach to liability while working in areas with historic mine waste contamination.

6.1 Section Priorities and Evaluation Criteria

IDFG Comment 2:

IDFG suggests that as presented Table 2 is of limited value in helping either project proponents understand what makes a project "desirable" or project evaluators consistently evaluate and rank project proposals for potential funding. For example: Projects on public land or that have public access have "medium value" but leaves unclear if projects on private land are more or less valuable and rank higher or lower. Similarly, sites with intact cultural resources are ranked medium. However this leaves unclear if a site with no artifacts is high value because there is no risk of construction disturbance or low value because the erosion protection measures don't provide the added value of protecting cultural resources. Finally, projects that incorporate bioengineering stabilization designs are ranked medium without explanation. Does this suggest that, for example, straight rip rap has low desirability since it is most intrusive and ecologically destructive lacking those benefits inherent in bio-engineered designs at appropriate sites? Again the rank status of alternative approaches or context conditions are not stipulated and so subject to diverse interpretations.

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Avista Response:

Avista appreciates the project specific perspective and as suggested has modified the text in Section 6.1 and Table 2 to address this comment. Additionally, a point based Project Ranking Rubric was added into

the report as Appendix C, and is intended to assist in the project selection process in conjunction with partner dialogue and other project information.

1411 East Mission Avenue
PO Box 3727
Spokane, WA 99220-3727

May 31, 2019

Ms. Katy Fitzgerald
U.S. Fish and Wildlife Service
11103 E. Montgomery Drive
Spokane Valley, WA 99206

Subject: **Spokane River Hydroelectric Project, FERC Project No. 2545**
2020 To 2024 Water Quality Improvement and Erosion Control Plan and 2015 To 2019 Erosion Summary Report, as Required by the Spokane River License, Appendix A, Section III

Dear Ms. Fitzgerald:

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Sincerely,

Monica Ott

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Water Quality Specialist

Enclosures (2)

cc: Dan Redline, IDEQ
Jamie Brunner, IDEQ
Andy Dux, IDFG
David Leptich, IDFG
Meghan Lunney, Avista

USFWS Comments and Avista Responses

The USFWS did not provide comments.