

ENVIRONMENTAL ASSESSMENT

St. Maries Federally Authorized Levee Rehabilitation of Flood Control Works Benewah County, Idaho



September 2012



**US Army Corps
of Engineers®**
Seattle District

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1 INTRODUCTION

The purpose of an Environmental Assessment, as reflected in 15 CFR sections 1500.1(c) and 1508.9(a)(1) of the Council on Environmental Quality regulations implementing the National Environmental Policy Act of 1969 (as amended) is to “provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact” on actions authorized, funded, or carried out by the federal government, and to assist agency officials in taking actions that are based on understanding of “environmental consequences, and take actions that protect, restore, and enhance the environment.” This assessment evaluates environmental consequences for the implementation of actions carried out by the U.S. Army Corps of Engineers (Corps) in cooperation with the City of St. Maries, Idaho in response to the flood events described in Section 2.0.

2 BACKGROUND

The US Army Corps of Engineers was authorized by the Flood Control Act of 1938 (Public Law 75-761) to construct flood control works along the St. Joe River to protect the city of St. Maries from flooding. The project built an earthen levee and an earth filled timber crib wall with a combined length of 2.5 miles. The project included two pumping stations to remove accumulated drainage waters behind the levee plus the diversion of Mutch Creek through the levee to allow drainage to the river. Construction of the authorized project occurred between September 1941 and January 1942.

Flooding occurred on the St. Joe River in May/June 2008, March 2011, and again in April 2012. Flooding resulted in damage of the St. Maries Levee in three non-contiguous locations. High river flows damaged pipelines and seepage paths developed at one site (Site 1) while high velocity flows resulted in scour and sloughing at two other locations (Sites 2 and 3). Emergency repairs occurred at Site 2 during the March 2011 flood event; however, this site requires further work to fully restore flood protection such that all three sites are proposed for work in 2012-2013. In the pre-damaged condition, this levee system provided 100-year level of protection to portions of the city of St. Maries and surrounding areas. With the damage, the levee provides only a 5-year level of protection.

3 PURPOSE and NEED

The Seattle District Commander declared a state of emergency on 15 May 2008. Temperatures in Washington, Northern Idaho, and Western Montana were well above normal for several days, rapidly melting a considerable portion of the above-normal snow pack. During May and June 2008, significant rapid snowmelt resulted in a long duration, 10-year frequency flood event on the St. Joe River. The peak discharge for the 2008 flood event was approximately 25,000 cubic feet per second (cfs) and the peak stage was on 19 May of 36.0 feet. Floodwaters in the St. Joe River are slow to recede due to a backup of water from Lake Coeur d’Alene in the St. Maries area.

The purpose of this Federal rehabilitation assistance project is to repair the damaged portions of the St. Maries Levee to restore adequate and reliable flood risk reduction for the residences, commercial buildings, and public infrastructure that is protected by the flood control structure.

In the current condition, the levee provides only a 5-year level of protection. With repair the St. Maries levees would return to a 100-year level of protection. The need for this project is to ensure that the levees are returned to these pre-damage levels of protection in order to minimize chances of further levee damage or breaching from flood events.

4 AUTHORITY

Both the emergency and proposed actions are authorized under Public Law 84-99 (33 U.S. Code Section 701n). Corps rehabilitation and restoration work under this authority is limited to flood control works damaged or destroyed by floods. The statute authorizes rehabilitation to the level of protection exhibited by the flood control work prior to the damaging event, with modifications to those facilities authorized under limited circumstances in order to preserve the structural integrity of the Federal projects. The City of St. Maries is the local sponsor.

5 PROJECT LOCATION AND DESCRIPTION

This Federal levee system was constructed to provide flood risk reduction to the City of St. Maries in Benewah County, Idaho from periodic recurring flooding of the St. Joe River (see Figures 1 and 2).

This urban Federal flood control project is located on the left bank of the St. Joe River with the damaged section being between river miles 2.1 and 2.7. The project is on the St. Joe River, approximately 1 mile downstream from the confluence with the St. Maries River and 10 miles upstream of Lake Coeur d'Alene. The project lies within the boundaries of the Coeur d'Alene Tribe's ceded territory. The project is located in Section 22, Township 46 North, Range 2 West of the Boise Meridian. The St. Joe River has a total drainage area of 1,886 square miles and is a major tributary to Lake Coeur d'Alene and the Spokane River system. The river flows from the western slopes of the Bitterroot Range on the Idaho/Montana border and is a tributary of the Coeur d'Alene River.

The prolonged high river flows during May and June 2008 flood event resulted in the pressurization of the Mutch Creek diversion pipe and the pump house outlet. The levee, pipe and pumphouse are all features of the original federal project. The Corps believes that the pressure led to the pipe's failing. The pipe failure then likely allowed the development of seepage paths through the levee, allowing significant piping through the levee along 1,300 feet.

On 29 March 2011 Benewah County requested emergency assistance based on National Weather Service Northwest River Forecast Center predictions that the St. Joe River would exceed flood stage in the coming days. Upon inspection, the Corps noted a back eddy and that the riverbank had lost material in a rotational slump in front of the Potlatch Mill cribwall (Site 2 in Figure 2). The rotational failure threatened the crib wall which stabilizes a ramp, parking area and the turn-around pad in the levee. A concrete floodwall protects the levee upstream of the crib wall, but stops at the top of the ramp before the parking and turn-around pad. Further slumping threatened the levee integrity in the reach that has no floodwall. From 31 March at 2100 hours to 1 April 1800 hours the Corps placed 2,120 cubic yards of 18 inch minus quarry rock onto the riverward face and toe of the levee adjacent to the Potlatch Mill crib wall to prevent further rotational failure. The emergency repair placed material along 180 feet with a roughly 2:1 riverward slope. The majority of this work was out of the water, with approximately 75 feet of work in the water.

A third high water event in late March and early April of 2012 resulted in further damage to the St. Maries Federal Levee. Site 2 is located downstream of the floodwall where a 60-foot long tension crack developed in the material that was placed during the 2011 emergency response. In general, this crack is 3 inches wide and 4 inches deep with a vertical displacement, meaning vertical distance from upper edge to lower edge, of 3 inches. At its widest point, the crack was measured at 7.5 inches wide with a vertical displacement of 8 inches. The final damage area, Site 3, is located upstream of the floodwall and sustained a rotational slope failure during the 2012 high water event. The rotational failure is approximately 5 feet in height and approximately 20 feet wide. The depth into the slope is approximately 5 feet. During the site investigation, the project team also noted areas of scour between the rotational failure and the floodwall for a total of 160 feet.



Figure 1. Map of Idaho showing general location of the levee rehabilitation project area.

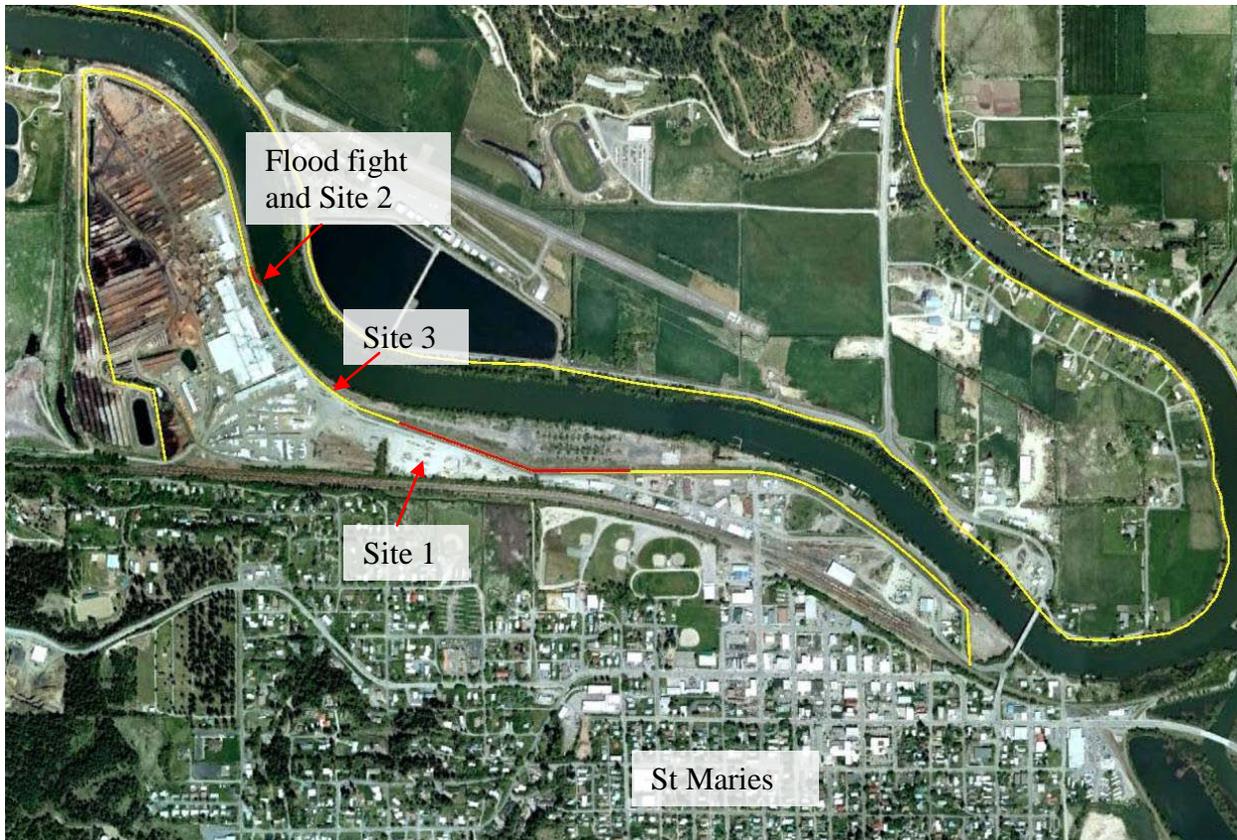


Figure 2. Location of the St. Maries levee rehabilitation project sites. Area levees are shown in yellow, repair sites are highlighted in red.

The City of St. Maries is the county seat of Benewah County and has a population of approximately 2800 people. The local economy is driven by the timber, mining, and farming industries (US Census 2012). The levee protects about 38 residences and 13 commercial businesses within St. Maries. One of these businesses is the Potlatch Corporation, a lumber mill complex which is the largest employer in Benewah County.

The levee to be repaired is part of the Federal flood control project. The Federal levee project was completed in 1942 and is comprised of a series of levees and flood walls along the St. Joe River for approximately 2.5 miles. The Federal project also included construction of a diversion pipe and a pump house system on Mutch Creek at the repair location. See Appendix A for a map of the Mutch Creek drainage area and the pipe location.

Throughout the reach of the proposed levee repair, the river is a low gradient channel with a wide floodplain. The toe of the levee at Site 1 is located approximately 500 feet away from the main channel of the river, while at Sites 2 and 3 the main channel is adjacent to the levee toe. The levee is well maintained for inspectability such that it is predominantly vegetated with forbs, grasses, shrubs and with only scattered black cottonwood trees (*Populus balsamifera*), red-osier dogwood (*Cornus stolonifera*) and black hawthorn (*Crataegus douglasii*). These plants provide important food and shelter resources for birds and mammals in this area.

Sixty miles of the river, from above the confluence of the North Fork of the St. Joe River to St. Joe Lake have been declared part of the National Wild & Scenic River system. The project area is approximately 50 miles downstream from the portion of the river that is designated Wild and Scenic.

The proposed project includes work at three sites to fully restore the pre-flood level of protection to the St. Maries Levee. Site 1 construction may be split into two time periods if cold weather hits early in the fall and prohibits proper installation of roadway materials. The current proposal is to complete Site 1 from October to December 2012, with potential for delay until spring/summer 2013 for all or a portion of the construction, as needed. Site 2 includes no inwater work and is expected to be completed in fall/winter 2012. Work at Site 3 is proposed for November 2012, during the inwater work window for bull trout (July 15 - Sept 1 and Nov 1 - Feb 28).

6 ALTERNATIVES CONSIDERED

Alternatives considered under the NEPA must include the proposed actions (Preferred Alternatives), and the No-Action alternative, as well as other reasonable alternatives that meet the purpose of the project. Multiple alternatives were considered including the No-Action Alternative, the Repair in Place Alternative, the Setback Alternative, the Seepage Berm Alternative, and the Non-Structural Alternative. In order for any alternative to be acceptable for consideration it must meet the purpose of the proposed project. The project purpose is to provide for flood protection equivalent to the level of protection that pre-existed the initial damaging flood event, be economically justified, be environmentally acceptable, and should minimize costs for the non-Federal Sponsor and the Federal government to the extent possible. Because there are multiple sites, each repair location was looked at individually to determine the most appropriate alternative for that location. Because of the unique characteristics of each site, including extent of damage, river flow direction and velocity, existing landuse, etc, the final preferred alternative for each site was also unique.

The proposed project includes work at three sites to fully restore the pre-flood level of protection to the St. Maries Levee. The Site 1 and Site 2 proposed repairs include no work in the St. Joe River and construction is anticipated for Fall 2012. Site 1 construction may need to be split into two time periods if cold weather hits early in the fall and prohibits proper installation of roadway materials. Current proposal is to complete Site 1 from October to December 2012, with potential for a portion of the construction to be completed in the spring if needed. Work at Site 3 is proposed for November 2012, during the inwater work window for bull trout (July 15 - Sept 1 and Nov 1 - Feb 28).

6.1 No Action Alternative

Under this alternative, the Corps would not provide assistance to the City of St. Maries; no project features would be implemented. The levee system would continue to only provide protection against a 5-year flood event. The decreased level of protection increases the risk of flood damage to residences, commercial structures, and public infrastructure. The levees would remain damaged and could potentially sustain further damage. A levee failure would result in damages within the City of St. Maries, Idaho and its associated infrastructure, and thus would not meet the project purpose and need.

6.2 Repair in Place Alternative

This alternative repairs the levee by returning it to the pre-flood condition with minimal or no change to the character, scope, or size of the levee. This alternative maintains the status quo of the river and levee at the repair location as existed prior to the flood damage.

6.3 Setback Alternative

This alternative removes all or part of the existing levee and builds a new levee landward of the existing location. This alternative maintains the level of flood protection but increases floodplain access for the river. Setbacks are often limited by the availability of lands and the higher cost of designing and constructing a new levee over repairing the existing levee.

6.4 Seepage Berm Alternative

Seepage of water through a levee can remove foundation material and cause levee failure. Seepage berms are the addition of material on the landward side of the levee to provide a downward weight that counteracts the high exit gradients of water through the levee. Seepage berms also lengthen the seepage path, and thus decrease the pressure head and the seepage pressure in the area beyond the berm. Seepage berms are very effective seepage mitigation measures and will prevent movement of fine material from the levee and its foundation.

6.5 Non-Structural Alternative

This alternative would include no repairs to the damaged levee and would instead relocate all existing structures, utilities and infrastructure protected by the levee beyond the flood inundation zone. Typically the costs associated with flood proofing or relocating the structures in the potential inundation area would significantly exceed the cost of repairing the damaged levee.

6.6 Preferred Alternative

As noted above, each repair location was looked at individually to determine the most appropriate alternative for that location and the final preferred alternative for each site was unique. The alternatives implemented or proposed for each site include combinations of the above measures, as detailed below.

6.6.1 Site 1

The recommended repair alternative for Site 1 (Figure 3) is the Seepage Berm alternative plus pipe replacement. This alternative includes constructing a 3-foot to 4-foot seepage berm by essentially raising Railroad Avenue. The berm would create an effective seepage control structure. The seepage berm would include a non-woven filter fabric and 2 feet minimum depth of 2-inch minus subbase. The berm would be capped with aggregate base course and finished with 4 inches of asphalt pavement. The landward toe will be located such that the project will not involve filling the adjacent wetland. The project would be transitioned to the existing roadway height for approximately 100 feet at each end of the seepage berm at a reasonable roadway grade. The total length of the project would be 1500 feet to include these transition areas. Also, the Mutch Creek diversion pipe and the 20" pump house outlet pipe would be replaced to correct any postulated deficiencies in the conduits. It is theorized that, when the flap gates are closed on these pipes, pressure develops and any weak points in the pipes leak, creating pressure in the ground water and causing piping damage to the levee. The proposed repair would

entail replacing approximately 150 feet of the 48-inch Mutch Creek diversion pipe with 48-inch high-density polyethylene (HDPE) butt welded pipe and replacing approximately 120 feet of the 20-inch pump house outlet line with 20-inch HDPE butt welded pipe. Repair of the pipe through the levee, and rerouting of traffic during construction will require a portion of the levee, up to 500 feet, to be removed and rebuilt.

This alternative will result in a wider roadway (Railroad Avenue) landward of the levee. The current road is typically 25 feet wide. The width of the proposed road varies from 26 feet (at the pinch point near the pump house) for 170 feet, 32 feet wide for 870 feet, and 30 feet wide for 604 feet (total 1500 feet). The current amount of impervious surface is 37,500 square feet and the proposed road would have 46,100 square feet. The volume of material for the seepage berm was calculated to meet the required factor of safety, however the configuration of this material allows for some variability in width and height. This roadway is highly travelled by logging trucks entering and exiting the mill. The City of St. Maries requested that the roadway be widened to improve traffic safety in this stretch. No additional volume of material or construction cost was needed to vary the design to be slightly wider and shorter (versus taller with the existing road width). Additional cost would have been associated with designing the updated stormwater drainage system associated with the increased impervious surface. As this additional cost would have been the result of a change requested by the City, the cost was the responsibility of the City. The City determined that they had the capability to complete this task. As such, the City has the sole responsibility of designing, permitting, and constructing the needed stormwater drainage system to handle the increased impermeable surface.

Site 1 construction may need to be split into two time periods if cold weather hits early in the fall and prohibits proper installation of roadway materials. The current proposal is to complete Site 1 from October to December 2012, with potential for delay until spring/summer for all or a portion of the construction, as needed.

The seepage berm construction at Site 1 will avoid impacting the wetland and pond adjacent to the pump house; however, excavation for the pipe replacement will require temporary impacts of the wetland. Approximately 267 square feet of wetlands and 505 square feet of pond would be impacted (Figure 4). Construction would involve removal of vegetation, including up to 18 black cottonwood (*Populus trichocarpa*) ranging in size from 1 to 18 inches diameter at breast height (average 7 inches DBH). Once the pipe replacement is complete, the elevations would be rebuilt to resemble the pre-construction slopes and hydroseeding would be done within the repair area. It is anticipated that nearby cottonwood trees will naturally recolonize the area quickly.

The St. Maries Creosote Superfund Site is located riverward of the levee at Site 1. Studies done by the potentially responsible parties and the Environmental Protection Agency (EPA) found that sediments, soils and groundwater have been contaminated with creosote from the former wood-pole treating plant at that location. The Corps is closely coordinating the repair efforts with the EPA to ensure that no work would occur in contaminated areas and no disturbance to the Superfund Site would occur. The excavated area for the pipe replacement is expected to accumulate groundwater and dewatering efforts are expected. As the potential exists for groundwater contamination, this accumulated water will be monitored. Sheen will be one of the most likely triggers for treatment. Sheen is likely to appear in any water contaminated by the creosote-treated wood stave pipe and/or the Superfund site, and water producing sheen will not be discharged to surface water. In addition to sheen, any other exceedence of water quality standards will require the water to be treated prior to discharge to surface waters. Onsite

treatment by filtration is the expected treatment method. If onsite treatment methods cannot be used to achieve required water quality (or if offsite treatment is economically favorable), the water will be disposed of at a certified wastewater treatment plant. No water will be released into the river unless it meets the conditions of the water quality certification and meets or exceeds the Water Quality Standards for Approved Surface Waters of the Coeur d'Alene Tribe.

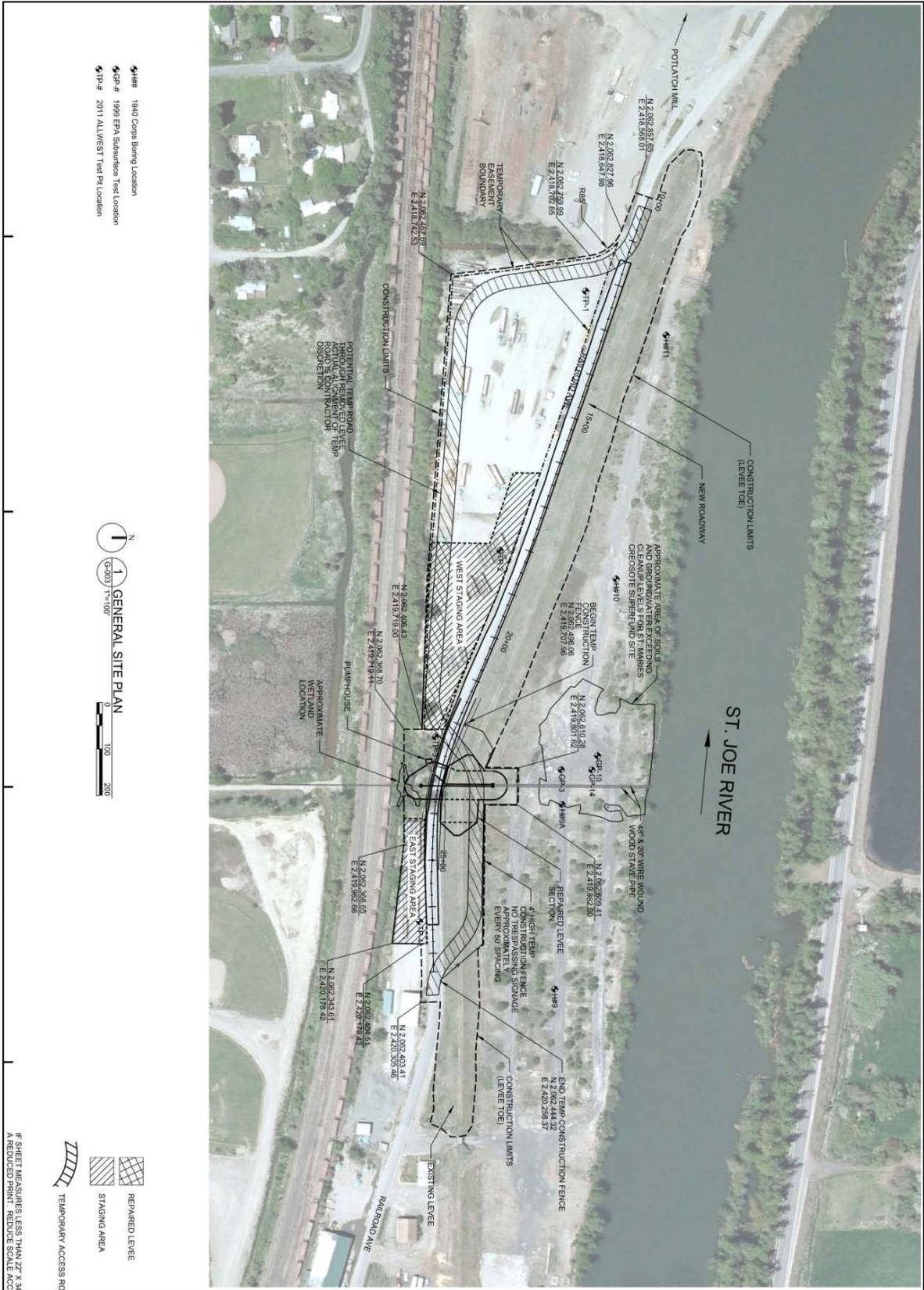


Figure 3. Plan view of Site 1.

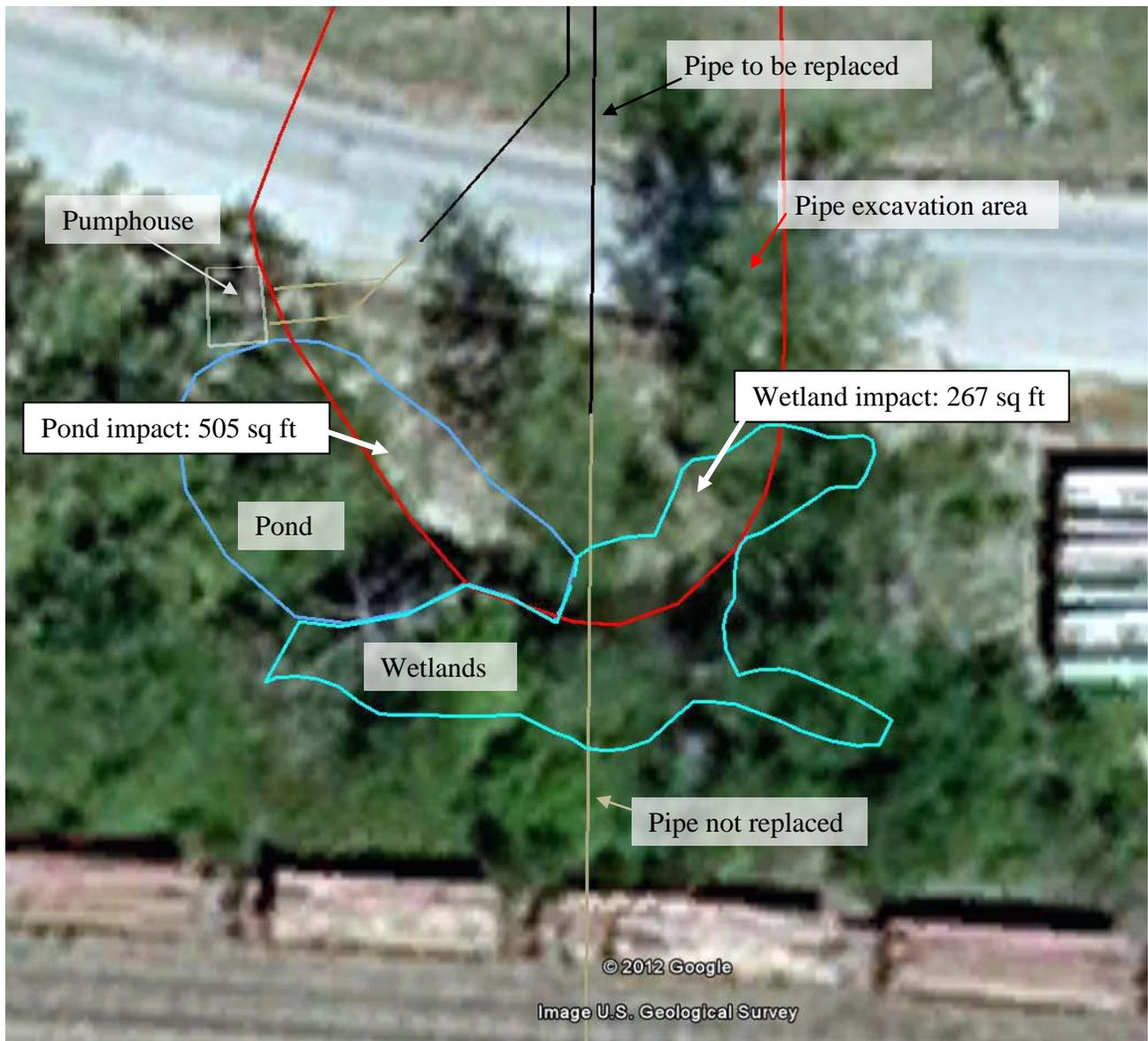


Figure 4. Wetland impact location at Site 1.

6.6.2 Site 2

As noted above, emergency work was completed at Site 2. From 31 March 2011 at 2100 hours to 1 April 2011 at 1800 hours, the Corps placed 2,120 cubic yards of 18-inch minus quarry rock onto the riverward face and toe of the levee adjacent to the Potlatch Mill crib wall to prevent further rotational failure. The full repair comprised 180 linear feet with a roughly 2:1 riverward slope (Figure 5). The majority of this work was out of the water, with approximately 75 feet of work in the water.

The repair proposed for 2012 at Site 2 (Figures 5 and 6) is the Repair in Kind, with some modification. The repair includes removing the overburden at this location to restore a stable riverward slope above ordinary high water. The tension crack occurred in material that was placed during the 2011 emergency repair. The tension crack is 60 feet long. It is on average 3

inches wide and 4 inches deep with a vertical displacement, meaning vertical distance from upper edge to lower edge, of 3 inches. At its widest point, the crack was measured at 7.5 inches wide with a vertical displacement of 8 inches. The total length of overburden removal is approximately 145 feet and would include excavation of the material above the waterline. No excavation would occur below the water. The working pad would be reduced to a 12-foot wide bench and the slopes would be re-graded to a more gradual slope to meet the new catch point.



Figure 5. Plan view for Site 2. The orange line indicates the flood fight area, with red line indicating the portion of the flood fight in the water.

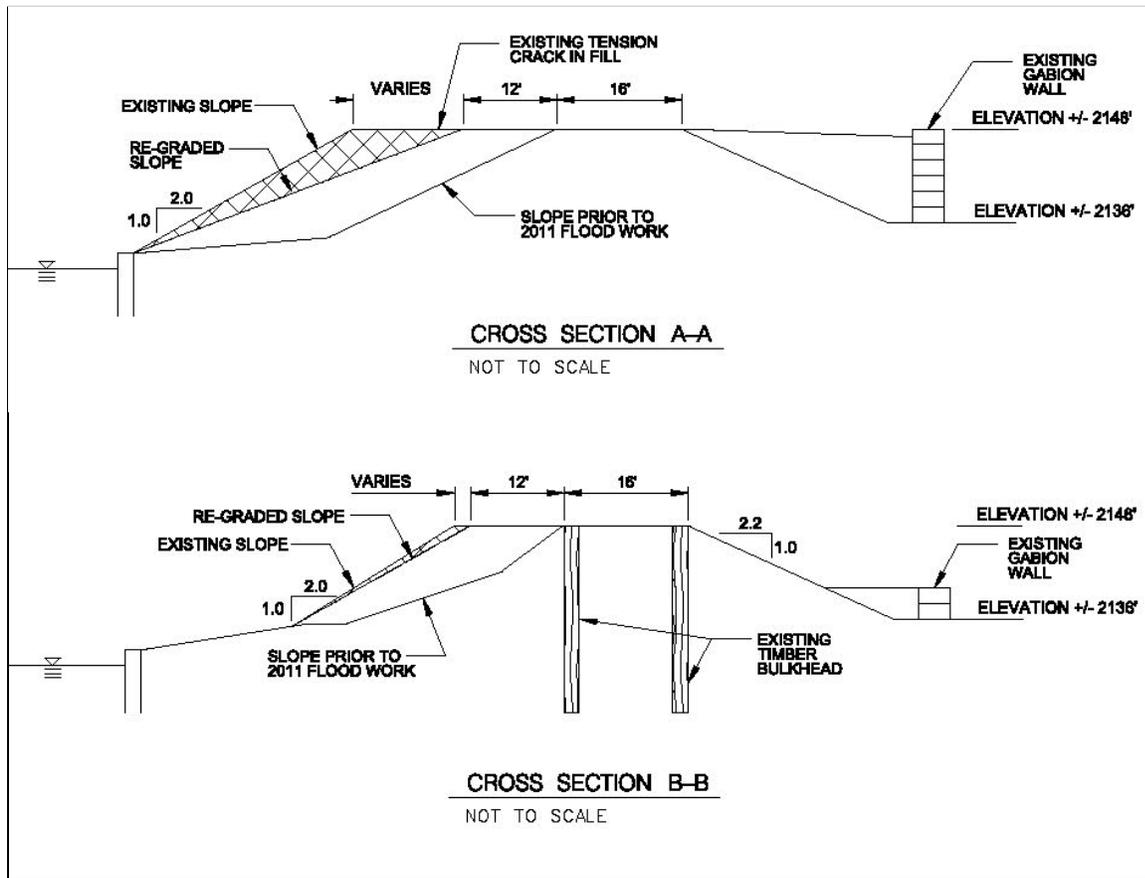


Figure 6. Cross sections for Site 2.

6.6.2 Site 3

The recommended repair alternative for Site 3 (Figures 7 and 8) is to Repair in Kind by restoring the pre-flood riverward slope. The repair would include armoring the slope above the existing bench with Class 2 riprap. Class 2 riprap includes rock 8 to 22 inches in diameter, with 50% of the rocks greater than 16 inches. The armor would include a 1 foot filter blanket (spall rock) that should also improve drainage from the slope. The weight and strength of this rock armoring is intended to buttress the slope, while nullifying any potential for erosion and bank undercutting. The full repair would be 160 feet. This repair will constitute a change in bank substrate at this location, placing rock on what had been an earthen bank. The repair will tie into existing rock at the downstream end, extending the armored bank by 160 feet. There is a bench just below ordinary high water (approximately two feet below the ordinary high water elevation), with the damaged bank being above that bench. The work will extend down to this bench, including rock placement below ordinary high water. Depending on the water level at the time of construction, the repair may require rock placement in the water. The finished profile of the levee will not extend beyond the pre-damaged toe, as defined by the upstream and downstream limits of undamaged levee and by maintaining the slope of the undamaged upper portion of the levee.

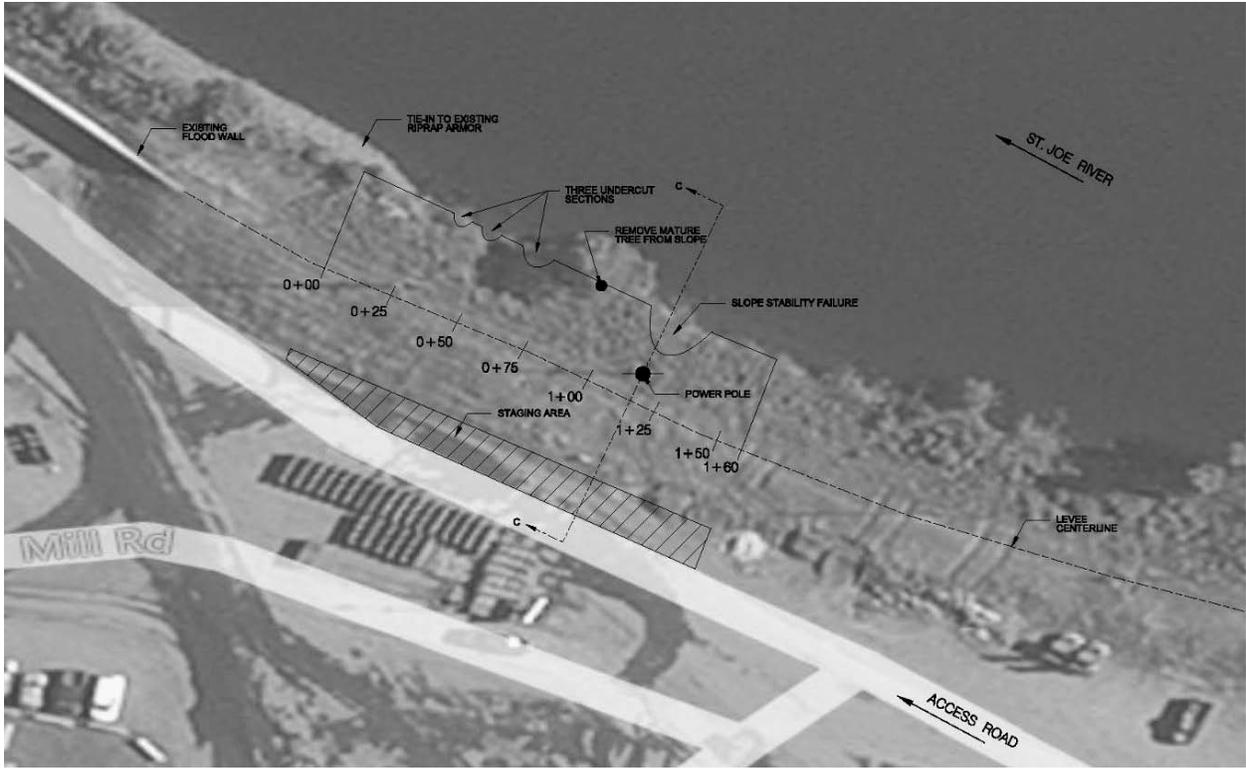


Figure 7. Plan view for Site 3.

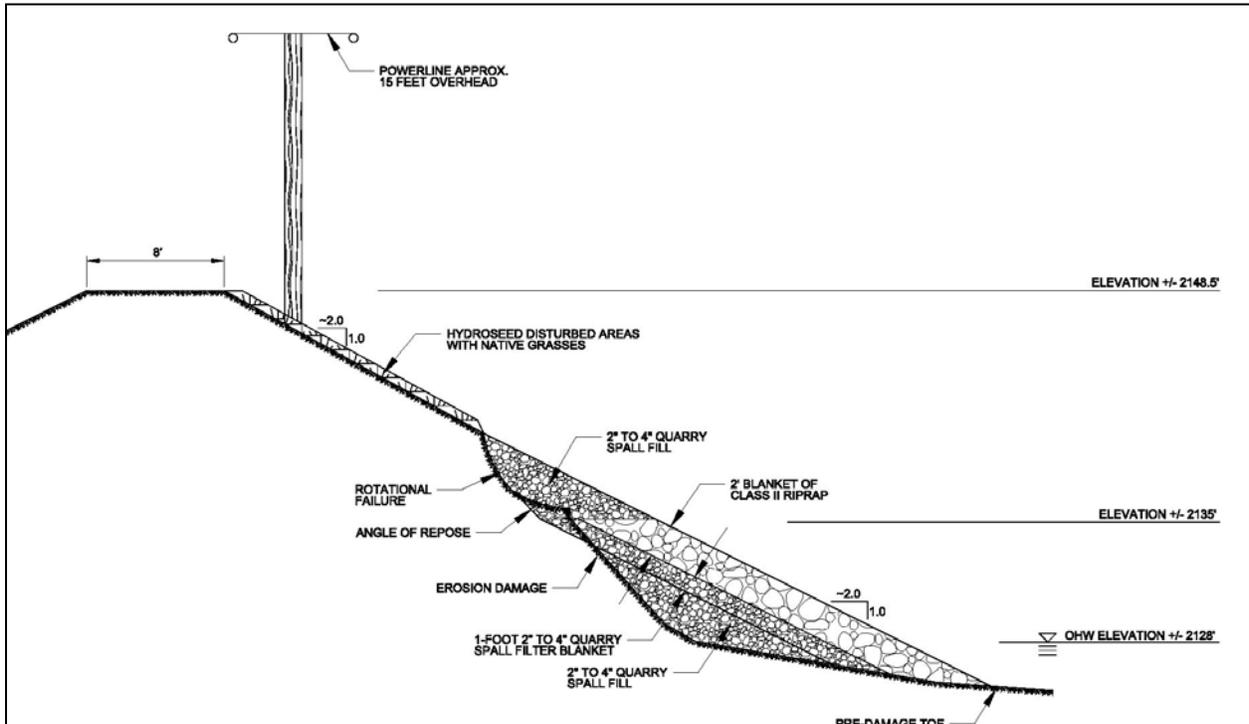


Figure 8. Cross sections for Site 3.

6.7 Conservation Measures

Several measures were or would be employed during construction of the remaining sites to minimize adverse project effects on the environment.

- Proposed in-water work would be accomplished only during the approved in-water work window (July 15 - Sept 1 and Nov 1 - Feb 28) and during low water conditions (late fall/early winter).
- Only rock with minimal fines will be placed in the water to avoid turbidity increases.
- There will be no end dumping of material into the river. Riprap will be individually placed; quarry spalls will be placed in small quantities from the bucket of an excavator.
- No new access roads will be constructed.
- Vegetation removal will be limited to the minimum extent needed to complete the repairs.
- No permanent loss of wetlands or sensitive aquatic sites will occur.
- Disturbed areas will be seeded with native grasses upon project completion.
- All disturbed areas with slopes greater than 3:1 will have mid-slope erosion control (such as straw wattles) and will have secondary erosion control methods (such as an erosion control blanket) until vegetation can be established.
- Culvert replacement will not occur within the boundaries of the Superfund site.
- Any contaminated groundwater encountered during site dewatering will be treated to meet required standards prior to discharge.

Construction Best Management Practices (BMPs) will be included during the construction, and to the extent practicable were included during flood fight operations. See Table 1.

Table 1. BMPs Implemented During Construction

1. Equipment used near the water will be cleaned prior to construction.
2. Work will be conducted during a period of low flow.
3. Biodegradable hydraulic fluids will be used in machinery where appropriate.
4. Refueling will occur on the backside of the levee.
5. Construction equipment shall be regularly checked for drips or leaks.
6. At least one fuel spill kit with absorbent pads will be onsite at all times.
7. Drive trains of equipment will not operate in the water.
8. At least one biologist will be onsite or available during construction.
9. Continuous visual water quality monitoring will be conducted during construction;

with measurements taken when a plume is noted.

10. Individual placement of clean riprap (no end dumping) into the water.

11. All noxious species will be removed where work is being accomplished.

In addition a Fueling and Spill Recovery Plan will be developed prior to construction that will include specific BMPs to prevent any spills and to prepare to react quickly should an incident occur. Similar repairs have been conducted with strict water quality monitoring efforts. No significant turbidity was noted during the emergency flood response. Visual monitoring will be conducted throughout construction of final repairs in 2012 and if plumes are noted, turbidity readings will be taken. Should construction cause an exceedance of the maximum turbidity standards, work will be halted and construction methods adjusted to ensure that further exceedances will not occur.

In the 2011 floodfight, BMPs were in place to minimize impacts of the completed emergency response. Rocks were placed individually to limit disturbance and no turbidity increases were noted. See Appendix A for pictures of the flood fight.

7 AFFECTED ENVIRONMENT

7.1 Topography, Hydrology, and Soils

The St. Joe River, part of the Spokane River drainage basin, flows through the northern Idaho towns of Avery, Calder, and St. Maries before eventually discharging into Lake Coeur d'Alene. The St. Joe River originates on the western side of the Bitterroot Mountain Range near the Idaho-Montana border. The St. Joe River basin drains an area of approximately 1,886 square miles and contains more than 739 miles of streams with over 78 principle tributaries. The river flows in a westerly direction entering the southern end of Lake Coeur d'Alene near St. Maries, Idaho. Mean monthly discharge for the St. Joe River near Calder ranges from a low of 472 cfs in September to a high of 7,969 cfs in May (USGS 2011). The upper river flows over rocky substrates through deep mountain gorges with alternating rapids and deep pools. Stream width and pool depth average 33 feet and 6.5 feet respectively, in the headwaters of the St. Joe River (Rankel 1971). In contrast, the lower river flows slowly through land with gentle topography characterized by lowland meadows. Stream widths and mid-channel depths in the lower river average 260 feet and 29.5 feet m, respectively. The St. Maries River is the largest tributary to the St. Joe River. Other tributaries of significance include Cherry, Thomas, Street, Rochat, Bond, Falls, Trout, Hugus, Moose, Mica, and Big creeks.

The St. Joe River is well gauged in the vicinity of the project area, with readings at Calder and near St. Maries. USGS Gage 12414500 at Calder has 93 years of peak data, which the National Weather Service uses in determining flood watches and warnings at St. Maries. The most recent peak discharge – and the event that caused the newest damage to the levee system – occurred on 28 April 2012 and produced a stage at St. Maries of 36.28 feet. Action stage, as determined by the Weather Service is 31 feet. Minor damage stage, moderate damage stage, and major damage stage are identified by stages of 32.5, 36, and 38 feet, respectively. Six events on record have exceeded major flood stage; most notably, the river in 1933 reached 42.20 feet, the highest river stage of record.

The mountainous drainage basin feeds into the St. Joe River valley, which becomes broad with a generally shallow channel bed slope near St. Maries. This equates to relatively slow average channel velocities, even during some peak events, although localized scour can occur in bends and system irregularities. Because high water is usually driven by spring snowmelt, the duration of high water events can last for weeks and is the cause for concern relating to levee slope instability and rotational failure.

Unconsolidated fluvial and deltaic sediments underlie the project area and the entire St. Joe River valley (ARCADIS 2006). The Natural Resources Conservation Service soil mapping classifies all three sites as a silt loam. Based on the EPA subsurface soil profile for the area riverward of the levee, the levee foundation consists of a 10-foot thick relatively impervious silt/silty sand layer with approximately 50% silt. This is underlain by silts and sands as well as poorly graded sands. Typically, this condition has the potential to induce high exit gradients that could initiate seepage and piping of material.

7.2 Vegetation

Vegetation on the St. Maries Levee is managed to maintain a high standard of levee safety and inspectability. Vegetation is predominantly grasses and forbs with immature willows and dogwoods. Sporadic larger trees exist on the riverward side of the levee, though the opposite bank has a wider vegetated bench that is forested. One wetland was found in the project area, landward of Site 1. The wetland is a highly disturbed riverine wetland associated with a ditch and pond. The northern portion of the wetland receives overbank flow from the ditch, water from a culvert under Railroad Avenue, and runoff from the road. The southern portion receives overbank flow from the ditch and runoff from the railroad embankment. An onsite pump house system is used to drain the adjacent ditch and pond. The wetland is comprised of herbaceous, shrub and forested plant communities. It is dominated by black cottonwood (*Populus balsamifera*) trees in the overstory, red-osier dogwood (*Cornus sericea*) and hardhack (*Spiraea douglasii*) in the shrub layer, and reed canarygrass (*Phalaris arundinacea*) in the herbaceous layer. Primary functions identified are water quality improvement and wildlife habitat. The wetland receives pollutants from the railroad line, road, and nutrients and sediment from water conveyed in the ditch. Persistent ungrazed vegetation and small depressions in the wetland may help trap and remove pollutants, improving water quality. The wetland is also part of a wildlife corridor, providing potential habitat for birds and small mammals.

7.3 Fish and Wildlife

Ellis (1940) investigated the St. Joe River during a biological survey of the area. Ellis (1940) stated that "a good bottom fauna typical of the local stream conditions was found at all stations on the St. Joe River." The physical habitat conditions along the St. Joe River have changed since the time of Ellis's survey, but have not resulted in a significant impairment to the general health of the aquatic resources found within the drainage. Fisheries surveys have been conducted intermittently in the St. Joe River and its tributaries since the mid 1970s by the Idaho Department of Fish and Game (IDFG). Electrofishing surveys conducted in 1986 indicated that mountain whitefish was the dominant game fish captured in the St. Joe River on all sampling dates; suckers dominated the total catch (Apperson et al. 1998). During the 1986 survey, suckers, northern pikeminnow (then called squawfish), and mountain whitefish dominated the catch in the section from Huckleberry Campground downstream to Falls Creek (Apperson et al. 1998). No

cutthroat trout and only three rainbow trout caught during the August sampling, during which water temperatures exceeded 20°C in both sections (Apperson et al. 1988). Cutthroat trout and rainbow trout were caught in both sections in October (Apperson et al. 1988).

Elk (*Cervus canadensis*) and moose (*Alces alces*), as well as black bear (*Ursus americanus*) and mountain lion (*Puma concolor*) frequent wildlife management areas outside of the city (Idaho Department of Fish and Game 2012a), however the urban environment of the project area limits the wildlife at the site to those acclimated to human presence and noise.

In Idaho, large concentrations of wintering bald eagles are found along Lake Coeur d’Alene (Idaho Fish and Game 2012b). Eagles move to wintering grounds in Idaho beginning in October, with populations peaking in January and February. Some nesting pairs remain year-round, but winter populations are supplemented by migrants from Canada. Bald eagles nest in late February to early April in Idaho with eaglets hatching in mid-April to early May. No nests are known in the project area. Bald eagles may roost near the project areas; however the area is urban and highly trafficked due to the proximity of the lumber mill. Eagles using the area would be expected to be highly acclimated to human presence and activity. Although bald eagles were delisted on 28 June 2007, they continue to be protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

7.4 Threatened and Endangered Species

In accordance with Section 7(a)(2) of the ESA, federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed and proposed threatened or endangered species. Four species protected under the ESA (Table 2) as well as one candidate species, may occur in the vicinity of the project or in Benewah County. The following sections briefly summarize relevant information for the protected species and evaluate how the proposed project may affect them, concluding with a determination of effect.

Table 2. ESA Protected Species in Benewah County (USFWS 2011)

Species	Listing Status	Critical Habitat
Canada lynx (<i>Lynx canadensis</i>)	Threatened	Designated, does not include the project area
Bull trout, Columbia River DPS (<i>Salvelinus confluentus</i>)	Threatened	Designated, includes the project area
Water howelia (<i>Howellia aquatilis</i>)	Threatened	NA
Spalding’s catchfly (<i>Silene spaldingii</i>)	Threatened	NA
Wolverine (<i>Gulo gulo</i>)	Candidate	NA

As the project is within an urban area and is adjacent to an industrial site, most of the above listed species are not expected to be found in the project vicinity. Canada lynx inhabit forested areas above about elevation 3,500 feet that receive deep snow and have high-density populations of snowshoe hares. Similarly, south of the Canadian border, wolverines are restricted to high mountain environments near the treeline, where conditions are cold year-round and snow cover persists well into the month of May. Both of these reclusive mammals are very unlikely to occur in the urbanized project vicinity.

Water howellia grows in areas that were once associated with glacial potholes and former river oxbows that flood in the spring, but are at least partially dry by late summer. It is often found in shallow water (1-2 meters) and on the edges of deep ponds that are partially surrounded by deciduous trees such as black cottonwood and aspen. Spalding's catchfly is found predominantly in the Pacific Northwest bunchgrass grasslands and sagebrush-steppe, and occasionally in open-canopy pine stands. No suitable habitat for water howellia or Spalding's catchfly exists at the project site.

These species are not expected to be present in the project area due to specialized habitat requirements, lack of tolerance for human activity, or both. No effect to Canada lynx, wolverine, water howellia, or Spalding's catchfly is expected, and these species will not be discussed further.

7.4.1 Columbia River ESU Bull Trout

The USFWS (1999) listed this Distinct Population Segment as threatened effective 10 July 1998. This includes bull trout residing in portions of Oregon, Washington, Idaho, and Montana. Bull trout are estimated to have occupied about 60 percent of the Columbia River Basin, and presently occur in 45 percent of the estimated historical range (Quigley and Arbelbide 1997)

Bull trout are currently found primarily in the upper portions of the St. Joe River subbasin (PBTTAT 1998; USFWS 1999), which contains spawning and rearing habitats. Migratory bull trout also use the St. Joe River and Lake Coeur d'Alene for foraging, migrating, and overwintering habitat. Spawning and rearing are concentrated in relatively few tributaries of the St. Joe River subbasin (USFWS 1998). In the St. Joe River subbasin, the highest densities of bull trout redds are primarily found upstream of Heller Creek. The St. Joe River in the project area is used primarily as a migratory corridor and is designated as bull trout critical habitat throughout the project area.

7.5 Cultural Resources

The St. Maries Levee project is located in a high probability area for the cultural resources for both prehistoric and historic cultural resources.

The St. Maries Levee project is located within the eastern boundary of the Coeur d'Alene Tribe Reservation which is a part of the wider traditional territory of the Coeur d'Alene Tribe. Four villages are located within vicinity of the project area. The Coeur d'Alene people had early contact with fur trappers and in 1842 the Jesuit priest Pierre Jean de Smet met the Coeur D'Alene Chief Stellam in Post Falls. A mission was established first along the St. Joe River but was moved to Cataldo along the Coeur d'Alene River.

Euro-American settlement was sparse in the St. Maries area and it was not until 1887 that the first sawmill was established at the junction of the St. Joe and St. Maries River. The town of St.

Maries grew and by 1905 the population reached 400 people. Logging was one of the main economic resources in the St. Maries area. In 1942, the Army Corps of Engineers constructed the St. Maries Levee along the St. Joe River to protect the town of St. Maries from reoccurring flooding of the St. Joe River.

The Corps has determined that the proposed rehabilitation project is an undertaking of the type that could affect historic properties and must comply with the requirements of Section 106, as amended through 2004, of the National Historic Preservation Act of 1966, as amended through 2000 (NHPA) (16 USC 470). Section 106 requires that Federal agencies identify and assess the effects of Federal undertakings on historic properties and to consult with others to find acceptable ways to resolve adverse effects. Properties protected under Section 106 are those that are listed or are eligible for listing in the National Register of Historic Places (NRHP). Eligible properties must generally be at least 50 years old, possess integrity of physical characteristics, and meet at least one of four criteria for significance. Regulations implementing Section 106 (36 CFR Part 800) encourage maximum coordination with the environmental review process required by the NEPA) and other statutes. Under Section 101(d)(2) of the NHPA the Coeur d'Alene Tribe has assumed all responsibilities of the State Historic Preservation Officer (SHPO) for Section 106 compliance of tribal land. As the St. Maries project is located within the eastern boundary of the Coeur d'Alene Reservation the Corps has consulted with the Coeur d'Alene Tribal Historic Preservation Officer (THPO).

7.6 Water Quality

The lower 30 miles of the St. Joe River have been largely converted from a riverine to lacustrine system from the construction of the Post Falls Dam in 1906, and the resulting increased lake level elevation. As a result, water depth and velocity, as well as sediment transport capacity in this stretch of river have been altered. A secondary and relatively minor impact evident in the St. Joe River drainage is the presence of a road along the length of river from St. Maries upstream approximately 103 miles (Rankel 1971). Miles of streambank were likely denuded for road construction but little channel alteration has occurred. Lack of habitat is the major factor limiting fish populations in the lower St. Joe River downstream from St. Joe City, and in the St. Maries River downstream from Lotus Crossing (Apperson et al. 1988). Instream cover and spawning habitat are generally absent in these areas. Logging occurs within the St. Joe River basin and has likely resulted in the introduction of fine sediment into this system. Water quality issues in lower reaches of the St. Joe River include bank erosion, nutrient enrichment from point and non-point sources, excessive growth of aquatic plants, and bacterial contamination. River bank erosion is a primary water quality issue in the lower St. Joe River. At the project reach, water quality in the St. Joe River is not listed as impaired (IDEQ 2012).

Ground water levels shown in the EPA's soil profile show a high water table about 5 feet below the natural ground surface. Due to the proximity of the Superfund site, there is potential for encountering contaminated groundwater from the excavation during dewatering. Contract specifications will direct the contractor to ensure that any waters from the project site meet or exceed applicable standards before being released into surface waters. If the required standards cannot be met on site, the water will be disposed of at a certified wastewater treatment plant.

7.7 Air Quality and Noise

The Clean Air Act requires EPA to set standards for air quality, regulating pollutants that are considered harmful to public health and the environment. Areas of the country where air pollution levels persistently exceed the National Ambient Air Quality Standards (NAAQS) are designated as “non-attainment” areas. The EPA has set de minimis threshold levels (100 tons/year for carbon monoxide and 50 tons/year for ozone) for non-attainment areas. In Idaho, two geographic areas are classified as non-attainment: Sandpoint (for PM10); and Pinehurst (for PM10). Two other areas are classified as maintenance: Portneuf Valley (for PM10); and Northern Ada County (for carbon monoxide and PM10). Maintenance areas are areas that were classified as non-attainment but which are now consistently meeting the set standards, and as such have been designated as attainment areas with a maintenance plan. The project area is not within any of these designated areas, with Pinehurst being the closest at 22 miles away. Air quality in Benewah County is within the Environmental Protection Agency’s (EPA) standards for all air quality parameters (IDEQ 2012a).

The project is within the City of St. Maries, adjacent to an industrial site. Typical, existing noises consist of those generated by trucks, automobiles, and other internal combustion engines as well as the daily operation of the adjacent lumber mill.

7.8 Utilities and Public Services

A traffic count performed in 1993 for Railroad Avenue resulted in a one-way average daily traffic of 1,081 passenger cars and 784 tractor trailers or semi-trucks. Railroad Avenue is the only ingress/egress route for the Potlach Mill.

There are four power poles embedded in the landward slope of the levee prism within Site 1. The power lines are an extension of the adjacent Potlach Mill and provide power to the pump station and lighting on the adjacent property. In addition, a 4” steel water main and a 6” asbestos concrete sewer main run parallel in the direct vicinity of the levee landward toe. Power poles also exist adjacent to and within Sites 2 and 3.

7.9 Contaminated Areas

The St. Maries Creosote Superfund site is located riverward of the levee at Site 1. The site contains sediments, soils and groundwater that have been contaminated with creosote from a former wood-pole treating plant. The EPA has delineated the extent of the soil exceeding cleanup levels per the July 2007 final cleanup plan for the site, known as the Record of Decision, and no part of the St. Maries Rehabilitation Project is within this delineation. Therefore, encountering contaminated soils is not expected. The contaminated groundwater plume has not been fully delineated, but it is generally located near the contaminated soils.

7.10 Land Use

The St. Joe River Subbasin is a large watershed including both the St. Joe River and the St. Maries River, encompassing 1,850 square miles. Primary land uses within the subbasin are forestry, recreation, and agriculture. The US Forest Service manages approximately 50% of the land in the subbasin. Private ownership accounts for 40% of the subbasin and the remainder is managed or owned by the state of Idaho, the Bureau of Land Management, and the Coeur

d'Alene Tribe (IDEQ 2012b). The protected area of the levee is approximately 205 acres within the City of St. Maries. The levee provides flood risk reduction to about 38 residences and 13 commercial businesses including the Potlatch Corporation. Potlatch Corporation is a lumber mill complex which is the largest employer in Benewah County employing approximately 375 people.

7.11 Recreation

Site 1 is adjacent to the Superfund site, such that access to the river is not allowed. Sites 2 and 3 are adjacent to the lumber mill and are also not accessible by the general public. The sites are not currently used for recreation and are not anticipated for recreational uses in the near future.

8 ENVIRONMENTAL EFFECTS

Throughout this section, the environmental effects of the Emergency Action, No Action Alternative, and the Preferred Alternative (Repair in Place and Seepage Berm Alternatives) for the project at the St. Maries Levee are presented and compared.

Environmental effects at any quarry, or gravel mine used for fill material will not be considered. Any quarry site would be a commercial facility fully permitted by the state and as such will have undergone an individual environmental evaluation (Norman 2000).

8.1 Topography, Hydrology, and Soils

8.1.1 Emergency Action

The emergency actions completed at Site 2 changed the local topography slightly by placing material on the existing bank and in front of the cribwall. The flood fight also placed material that was slightly larger rock than the original levee face, but these changes are not expected to significantly change the topography, hydrology or soils in the project area.

8.1.2 No-Action Alternative

Continued erosion on the levees and seepage through the levees of the St. Joe River would be expected and a higher risk of damage from flooding would persist under the No-Action Alternative. The soil conditions and topography would not be affected. The levees would not be repaired and the possibility of failure would increase. In the event of a levee breach during a flood event, the river channel could migrate into developed areas, changing the hydrology in the immediate area of the breach and throughout the affected reach of the river. This is unlikely, however, as emergency flood fight measures would most likely be initiated to protect lives and property to maintain the current river channel and minimize flooding to the extent possible. Effects of flood fight activities would be similar to those discussed above under emergency actions and below for the Repair in Place Alternative, though emergency repairs do not allow precise rock placement, often requiring use of more rock than a planned repair. Also the rock available quickly during emergencies, in this area is often smaller rock mixed with more fines than would be accepted in a non-emergency situation such that the flood fight is more likely to require reworking.

8.1.3 Seepage Berm Alternative

The seepage berm alternative, as chosen for Site 1, changes local topography by raising the land behind the levee. Soils within the berm would be imported materials. Pipe excavation and replacement would also disturb the soils. Hydrology and groundwater connections would not be expected to change. These changes would impact only the local area and are not expected to be significant.

8.1.4 Repair In Place Alternative

The Repair in Place Alternative at Site 2 will remove excess material placed during the flood fight. The Site 2 repair will not return the bank to the preflood topography completely nor remove all material placed in the flood fight, but does restore stable slopes and remove overburden and added weight that has caused tension cracks. No material will be removed below ordinary high water. At Site 3, the Repair in Place Alternative restores the predamaged configuration of the levee face. The repair will place rock armoring where there had not been armoring previously. No changes to the channel configuration or river flows would be expected. These repairs will not significantly impact topography, hydrology, or soils.

8.2 Vegetation

8.2.1 Emergency Action

No vegetation was removed during emergency actions at Site 2 though some vegetation was buried during rock placement, including young willows and dogwoods. The site did not contain significant vegetation prior to the flood fight and natural recruitment to similar levels of cover would be expected to occur within three to five years. Overall, impacts to vegetation were less than significant.

8.2.2 No-Action Alternative

Under the No Action Alternative, no repair actions would be constructed so no impacts to vegetation would occur. Vegetation at the project sites would continue to be managed by the City under the levee maintenance program to maintain Corps standards.

8.2.3 Seepage Berm Alternative

The Seepage Berm Alternative with pipe replacement requires removal of up to 18 black cottonwood trees (ranging from 1 to 18 inches DBH, average 7 inches). Construction of the seepage berm will require minimal change in vegetation, as the footprint of the seepage berm is currently a roadway and the area for rerouting traffic is an adjacent parking area. Excavation for the pipe replacement will impact the trees as well as a small wetland area. Impacts will be minimized to the extent possible and restoration to previous conditions will be completed following pipe replacement including restoring slopes and seeding with native grasses. Nearby cottonwood trees are expected to naturally recolonize the area. There will be a time lag prior to the regrowth of the trees to pre-construction condition. No net loss of wetlands will occur. As the wetland is a disturbed system and not highly functioning, the repair with the associated seeding is not expected to significantly impact the function of the wetland and the vegetated area.

8.2.4 Repair In Place Alternative

The Repair in Place Alternative at Site 2 and 3 will have minimal impact on vegetation. One mature cottonwood would be removed, but vegetation on the riverward face is limited due to vegetation management to PL 84-99 standards. Removal of vegetation from the riverbanks would result in a small loss of shade and detrital inputs to the river within the project reach. Due to the limited of vegetation removal for these repairs, loss of vegetation is not expected to cause a significant impact.

8.3 Fish and Wildlife

8.3.1 Emergency Action

The emergency actions involved short-term disturbance to fish and wildlife. In-water work to repair the levee face was completed outside the fish window when bull trout may have been migrating through the project area. Turbidity plumes during construction were intermittent, covered a space of usually no more than 10 feet long and 1 foot wide, and dissipated within 10 minutes. Wildlife in the area is habituated to human presence and noise in this urban environment. Any fish or wildlife in the area may have been displaced temporarily due to increased noise and vibration. The emergency actions' effects on fish and wildlife were short-term and less than significant.

8.3.2 No-Action Alternative

Under the No Action Alternative, no repair actions would be constructed so no impacts to fish and wildlife would occur. Continued erosion on the levees and seepage through the levees of the St. Joe River would be expected and a higher risk of damage or failure from flooding would persist under the No-Action Alternative. In the event of a levee breach during a flood event, the river channel could migrate into developed industrial areas, causing loss of vegetation, extreme turbidity, and potential contamination depending on what is present in the flooded area. This is unlikely, however, as emergency flood fight measures would be initiated to protect lives and property and minimize flooding to the extent possible. Effects of flood fight activities would be similar to those discussed above under emergency actions and below for the Repair in Place Alternative, though emergency repairs do not allow precise rock placement, often requiring use of more rock than a planned repair. Also the rock available quickly during emergencies in this area, is often smaller rock mixed with more fines than would be accepted in a non-emergency situation such that the flood fight is more likely to require reworking, such that fish and wildlife in the area would be disturbed repeatedly.

8.3.3 Seepage Berm Alternative

Effects to fish and wildlife would be temporary and occur primarily during construction. As the seepage berm is on the landward side of the levee and the pipe replacement is not adjacent to the river, impacts to fish are negligible. Any wildlife in the project area could be temporarily displaced due to construction activities. Wildlife in the area would be acclimated to human presence in this urban industrial area. While construction would potentially require some vegetation loss, the loss would be minimal and other nearby habitats of similar qualities exist.

Splitting the construction into two phases, if necessary, would disturb local wildlife twice with increased noise. The vegetation removal would occur in the fall/winter when there would be no nesting expected.

Impacts to fish and wildlife from the seepage berm alternative are not significant.

8.3.4 Repair In Place Alternative

Effects to fish and wildlife would be temporary and occur primarily during construction. Any fish and wildlife in the project area could be temporarily displaced due to construction activities. No bald eagle nests are known near the project vicinity and surveys of the sites have not noted any nests. Bald eagles may roost near the project areas, however the eagles would be expected to be acclimatized to humans as this is an urban industrial area with high volume of logging truck traffic. The Repair in Place Alternative could involve short-term water quality impacts from construction of the repairs at Site 3, such as minor and localized increase in turbidity during in-water rock placement. Depending on water levels at the time of construction, the work is expected to be mostly above the waterline, however some work may occur in the water. Equipment would not enter the water and would remain on dry ground at all times. Best management practices for construction activities would be employed to limit turbidity increases. The Site 3 repair does involve removal of a single tree, this loss is not expected to be significant and wildlife would be able to find similar habitat nearby.

The Repair in Place Alternative for Sites 2 and 3 would have minor temporary impact to fish and wildlife, however this impact is not significant.

8.4 Threatened and Endangered Species

8.4.1 Emergency Action

The emergency actions involved potential for short-term disturbance to bull trout in the project vicinity. In-water work to repair the levee face was completed outside the fish window when bull trout may have been migrating through the project area. Turbidity plumes during construction were intermittent, covered a space of usually no more than 10 feet long and 1 foot wide, and dissipated within 10 minutes. Any fish in the area may have been displaced temporarily due to increased noise and vibration. Best management practices (BMPs) as discussed in Section 6.7, were implemented during the emergency action to minimize impacts.

A Biological Evaluation (BE) of the impacts of the proposed and completed repairs on ESA-listed species was sent to USFWS on 23 July 2012. The BE analyses concluded that with the use of best management practices, conservation measures, and the minimization of in-water work, the St. Maries Levee Rehabilitation Project *may affect, but is not likely to adversely affect Columbia River DPS bull trout and their designated critical habitat.*

The USFWS has reviewed the document and sent a letter concurring with our findings on 9 August 2012 (Appendix D).

Due to the availability of nearby similar habitat, use of best management practices, and the short duration of impacts, the effects of the emergency action on ESA-listed species were short-term and less than significant.

8.4.2 No-Action Alternative

The no-action alternative may result in an increase in sediment from continued erosion of the banks. Increased sediment into the river could affect the quality of habitat for Middle Columbia River ESU bull trout in the project area; however, bank erosion is a natural process that occurs during flood events within a river system. As noted previously, continued erosion on the levees and seepage through the levees would be expected without the proposed repairs and a higher risk of failure from flooding would persist under the No-Action Alternative. In the event of a levee breach during a flood event, the river channel could migrate into developed industrial areas, causing loss of vegetation, extreme turbidity, and potential contamination depending on what is present in the flooded area. A breach is unlikely, however, as emergency flood fight measures would be initiated to protect lives and property. Effects of flood fight activities would be similar to those discussed above under emergency actions and below for the Repair in Place Alternative, though emergency repairs do not allow precise rock placement, often requiring use of more rock than a planned repair, and generally occur outside the preferred inwater work period. Also the rock available quickly during emergencies in this area, is often smaller rock mixed with more fines than would be accepted in a non-emergency situation such that the flood fight is more likely to require reworking, such that bull trout in the area would be disturbed repeatedly. No immediate impact would be expected from the no action alternative, however impacts of any resulting flood fight or breach could be greater depending on the circumstances of the event.

8.4.3 Seepage Berm Alternative

Any impact would be temporary and occur primarily during construction. As the seepage berm is on the landward side of the levee and the pipe replacement is not adjacent to the river, impacts to bull trout are not anticipated. While construction would potentially require some vegetation loss, the loss would be minimal and no impact to water quality is anticipated. Timing of construction, including potentially splitting the construction of Site 1 into two phases, is not expected to increase in impact to fish. Impacts to bull trout from the seepage berm alternative are not significant.

8.4.4 Repair In Place Alternative

In-water work to repair the levee face would be completed within the fish window when bull trout would not be expected to be in the project area. Best management practices (BMPs) as discussed in Section 6.7, would be implemented to minimize impacts in the unlikely event that bull trout are present.

As noted previously, a Biological Evaluation (BE) of the impacts of the proposed and completed repairs on ESA-listed species was sent to USFWS on 23 July 2012. The BE analyses concluded that with the use of best management practices, conservation measures, and the minimization of in-water work, the St. Maries Levee Rehabilitation Project *may affect, but is not likely to adversely affect Columbia River DPS bull trout (*Salvelinus confluentus*) and their designated critical habitat.*

As mentioned above, USFWS reviewed the document and completed consultation with a letter concurring with our findings on 9 August 2012 (Appendix D).

Due to the availability of nearby similar habitat, use of best management practices, avoidance of sensitive periods when bull trout would be in the area, and the short duration of impacts, the effects of the proposed repairs on ESA-listed species would be less than significant.

8.5 Cultural Resources

8.5.1 Emergency Action

Under the emergency Action at Site 2 the Corps determined that No Historic Properties were affected during the Emergency Action.

8.5.2 No-Action Alternative

Under the No-Action Alternative, there would be no effect on cultural resources.

8.5.3 Seepage Berm Alternative

On 21 March 2011 the Corps sent a letter to Jill Wagner, the THPO of the Coeur d'Alene Tribe describing the project and Area of Potential Effects (APE). A Corps archaeologist conducted a cultural resources assessment of the APE. No archaeological resources were observed during the cultural resources assessment, however there is a high potential for intact subsurface deposits to exist under the levee within native sediment. Both the St. Maries levee and associated pump house were constructed in 1942 and have been determined eligible under Criterion C for inclusion to the National Register of Historic Places (NRHP). The Corps has determined that the proposed project will have no adverse affect to the St. Maries levee or pump house. Construction of the seepage berm and retaining wall will not affect the integrity of the pump house or physical location. In addition, the levee will maintain the same footprint, mass, height and width of the levee and the original levee material will be reused after the pipe replacement is complete. The removal of the original diversion pipe will be documented during archaeological monitoring. Archaeological monitoring will occur during ground disturbing activities at Site 1 for levee removal, any ground disturbance into native sediment under the levee and during pipe replacement as there is a high probability that cultural material could exist either within the levee prism or under the levee within the native sediment.

The cultural resources report and monitoring plan were sent to Jill Wagner, THPO, on 29 May 2012 detailing the "No Adverse Affect to Historic Properties [with Conditions]" for the St. Maries levee rehabilitation project. Ms. Wagner has commented on the monitoring plan and her comments have been addressed in the monitoring plan. In addition, Ms. Wagner has requested monitoring at Site 2. Based on conversations with Ms. Wagner there is no indication that the Coeur d'Alene Tribe disagrees with the Corps determination or monitoring plan. Under Section 106 of the NHPA, SHPO's and THPO's have 30 days to respond to an agency determination. If no objection to the agency's determination is received within 30 days, Section 106 is complete. While the 30 day comment period has passed and no formal response has been received from the THPO, communications regarding the project and monitoring plan has been on-going and will continue throughout the construction phase of this project. Consultation and coordination regarding the overall project and monitoring plan has occurred through email and phone conversations.

See Appendix E for copies of letters.

8.5.4 Repair In Place Alternative

The Corps has determined that archaeological monitoring will occur at Site 3 if ground disturbing construction activities occur during repair. For Site 2, the Corps has determined that No Historic Properties will be affected as all repair activities will occur within the limits of the overburden placed at the site during the 2011 high water event. The THPO of the Coeur d'Alene Tribe commented in a 7 September 2012 phone conversation that she would like archaeological monitoring to occur at all locations (including site 2) as she is concerned that there is the possibility that changes to the repair plans could occur during construction, leading to ground disturbance outside of the overburden area. Therefore archaeological monitoring will occur at all sites.

8.6 Water Quality

8.6.1 Emergency Action

During flood events, the turbidity level in a river naturally increases. The emergency actions at Site 1 did include 75 feet of in-water work during flooding. Turbidity plumes during construction were intermittent, covered a space of usually no more than 10 feet long and 1 foot wide, and dissipated within 10 minutes. Best management practices for construction activities were employed to further minimize impacts such as 1) construction equipment checked regularly for drips or leaks; 2) at least one fuel spill kit with absorbent pads was onsite; 3) at least one biologist was onsite or available during construction; 4) drive trains of equipment did not operate in the water; and 5) no end dumping of rock into the water. No vegetation was removed from the river bank although some small willows and dogwoods were buried.

Overall the impacts of the completed emergency actions did not have a significant impact on water quality.

8.6.2 No-Action Alternative

Under this alternative, the unrepaired levee would continue to erode and seep during high water events and could fail. This could result in flood waters potentially entering urban areas and accumulating debris, turbidity, and potential hazardous materials that could wash back into the river. However, it is likely that before a breach occurred, flood fight efforts would be undertaken to prevent loss of the levee. Flood fight effects are similar to those noted above for emergency repairs. If flood fights are effective, impacts to water quality would be minimal from the no-action alternative. If flood fights are not implemented in time or are not sufficient, a breach in the levee could cause significant impacts to water quality depending on the location of the breach and the materials within the flooded area.

8.6.3 Seepage Berm Alternative

The Seepage Berm Alternative would have minimal impact on water quality. No work would occur in the St. Joe River. The seepage berm construction at Site 1 would not result in permanent impacts to the wetlands and pond adjacent to the pump house, however excavation for the pipe replacement would temporarily impact the wetlands (Figure 4). Approximately 267 square feet of wetlands and 505 square feet of pond would be impacted. Construction would involve removal of vegetation, including a small number of trees up to 18 black cottonwood ranging in size from 1-18 inches diameter at breast height (average 7 inches DBH). Once the

pipe replacement is complete, the elevations would be rebuilt to resemble the pre-construction slopes and seeding with native grasses would be done within the repair area to restore water quality functions of the wetland.

The seepage berm, with the associated road widening will increase the existing 37,500 square feet (0.86 ac) of impermeable roadway to 46,100 square feet (1.06 ac) of impermeable roadway (a 23% increase in the project area). Currently the runoff from Railroad Avenue accumulates in the existing wetland and pond behind the levee, adjacent to the pump house. Runoff from this future road will continue to accumulate in this wetland and pond in the same manner. The wetland and pond act as a retention area for all drainage in this area. When full, water from the pond is pumped to the river. As the pump is turned on manually, the timing is random and retention periods for water vary widely.

As construction of the wider roadway is at the request of the local sponsor (to increase safety of this busy road), the City has taken on responsibility of designing and constructing the stormwater drainage system for the roadway. The City will be obtaining all necessary permits and coordinating that effort.

The change in amount and quality of runoff is not expected to be significantly different from the pre-project condition. The soils in this area have extremely low infiltration rates and the area landward of the roadway is currently a compacted parking area, so while the impermeable surface area of the road will increase, the amount of runoff from this area is not expected to change significantly. Similarly, the volume of traffic will not be altered by the road widening. Runoff will continue to accumulate in the pond/wetland and will continue to be pumped out to the river, as it is currently.

Some vegetation removal will occur, including approximately 18 cottonwood trees ranging in size from 1 to 18 inches DBH (average 7 inches) would be removed for the pipe excavation. This could change the amount of shade and detrital impact to the pond. Seeding with native grasses will occur at the completion of the repair along with regrading the final slopes to match pre-project conditions.

During construction, particularly while excavating and replacing the pipe, water will be diverted from the project area to the river directly. Mutch Creek will be routed directly to the river through a separate pipe if there is sufficient water flowing to warrant it. There is a potential for finding contaminated groundwater while excavating for the pipe replacement. Sheen is likely to appear in any water contaminated by the creosote-treated wood stave pipe and/or the Superfund site, and water producing sheen would not be discharged to surface water. In addition to sheen, any other exceedence of water quality standards will require the water to be treated prior to discharge to surface waters. No water will be released into the river unless it meets the conditions of the water quality certification and meets or exceeds the Water Quality Standards for Approved Surface Waters of the Coeur d'Alene Tribe. Prior to construction, the Corps will review and approve the construction contractor's plans for ensuring compliance with these regulations. It is anticipated that the contractor will have onsite filtration that can treat and clean the water prior to releasing it into the river. If onsite treatment methods cannot be used to achieve required water quality (or if offsite treatment is economically favorable to having onsite treatment), the water will be disposed of at a certified wastewater treatment plant.

Overall, impacts to water quality in the wetland, pond, and the St. Joe River as a result of the proposed seepage berm alternative would be less than significant.

8.6.4 Repair in Place Alternative

No impact to water quality is expected from the repairs at Site 2. Minimal vegetation existed prior to the flood fight and no vegetation is expected to be removed during the proposed repair at this site. No inwater work would occur at Site 2.

The Repair in Place Alternative for Site 3 could involve short-term water quality impacts during construction. Depending on water levels at the time, there may be in-water work and water quality impacts such as an increase in turbidity. Equipment would not enter the water and would remain on dry ground at all times. Best management practices for construction activities would be employed. As a result the short term effects to water quality would be minimal. The repair would change the condition of the bank at this site by hardening the bank. Placement of riprap would require only minimal vegetation removal, as little vegetation currently grows in the area. Riprap may further limit the amount of vegetation growing at the bank edge.

A 401 Certification from Coeur d'Alene Tribe was received on 5 September 2012 (see Appendix F). Construction will be completed in accordance with the water quality certification.

Overall the Repair in Place Alternative, as designed for Sites 2 and 3 would have an insignificant impact on water quality for this reach of the St. Joe River.

8.7 Air Quality and Noise

8.7.1 Emergency Action

Effects to air quality were temporary, lasting only until the actions were completed. Because the activity constitutes repair of an existing facility generating an increase in emissions that is clearly *de minimis*, air quality effects of the emergency action are not expected to require a conformity determination under 40 CFR 93.153(c)(2)(iv).

There was a temporary increase in noise during the emergency actions. Some of these actions included work 24 hours per day in order to construct the emergency repairs quickly, adding to the impacts of the construction noise to nearby structures and residences. When possible, the duration of work was kept to normal daylight hours to minimize disturbance. Overall effects of construction noise were minimal and only lasted for the duration of the emergency actions.

8.7.2 No-Action Alternative

No effects would result from the no-action alternative because no repairs would take place.

8.7.3 Seepage Berm Alternative

Seepage berm construction requires importing greater amounts of material over a longer construction period than a typical repair in kind construction. Emissions from construction activities such as material placement, compaction, and hauling are anticipated and would be greater than a typical Repair in Kind, but would be *de minimis*. Equipment such as dump trucks, excavator, and dozers would have mufflers and exhaust systems in accordance with State and Federal standards to minimize impacts. Any effects to air quality would be short term; only occurring during construction. Because the activity constitutes repair of an existing facility generating an increase in emissions that is clearly *de minimis*, construction-phase air quality effects are not expected to require a conformity determination under 40 CFR 93.153(c)(2)(iv).

Construction activities would occur during daylight hours. There would be a temporary increase in noise during construction; however the effect of construction noise would be minimal given the temporary nature of the construction and noise would be consistent with background noises in this urban industrial area. Following construction, there would be no change in air quality or noise at these sites and the overall impact would be less than significant.

8.7.4 Repair in Place Alternative

Emissions from construction activities such as material placement, compaction, and hauling are anticipated to be *de minimis*. In addition, equipment such as dump trucks, excavator, and dozers would have mufflers and exhaust systems in accordance with State and Federal standards. Any effects to air quality would be short term; only occurring during construction. Because the activity constitutes repair of an existing facility generating an increase in emissions that is clearly *de minimis*, construction-phase air quality effects are not expected to require a conformity determination under 40 CFR 93.153(c)(2)(iv). There would be a temporary increase in noise during construction; however the effects of construction noise would be consistent with typical background noises in this urban industrial environment and would be minimal given the temporary nature of the construction. Following construction, there would be no change in air quality or noise at these sites and the overall impact would be less than significant.

8.8 Utilities and Public Services

8.8.1 Emergency Action

During the emergency action, vehicles and equipment associated with the action could have disrupted and increased local traffic. However, the emergency actions preserved the integrity of the St. Maries levee system which provides flood risk reduction to the City and its surrounding area. Increases in traffic were localized and of short duration, with no long term impacts.

During the pipe excavation the road will be removed and the traffic will require relocation. Approximately 500 feet of the levee will be removed to allow for pipe replacement below the levee and to allow the construction of a temporary road to re-route traffic within the removed levee footprint. A two stage pipe replacement and rerouting will need to occur with half of the culvert being replaced, and then the access road would have to be shifted to the completed section to allow the second stage of excavation.

There are four power poles embedded in the landward slope of the levee prism within Site 1. The power lines are an extension of the adjacent Potlatch Mill and provide power to the pump station and lighting on the adjacent property. In addition, a 4" steel water main and a 6" asbestos concrete sewer main run parallel in the direct vicinity of the levee landward toe. At Site 1, these utility lines would be permanently relocated by the local sponsor to the south side of Railroad Avenue to allow for construction. When the utilities are re-located the existing utilities are intended to be abandoned in place. The City will grout the utilities so that these utilities will not be a seepage conduit.

Power poles also exist adjacent to and within Sites 2 and 3. These utilities will remain in place during construction and will not be relocated. Power to these lines will be turned off during construction for safety, however no blackouts are expected to customers as other lines will continue to carry sufficient electricity to meet their needs.

8.8.2 No-Action Alternative

The current damaged state of the St. Maries levee system only offers a 5-year level of protection, and this decreased protection would be maintained with this alternative. Continued erosion of and seepage through the levee would be expected to occur, resulting in further damages. Increased risk of flood damage to utilities and public services would continue and could be significant.

8.8.3 Seepage Berm Alternative

The local sponsor is responsible for all utility relocation. These utility lines would be permanently relocated to the south side of Railroad Avenue during construction. The water main and sewer main are to be re-located and the existing utilities are intended to be abandoned in place. The City will grout the utilities so that these utilities will not be a seepage conduit. In the event that removal of abandoned pipe will be necessary, likely during the excavation of the culvert and discharge pipe, the asbestos concrete surfaces should be wet during cutting and breaking operations to minimize release of asbestos fibers to the air and conduct work in accordance with 29 CFR 1926.1101 Asbestos. Handling and disposing of asbestos-containing materials should be done in accordance with all applicable laws and regulations. No significant interruption of utilities is anticipated with these temporary or permanent relocation efforts.

Construction of the seepage berm and replacement of the pipe will require temporary closure to Railroad Avenue. Traffic will be rerouted within the project area to limit interruption of this busy road. Signage and flaggers will be used as needed to maintain safety and direct traffic through the detours.

During construction activities, vehicles and equipment associated with the project may disrupt local traffic. This increase in traffic would be localized and of short duration, with no long term impacts. Implementation of this alternative would provide flood risk reduction to residences, businesses and associated public infrastructure. No significant short or long term effects to utilities and public services would occur.

8.8.4 Repair in Place Alternative

During construction activities, vehicles and equipment associated with the project may disrupt local traffic due to merging, turning and traveling together. This increase in traffic would be localized and of short duration, with no long term impacts. No traffic reroutes are anticipated for repairs at Sites 2 or 3. Implementation of this alternative would provide flood risk reduction to residences and associated out-buildings, agricultural land and public infrastructure. No significant short or long term effects to utilities and public services would occur.

8.9 Contaminated Areas

8.9.1 Emergency Action

The emergency action at Site 2 was not adjacent to the contaminated area and used only uncontaminated fill material purchased from a commercial facility. No impact to contaminated areas occurred.

8.9.2 No-Action Alternative

The St. Maries Creosote Superfund Site is located riverward of the levee at Site 1 and is not protected by the levee. The no action alternative would have no impact on this contaminated site.

8.9.3 Seepage Berm Alternative

The seepage berm alternative has been closely coordinated with EPA and is not expected to impact the adjacent creosote superfund site. Corps Hazardous, Toxic, Radioactive and Waste (HTRW) staff will monitor the site during the pipe excavation to ensure that should any contaminants be discovered, they would be properly handled to minimize disturbance of the contaminated area and avoid transport outside of the site.

As noted above in Section 8.6, during excavation for the pipe replacement, water will be diverted from the project area to the river directly. Mutch Creek will be routed directly to the river through a separate pipe if there is sufficient water flowing to warrant it. There is a potential for finding contaminated groundwater while excavating for the pipe replacement. Sheen is likely to appear in any water contaminated by the creosote-treated wood stave pipe and/or the Superfund site, and water producing sheen would not be discharged to the river. In addition to sheen, any other exceedence of water quality standards will require the water to be treated prior to discharge to surface waters. No water will be released into the river unless it meets the conditions of the water quality certification and meets or exceeds the Water Quality Standards for Approved Surface Waters of the Coeur d'Alene Tribe. Prior to construction, the Corps will review and approve the construction contractor's plans for ensuring compliance with these regulations. It is anticipated that the contractor will have onsite filtration that can treat and clean the water prior to releasing it into the river. If onsite treatment methods cannot be used to achieve required water quality (or if offsite treatment is economically favorable to having onsite treatment), the water will be disposed of at a certified wastewater treatment plant.

An existing asbestos sewer main within the levee is to be re-located with the existing utilities to be abandoned in place. In the event that removal of the abandoned pipe will be necessary, likely during the excavation of the culvert and discharge pipe, the asbestos concrete surfaces should be wet during cutting and breaking operations to minimize release of asbestos fibers to the air and conduct work in accordance with 29 CFR 1926.1101. Handling and disposing of asbestos-containing materials would be done in accordance with all applicable laws and regulations.

Implementation of this alternative would not impact or disturb the St. Maries Creosote Superfund Site and implementation would not inhibit or delay the proposed cleanup of this site. No release of asbestos would be expected.

8.9.4 Repair in Place Alternative

Neither Site 2 nor 3 are adjacent to the Superfund site. Only uncontaminated fill material would be used and no impact to contaminated areas is expected.

8.10 Land Use

8.10.1 Emergency Action

During emergency actions, land owners surrounding the project area may have been disrupted while equipment and personnel accessed the project area. The emergency action did not change land uses in the area. No significant short or long term effects to land use occurred.

8.10.2 No-Action Alternative

Under this alternative, the current damaged state of the levee does not provide designed level of flood protection. Therefore, a higher risk exists for flood damage to the City of St. Maries and the surrounding area. As this is a 100-year certified levee, failure to repair the levee could impact flood insurance rates in the protected area which in turn could impact land use.

8.10.3 Seepage Berm Alternative

The seepage berm alternative repairs the damage at Site 1 to restore the designed level of flood protection. The protected area would be unchanged and no change in land use would be expected.

8.10.4 Repair in Place Alternative

After completion of the project, the protected area behind the levees would remain unchanged and would be provided the same level of protection as prior to the flood damage. This alternative would not change current land uses.

8.11 Recreation

As the project area is not available for recreation, implementation of any alternative action would not change recreation opportunities within the project area.

9 UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse effects associated with this project include: (1) a temporary and localized increase in noise and emissions, which may disrupt fish and wildlife in the area, (2) a temporary and localized disruption of traffic by construction vehicles, (3) a temporary and localized increase in turbidity levels during in-water construction which may affect aquatic organisms in the area, (4) temporary impacts to wetlands, and (5) removal of vegetation from within the proposed construction areas. The vegetation removal has the longest duration of impact due to the length of time needed for trees to regrow to a similar size. However, the availability of similar nearby habitats and the minimization of tree removal to the extent possible limits these impact to less than significant levels. The other unavoidable impacts would be short in duration and are considered insignificant.

10 CUMULATIVE EFFECTS

Cumulative effects include effects resulting from future Federal, State, tribal, local or private actions that are reasonably foreseeable to occur in the project area.

Future damage from flooding is likely to occur to Federal and non-federal levees along the St. Joe River and its tributaries. Non-federal entities would likely undertake at least some repair actions under those circumstances and potentially seek Federal assistance with repairs or emergency responses. In 2012 requests for Federal assistance have been received from Benewah County for the Riverdale Levee, upstream of the St. Maries Federal Levee. Investigations are ongoing to see if there is flood damage at these sites and if the damage meets the requirements to be eligible for Federal assistance under the Public Law 84-99 Levee Rehabilitation Program.

No other future projects within this reach are known. The emergency action and preferred alternatives are not anticipated to generate incremental adverse effect on the quality of the human environment, when considered in conjunction with other past and present actions, and future proposals.

11 COORDINATION

The following agencies and entities have been involved with the environmental coordination of this project:

- U.S. Fish and Wildlife Service (USFWS)
- Idaho Department of Environmental Quality (DEQ)
- City of St. Maries
- Environmental Protection Agency
- Coeur d'Alene Tribe

Coordination with the above listed agencies and tribes consisted of phone conversations and e-mail exchanges. Topics discussed during this coordination include project design, project construction timing, effects to listed species, impacts to wetlands, and other environmental concerns. A Notice of Preparation for the St. Maries Federal Levee Rehabilitation Project was issued on 29 May 2012. Comments were received from the Coeur d'Alene Tribe, Idaho Department of Lands, Idaho Department of Environmental Quality, and Idaho Department of Fish and Game; the Corps' responses to those comments are in Appendix C.

12 ENVIRONMENTAL COMPLIANCE

12.1 Federal Statutes

12.1.1 American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996) establishes protection and preservation of Native Americans' rights of freedom, belief, expression, and exercise of traditional religions. Courts have interpreted the American Indian Religious Freedom Act to mean that public officials must consider Native Americans' interests before undertaking actions that might impact their religious practices, including impact on sacred sites.

No alternative is expected to have any effect upon Native Americans' rights of freedom of belief, expression, and exercise of traditional religions.

12.1.2 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) prohibits the taking, possession or commerce of bald and golden eagles, except under certain circumstances. Amendments in 1972 added to penalties for violations of the Act or related regulations.

No bald eagle nests are currently located near the project vicinity and surveys of the sites have not noted any nests. Eagles in the project area are expected to be habituated to human presence and noise as they are in an urbanized setting with surrounding industrial areas. No take of either bald or golden eagles is likely through any of the actions discussed in this EA.

12.1.3 Clean Air Act

The Clean Air Act requires states to develop plans, called State Implementation Plans (SIP), for eliminating or reducing the severity and number of violations of NAAQS while achieving expeditious attainment of the NAAQS. The Act also required Federal actions to conform to the appropriate SIP. An action that conforms with a SIP is defined as an action that will not: (1) cause or contribute to any new violation of any standard in any area; (2) increase the frequency or severity of any existing violation of any standard in any area; or (3) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The Corps has determined that emissions associated with the project would not exceed EPA's *de minimis* threshold levels (100 tons/year for carbon monoxide and 50 tons/year for ozone) or affect the implementation of Idaho's Clean Air Act implementation plan and as the project constitutes routine facility repair generating an increase in emissions that is clearly *de minimis* a conformity determination is not required, pursuant to 40 CFR 93.153 (c)(2)(iv).

12.1.4 Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which was amended by the Superfund Amendments and Reauthorization Act (SARA), established a program commonly known as Superfund. CERCLA provides requirements for closed and abandoned hazardous waste sites, places liability on persons responsible for releases of hazardous waste, and establishes a trust fund for cleanup costs when no responsible party can be identified.

The proposed project is located in close proximity to an active Superfund cleanup site known as St. Maries Creosote Site. Sediments, soils and groundwater at the cleanup site are contaminated with creosote from a former wood-pole treating plant. The site is currently undergoing remedial design. The Corps is closely coordinating the proposed project with the EPA to avoid working in contaminated areas and disturbing the existing contamination. The project will not prevent the EPA from proceeding with the CERCLA cleanup process at the St. Maries Creosote Superfund Site.

12.1.5 Federal Water Pollution Control Act

The Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) is more commonly referred to as the Clean Water Act (CWA). This act is the primary legislative vehicle for Federal water

pollution control programs and the basic structure for regulating discharges of pollutants into waters of the United States. The CWA was established to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The CWA sets goals to eliminate discharges of pollutants into navigable waters, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment.

The Corps concludes that the proposed repair work on the St. Joe River Levee complies with the CWA per the 404(b)(1) analysis (see Appendix F). This finding has been presented to the Coeur d’Alene Tribe for review and certification under Clean Water Act Section 401. A 401 Certification from Coeur d’Alene Tribe was received on 5 September 2012(see Appendix F).

The construction at Site 1 includes over an acre of ground disturbance, thereby also triggering Section 402 of the Clean Water Act, the National Pollutant Discharge Elimination System. A Construction General Permit from the Environmental Protection Agency will be obtained prior to construction.

12.1.6 Endangered Species Act

The Endangered Species Act (16 U.S.C. 1531-1544), amended in 1988, establishes a national program for the conservation of threatened and endangered species of fish, wildlife, and plants and the habitat upon which they depend. Section 7(a) of the ESA requires that Federal agencies consult with USFWS and NMFS, as appropriate, to ensure that proposed actions are not likely to jeopardize the continued existence of endangered or threatened species or to adversely modify or destroy designated critical habitats.

Due to the urgent nature of completing the emergency actions prior to the oncoming flood season, the Corps may proceed with construction prior to completion of the consultation with the Services pursuant to the “emergency circumstances” provisions of the ESA consultation regulation, and may complete ESA consultation after the fact rather than delaying the urgent work in order to complete ESA consultation before construction begins. The applicable regulation is set out at 50 CFR Section 402.05 (a) and (b) and provides as follows:

(a) Where emergency circumstances mandate the need to consult in an expedited manner, consultation may be conducted informally through alternative procedures that the Director determines to be consistent with the requirements of section 7(a)-(d) of the Act. This provision applies to situations involving acts of God, disasters, casualties, national defense or security emergencies, etc.

(b) Informal consultation shall be initiated as soon as practicable after the emergency is under control. The Federal agency shall submit information on the nature of the emergency actions(s), the justification for expedited consultation, and the impacts to endangered or threatened species and their habitats. The Service will evaluate such information and issue a biological opinion including the information and recommendations given during emergency consultation.

The March and April 2011 repair occurred during the flood event and was considered emergency circumstance because it was necessary to protect human life and property, which would have been in imminent danger upon the commencement of the ensuing flood season if the project was not implemented. Likewise, the proposed 2012 repair work is also considered to constitute emergency circumstances under 50 CFR 402.05.

Determinations concerning effects on listed species in the project area have been made and transmitted to USFWS in a BE as discussed in Section 8.4. A Biological Evaluation (BE) of the impacts of the proposed and completed repairs on ESA-listed species was sent to USFWS on 23 July 2012. The BE analyses concluded that with the use of best management practices, conservation measures, and the minimization of in-water work, the St. Maries Levee Rehabilitation Project *may affect, but is not likely to adversely affect Columbia River DPS bull trout (*Salvelinus confluentus*) and their designated critical habitat.*

The USFWS has reviewed the document and sent a letter concurring with our findings on 9 August 2012 (Appendix D).

The project is in compliance with the Endangered Species Act.

12.1.7 Federal Water Project Recreation Act

In the planning of any Federal navigation, flood control, reclamation, or water resources project, the Federal Water Project Recreation Act, as amended (16 U.S.C. 460(l)(12) et seq.) requires that full consideration be given to opportunities that the project affords for outdoor recreation and fish and wildlife enhancement. The Act requires planning with respect to development of recreation potential. Projects must be constructed, maintained, and operated in such a manner if recreational opportunities are consistent with the purpose of the project.

This EA assesses impacts of alternative actions on recreation. No short or long term impacts to recreation are anticipated as a result of the proposed project.

12.1.8 National Environmental Policy Act

In accordance with the National Environmental Policy Act, federal projects are required to declare potential environmental impacts and solicit public comment. A Notice of Preparation for the St. Maries Federal Levee Rehabilitation Project was issued on 29 May 2012. Comments were received from the Coeur d'Alene Tribe, Idaho Department of Lands, Idaho Department of Environmental Quality, and Idaho Department of Fish and Game; the Corps' responses to those comments are in Appendix C. The purpose of this Environmental Assessment document is to fulfill the Corps of Engineers documentation requirements under the National Environmental Policy Act.

This EA evaluates the environmental effects of multiple Federal actions: emergency response activities during the flood event of March/April 2011 and the execution of final repairs to the levee system scheduled for 2012. Of these Federal actions, the first has already taken place as of the finalization of this EA document, and is thus evaluated here retrospectively; only the execution of 2012 repairs is prospectively reviewed in this document. The following discussion assesses how the Corps has nevertheless complied with NEPA's requirements.

It was not feasible for the Corps to complete all NEPA procedures prior to accomplishing the Federal actions of emergency response activities during the flood event of 2011. The emergency action taken 2011 was an emergency response designed to avert more widespread – and possibly catastrophic – damage that may have resulted from progressive levee failure originating at the vulnerability point generated by flooding damage. In March 2011, the District Engineer made real time decisions, communicated verbally, to proceed with any action having the potential to affect the quality of the human environment, in the absence of full NEPA evaluation and documentation, in light of the urgent circumstances then presented.

The agency's obligations under NEPA must be satisfied prior to implementation of an agency's Federal action. This obligation is not inviolable, and an exception is available under limited circumstances.

As discussed previously, the repair work in March/April 2011 was an emergency response that was necessary to be accomplished with high urgency. The 2011 repair was considered "emergency actions" because it was necessary to protect human life and property, and because it was time-critical in light of the ongoing flooding. The agency is required to comply with NEPA to the fullest extent possible (Section 102). The Corps' NEPA regulation regarding "Emergency Actions" does allow for completion of NEPA documentation after the fact in emergency situations. Emergency actions are discussed in 33 CFR 230.8 as follows:

"Section 230.8 - Emergency actions. In responding to emergency situations to prevent or reduce imminent risk of life, health, property, or severe economic losses, district commanders may proceed without the specific documentation and procedural requirements of other sections of this regulation. District commanders shall consider the probable environmental consequences in determining appropriate emergency actions and when requesting approval to proceed on emergency actions, will describe proposed NEPA documentation or reasons for exclusion from documentation. NEPA documentation should be accomplished prior to initiation of emergency work if time constraints render this practicable. Such documentation may be accomplished after the completion of emergency work, if appropriate. Emergency actions include Flood Control and Coastal Emergencies Activities pursuant to Pub. L. 84-99, as amended, and projects constructed under sections 3 of the [Rivers and Harbors] Act of 1945 or 14 of the Flood Control Act of 1946 of the Continuing Authorities Program. When possible, emergency actions considered major in scope with potentially significant environmental impacts shall be referred through the division commanders to HQUSACE (CECW-RE) for consultation with CEQ about NEPA arrangements."

Therefore, the agency complied with NEPA "to the fullest extent possible" under the circumstances, with respect to emergency response activities during and immediately after the flood events. The determination to proceed with the emergency repairs was preceded by consideration and a decision to proceed by the District Engineer, reflected through verbal communication.

This EA has been prepared pursuant to NEPA Sec. 102(C). Effects to the human environment as a result of the proposed project are anticipated to be less than significant. The EA has incorporated any necessary and applicable modifications to the scope and/or nature of the project, any effects to the human environment resulting from these modifications, the procedures and practices used to implement the project, and/or the type and extent of compensatory mitigation associated with the project. The EA supports a Finding of No Significant Impact (FONSI). However, if any information is found that indicates significant effects to the human environment may result from the project, the NEPA process will be revisited and an EIS may be prepared as appropriate.

12.1.9 National Historic Preservation Act

Section 106 of the NHPA (16 U.S.C. 470) requires that Federal agencies evaluate the effects of Federal undertakings on historical, archeological, and cultural resources and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertaking. The

lead agency must examine whether feasible alternatives exist that would avoid eligible cultural resources. If an effect cannot reasonably be avoided, measures must be taken to minimize or mitigate potential adverse effects.

A cultural resources assessment was conducted, and is referenced in this document. Coordination has taken place with the Coeur d'Alene Tribal Historic Preservation Officer. The Corps prepared and submitted a Section 106 compliance report to the THPO, on 29 May 2012 detailing the Corps' finding of "No Adverse Affect to Historic Properties [with Conditions]" and requesting that the THPO concur with that determination. Archaeological monitoring will occur during ground disturbing activities for the levee repair. Ms. Wagner has commented on the monitoring plan and her comments have been addressed in the monitoring plan. In addition, Ms. Wagner has requested monitoring at Site 2. Based on conversations with Ms. Wagner there is no indication that the Coeur d'Alene Tribe disagrees with the Corps determination or monitoring plan. Under Section 106 of the NHPA, SHPO's and THPO's have 30 days to respond to an agency determination. If no objection to the agency's determination is received within 30 days Section 106 is complete. The 30 day comment period has passed and no formal response has been received from the THPO, however communications regarding the project and monitoring plan has been on-going and will continue during the construction phase of this project. Consultation and coordination regarding the overall project and monitoring plan has occurred through email and phone conversations.

At the completion of the project, a letter report will be submitted to the Coeur d'Alene THPO outlining the results of the construction monitoring to complete the Section 106 process.

12.1.10 Safe Drinking Water Act

The Safe Drinking Water Act protects drinking water and its sources, including- rivers, lakes, reservoirs, springs, and ground water wells. This Act does not regulate private wells that serve fewer than 25 individuals. The project is consistent with this Act as no change in the quality or quantity of water will occur as a result of the completed or proposed levee repair projects.

12.2 Executive Orders

12.2.1 Executive Order 11990, Protection of Wetlands

Executive Order 11990 encourages Federal agencies to take actions to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands when undertaking Federal activities and programs. The Corps conducted a wetland delineation of the project sites and found that approximately 267 square feet of wetlands and 505 square feet of pond would be impacted. The wetland is a highly disturbed riverine wetland associated with a ditch and pond. The wetland is comprised of herbaceous, shrub and forested plant communities. Primary functions identified are water quality improvement and wildlife habitat. The wetland receives pollutants from the railroad line, road, and nutrients and sediment from water conveyed in the ditch. Persistent ungrazed vegetation and small depressions in the wetland may help trap and remove pollutants, improving water quality. The wetland is also part of a wildlife corridor, providing potential habitat for birds and small mammals. Up to 18 trees will be removed at the edge of the wetland. Post-construction slopes will be returned to current conditions and seeding with native grasses will be completed to offset the loss of water quality function. Nearby cottonwood trees will continue to provide habitat function and will recolonize

the area naturally. No net loss of wetlands will occur. Actions proposed by the Corps are consistent with Executive Order 11990.

12.2.2 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations

Executive Order 12898, dated 11 February 1994, requires Federal agencies to consider and address environmental justice by identifying and assessing whether agency actions may have disproportionately high and adverse human health or environmental effects on minority or low income populations. Disproportionately high and adverse effects are those effects that are predominately borne by minority and/or low income populations and are appreciably more severe or greater in magnitude than the effects on non-minority or non-low income populations.

The project does not involve siting a facility that would discharge pollutants or contaminants, so no human health effects would occur. The preferred alternatives would not have a disproportionate adverse impact on low-income or minority populations since the preferred alternatives would restore pre-existing levees of flood protection to the floodplain. Therefore the project is in compliance with this order.

12.2.3 Executive Order 11988, Floodplain Management

Executive Order 11988 requires Federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy of the floodplain, and to avoid direct and indirect support of floodplain development where there is a practicable alternative. In accomplishing this objective, “each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by flood plains.”

By Corps policy, the provisions of EO 11988 are not applicable to the repair of flood control works to the pre-existing level of flood protection, as the repair actions do not directly affect either the modification or occupancy of floodplains, and do not directly or indirectly impact floodplain development.

13 CONCLUSION

Based on the above analysis, the levee rehabilitation projects are not major Federal actions significantly affecting the quality of the human environment, and therefore do not require preparation of an environmental impact statement.

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Appendix A: Construction and Site Photographs



Site 2 before, after, and during the flood fight.

The first photo shows the vegetation and condition of the site prior to any work, the second shows the site after completion (showing inwater and out of water area) and the third shows the extent of turbidity visible during construction.

Photos taken during the flood fight work at Site 2:





Photos of Site 1:



Wetlands and ponded area behind the pumphouse.



View of pumphouse and surrounding area from the levee crown.



Facing west looking along levee crown, about 250 feet west of the pumphouse

Photos of Site 2 after the 2012 damage:



Material placed in 2011 flood fight, seen during a high water event (Calder gage at 12 feet)





Visible tension crack in the material placed at Site 2.

Photos of Site 3 after the 2012 damage:



The sloughed area at Site 3.



The sloughed area at Site 3, taken prior to current damage. Picture shows the bench at the toe of the levee.

Mutch Creek Watershed. All land within the leveed area below the diversion pipe drains into the pond/wetland at the pump house.



Appendix B: 2011 Emergency Response Documents



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
P.O. BOX 3755
SEATTLE, WA 98124-3755

6/11 2011

CENWS-DE

MEMORANDUM FOR RECORD

SUBJECT: Declaration of Emergency: March 2011 Flood, Seattle District, Western Washington Basins with a Flood Potential for the Eastern Basins.

1. In accordance with ER 500-1-1, I am declaring that an emergency is impacting Seattle District as of 1500 hrs. 29 March 2011. Heavy rain is forecasted for the next 36 to 48 hours. The Northwest River Forecast Center is predicting the Snoqualmie, Tolt, Snohomish, Stillaguamish, Skykomish, and Skokomish Rivers to rise above flood stage Wednesday through Saturday. Seattle District has numerous levees eligible for PL 84-99 Rehabilitation that have not been repaired. The added risk from the damaged levees calls for prudent action, including proactive monitoring of damaged levees.
2. Level of Activation. The Emergency Operations Center is directed to activate at Level IV effective 0900 30 MAR 2011. The EOC will be manned continuously until further notice. The Crisis Management team will conduct routine meetings at 1400 hrs. daily or as necessary.
3. Expenses incurred as a result of this emergency will be those involved with the flood operation, i.e. EOC operations, issuance or transportation of sandbags, flood sector engineers, or flood reconnaissance. No charges will be made prior to the date of this declaration.
4. Point of contact for EOC Operations is Doug Weber at 206-764-3406.

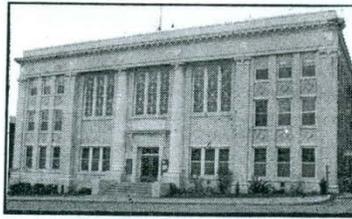
William E. Acheson
Acting Command.

For
ANTHONY O. WRIGHT
Colonel, Corps of Engineers
Commanding

**Board of
County Commissioners**
245-2234

**Clerk District Court
Auditor and Recorder**
245-3212

**Treasurer and
Tax Collector**
245-2421



Prosecuting Attorney
245-2564

Assessor
245-2821

Sheriff
245-2555

Coroner
245-2611

County of Benewah
701 W. College Avenue
St. Maries, Idaho 83861

March 29, 2011

Cathy DesJardin
Seattle District Corp of Engineers
PO Box 3755
Seattle, Washington 98124-2255

RE: Request for Direct Assistance

Dear Cathy,

The National Weather Service in Spokane Washington has forecasted that the St. Joe River at St. Maries is going to rise to 2132.8 by Friday mid-day from the current river elevation of 2127.31. The Flood Stage in St. Maries is 2132.5. The National Weather Service is projecting ½ inch of rain in St. Maries and 1 to 2 inches of rain in the head- waters of the St. Joe over the next 24 Hours. The National Weather Service is also expecting south west winds of 25 to 35 MPH with gusts from 40 to 50 MPH thru Thursday.

The snotel sites in the St. Joe Drainage are at 102% of normal. The National Weather Service is projecting the low daily temperatures to remain above freezing in the St. Maries through next Wednesday, April, 6th.

If the river elevation does not crest on Friday as projected, we will be into the week-end with increasing water elevations, increasing the level above flood stage for the St. Joe River at St. Maries. Benewah County has four levees in the public law 84-99 program and one certified levee in the St. Maries area.

Benewah County requests the Corp of Engineers direct assistance to help with sloughing, cracking and erosion occurring to our levees due to this high water.

Sincerely,

Jack A Buell
Chairman
Benewah County Commissioners

APPENDIX G: COOPERATION AGREEMENT FOR FLOOD FIGHT

COOPERATION AGREEMENT BETWEEN
THE UNITED STATES OF AMERICA
and
BENEFICIAL COUNTY
for
EMERGENCY ASSISTANCE (FLOOD or COASTAL STORM)

THIS AGREEMENT, entered into this 31st day of MARCH, 2011, by and between THE DEPARTMENT OF THE ARMY (hereinafter referred to as the "Government") acting by and through the District Engineer, SEDTICE District, U.S. Army Corps of Engineers, and the COUNTY OF BENEFICIAL, ID [PUBLIC SPONSOR], (hereinafter referred to as the "Public Sponsor"), acting by and through PAUL BUELL [TITLE OF PERSON SIGNING THIS AGREEMENT].

WITNESSETH THAT:

WHEREAS, Public Law 99, 84th Congress, approved 28 June 1955, authorizes the Chief of Engineers to flood fight and perform rescue operations.

WHEREAS, the Public Sponsor has requested assistance under Public Law 84-99, and the Public Sponsor qualifies for assistance in accordance with the established policies of the U.S. Army Corps of Engineers.

NOW, THEREFORE, the parties agree as follows:

1. The Government will perform the work described in its scope of work (attached) that is made part of this agreement.
2. The Public Sponsor agrees, in consideration of the Government providing assistance, to fulfill the requirement of non-Federal cooperation required by the U.S. Army Corps of Engineers regulations, to wit:
 - a. Provide without cost to the Government all lands, easements, rights-of-ways, borrow material, and disposal areas necessary for the authorized work, for the use of borrow areas and/or spoil areas, and for access to and from the site(s) of the structure(s) or work area(s), the borrow sites, and spoil areas.
 - b. Hold and save the Government free from damages due to the authorized work, except damages due to the fault or negligence of the Government or its contractors.
 - c. Maintain and operate the completed work in a manner satisfactory to the Government.
3. The Public Sponsor further agrees to remove, at no cost to the U.S. Army Corps of Engineers, all temporary work constructed by the Government; and,
 - a. (Add others as applicable)
4. Additional obligation under the terms of this agreement terminates when the authorized work performed by the Government is completed.
5. ATTACHMENTS:
 - a. Exhibit A - Government Scope of Work. *Provide temporary erosion and slope stabilization along approximately 100' of the toe and riverward slope of the St. Maries Authorized Levee.*
 - b. (Add others as applicable)

IN WITNESS WHEREOF, the parties hereto have executed this agreement of the day and year first above written.

THE DEPARTMENT OF THE ARMY THE [NAME OF PUBLIC SPONSOR]

[Signature]
Commander

Paul Buell

Appendix G- Cooperation Agreement for Flood Fight Assistance

Appendix C: Public Comments and Responses

ST. JOE SUPERVISORY AREA
1806 Main Street
St. Maries ID 83861
Phone (208) 245-4551
Fax (208) 245-4867



STATE BOARD OF LAND COMMISSIONERS
C.L. "Butch" Otter, Governor
Ben Yursa, Secretary of State
Lawrence G. Wasden, Attorney General
Donna M. Jones, State Controller
Tom Luna, Sup't of Public Instruction

June 20, 2012

Bobbi Jo McClain
US Army Corps of Engineers
Environmental – Cultural Resources Branch
PO Box 3755
Seattle, WA 98124-3755

RE: St. Maries Levee Rehabilitation Project – PM-ER-12-2
St. Maries, Idaho

Dear Ms. McClain:

Thank you for the opportunity to review and comment on the St. Maries levee rehabilitation project located in St. Maries, Idaho along the St. Joe River.

As you may know, Idaho Department of Lands' (IDL) mission is to manage State Endowment Trust Lands (State Trust Lands) in a manner that will maximize long-term financial returns to the Beneficiary Institutions. The IDL mission is a constitutional mandate and is overseen by the State Board of Land Commissioners. State Trust Lands are not managed for the public at large and should not be referred to as "public lands" or "open space," either specifically or in a generic sense. These are working lands producing revenue for the Beneficiary Institutions.

In addition to the management of the State Trust Lands, the State of Idaho owns the bottom of navigable lakes and streams [public trust lands] in the State of Idaho and IDL is the regulatory agency that manages that resource.

In the case of this request, lands included in this project are within the Coeur d'Alene Tribal area, and therefore not under the management of IDL.

Should the proposed application be modified during the review or approval process, IDL requests that updated application information be submitted to the St. Joe Area Office for additional review.

Thank you again for the opportunity to review and comment on this application, we look forward to working with you again in the future. Please contact me at (208) 245-4551 if you have questions or need more information.

Sincerely,



Tony Brede
St. Joe, Acting Area Manager

cc: Kate Langford, Strategic Business Analyst – Planning
Julianne Shaw, Assistant Planner

Response to Idaho Department of Lands comment dated 20 June 2012

The Corps thanks the Department of Lands for their comments and interest in the project. The Corps understands that this project is within the Coeur d'Alene Tribal reservation and is coordinating with the Tribe. The Public Sponsor, in this case the City of St Maries, is responsible to provide all lands, easements and rights of way, relocations and disposal areas that the Corps identifies as necessary for the construction, operation and maintenance of the rehabilitation effort and subsequent operation and maintenance of the entire St. Maries Levee Rehabilitation Project. For the proposed levee repair, the City has worked with local landowners, including the Tribe, in order to make lands available (i.e. certification of real estate) before construction occurs. As of the writing of this EA, all real estate has been certified for the fall/winter construction. If the spring/summer construction is needed, easements will need to be extended to the 2013 construction period.

From: Sandra Raskell [sraskell@cdatribe-nsn.gov]
Sent: Monday, July 02, 2012 7:23 AM
To: McClain, Bobbi J NWS
Cc: Jason Brown; Scott Fields; Jill Wagner
Subject: Notice of Preparation PM-ER-12-2 St. Maries Levee Rehabilitation Project

Bobbi,

The Tribe's Lake Management Department has reviewed the Notice of Preparation and I offer the following comments:

1. What erosion and sediment BMPs will be used during construction? There was no mention of these in the Water Quality section.
2. There is a large volume of logging trucks that run to and from the mill on Railroad Avenue. This was not included in the Traffic section. It should be coordinated prior to construction beginning.
3. As indicated in previous correspondence to the US Army Corp Project Manager certain portions of this project may occur upon the submerged lands of the Coeur d'Alene Tribe within the exterior boundary of the Coeur d'Alene Tribe Reservation. The Coeur d'Alene Tribe has exercised exclusive sovereignty and dominion over the submerged lands and waters within this area now known as the Coeur d'Alene Reservation. The submerged lands and waters within the Coeur d'Alene Reservation are owned by the Coeur d'Alene Tribe and the Tribe is legally entitled to the exclusive use and occupancy of them. *Idaho v. The United States and Coeur d'Alene Tribe* 533 U.S. 262 (2001). The regulation of use of the submerged lands and waters are an essential governmental function of the Tribe. Per Coeur d'Alene Tribe Law and Order Code Chapter 44-4.01 - The Coeur d'Alene Tribe regulates all submerged lands and waters wherever they come to be located within the Coeur d'Alene Reservation regardless of whether the watercourse is navigable or not and regardless of whether the watercourse is in its natural condition or has been altered by impoundment, dredging or otherwise. Furthermore, Chapter 44-14.01 (A) 1. It is the policy of the Tribe to generally permit existing fills, dikes, jetties and piers, so long as they are maintained in good repair, are in compliance with Tribal standards and a current Tribal permit and lease has been applied for, paid for and issued. It appears this requirement may have been overlooked in the NOP, only indicating that no significant impact was expected. Again, it appears from the draft design, some work may occur upon the submerged beds and banks of the Tribe's waters. The Tribe, again, respectfully requests that prior to initiating any work upon those Tribal owned submerged lands that the necessary Tribal permits and/or lease(s) are obtained. For information on the Coeur d'Alene Tribe's application and permitting process please contact Jason Brown, Lake Management Department at (208) 686-1800.
4. On the seepage berm draft design is the ballast placed on exiting ground? Also, what will be used to fill the existing ditch.
5. For the pipe replacement draft design found on pages 11 and 12, the following comments are noted:
 - a. On page 11, it is stated there will be a new 20" HDPE pipe installed with a bend from a proposed Type 2 catch basin. Typically any bends in HDPE pipe needs to have a catch basin or manhole for the bend.

- b. On page 11, it shows the 20" and 48" connecting into the concrete collar. How will this then flow into the existing wood stave pipe?
 - c. On page 11, is the catch basin located in the middle of the proposed Railroad Avenue used to catch the flow through the ballast?
 - d. On page 12, it states Figure 1 is the pipe replacement profile, however it only shows the existing steel pipe.
 - e. On pages 11 and 12, they seems to be many inconsistencies in the existing vs. proposed design. Please clarify these draft designs.
6. On page 6, it should be noted that coordination should be coordinated with Arcadis as well as EPA for the existing contaminated site on the proposed project Site 1.

These comments are from the Lake Management Department only. Please coordinate directly with the Tribe's Cultural Department directly for the review and comments.

Please let me know if you have any questions or comments for us.

Thank you,
Sandra Raskell, P.E.
Project Engineer
Lake Management Department
Coeur d'Alene Tribe
424 Sherman Avenue, Suite 306
Coeur d'Alene, ID 83814
(208) 667-5772 - Office
(208) 667-0919 - Fax
sraskell@cdatribe-nsn.gov

Response to Coeur d'Alene Tribe letter dated 2 July 2012

The Corps thanks the Coeur d'Alene Lake Management Department for their comments.

- 1) The Corps provided further details to the Tribes' Lake Management Department as a part of the Clean Water Act coordination. Table 1 in the EA provides details on BMPs used during construction.
- 2) Railroad Avenue will be rerouted during construction to avoid or limit disturbance to traffic with signage and/or flaggers to maintain safety of the site and direct traffic through detours.
- 3) The local sponsor, in this case the City of St. Maries, is responsible for providing all real estate interests for the levee repairs. The Corps works with the City to ensure that all real estate interests are in place prior to construction through temporary or permanent easements, as needed.
- 4) A non-woven filter fabric will be placed on the existing ground to provide separation and filtration between the native soil and subbase "ballast" fill. The existing ditch will be filled with suitable levee embankment material matching the existing levee material (SM – silty sand).
- 5a) The bend lies beneath the levee toe. A manhole at this location would seriously impair levee integrity. A concrete thrust block was designed for the bend.

5b) The connection of the proposed HDPE pipe to the existing wood stave pipe has been revised. The connection will involve inserting the proposed 48” outside diameter pipe into the existing 48” inside diameter pipe a minimum of 24 inches and placing a commercially designed 12-inch rubber coupling centered on the splice.

5c) The catch basin was initially proposed as a connection between the proposed HDPE pipe and the existing steel pipe. During the 95% design a mechanical coupling with joining bolts was deemed more effective.

5d) The detail on page 12 is intended to show the existing pipes and the approximate extent of replacement. The designs have been revised.

5e) The designs have been revised.

6) Coordination with Joe Wallace of the EPA and Allan Steckelberg of ARCADIS has been ongoing throughout the project development. EPA will be the prime contact during construction.

From: June.Bergquist@deq.idaho.gov [mailto:June.Bergquist@deq.idaho.gov]
Sent: Monday, June 04, 2012 3:45 PM
To: McClain, Bobbi J NWS
Cc: Rick_Donaldson@fws.gov; mary.terra-berns@idfg.idaho.gov
Subject: RE: St. Maries Levee Rehabilitation (UNCLASSIFIED)

Hi Ms. McClain,

Thank you for sending me this notice, DEQ may have 401 certification responsibility if this is outside of the Coeur d'Alene Tribe Reservation. I have a few comments on the Notice, to help with readability and understanding of the project and about water quality information that hopefully could be included in the EA.

NEED Section

* The Need statement in the notice should give the reader more general background information about each site. An introductory statement about the levee, its construction, the road that parallels the levee and its use (main arterial, dead end, etc.) and some history (when it was built, why, etc.). Where the reservation boundary is located would also be useful.

* It would be helpful if the paragraph about Site 1 answered the following questions: Why does the levee travel inland so far at this location; what feature(s) are riverward of the levee at site 1; include an aerial of the Mutch Creek watershed with the path of the stream highlighted; describe the current situation of a stream traveling through a levee and how flood waters are prevented from backing up behind the levee (or not) along with how it should work; and, what does the pump house do? Describe where it moves water from and to where at what time. Who operates it? Given this information the proposed work would make more sense.

* Include a separate aerial photo which outlines the St. Maries Creosote Superfund Site and Site 1. It is critical that reviewers have a solid understanding of where the two are in relation to one another. Include location of staging areas, equipment storage, and superfund infrastructure and operations.

* The Site 2 Plan View image should have a better background photo with better resolution. Some areas on this aerial photo look like water but are land. I would also more clearly outline where the 2011 flood fight fill was added on this Plan View. As I understand, the tension cracks developed because of the weight of the fill placed in the 2011 flood fight. The remedy is to remove part of that fill to relieve the pressure, is that correct? How this plan unfolds in the narrative is confusing. Also, I would add information about what used to be on this site until a couple of years ago (a large building of some sort) so local people can better understand where the work will be done. Describe what an I-wall is versus the rest of the levee design.

* Begin a new paragraph with your statement, "The third damage area, Site 3, ..." to help the reader locate Site 3 information. An introductory statement should reference a local feature at or near this site so local people can better understand where the work will be done. Include what

specific land use and activity exists on this and adjacent properties. The Site 3 Plan View image is also very blurry and difficult to see features.

COMPLETED AND PROPOSED ACTIONS

- * An addition of before flood fight and after flood fight photos of each site would be great.
- * Continue identifying the site by number as it was introduced in the NEEDS section. It is difficult to figure out what project you are describing here. Better yet, name each site based on the activity or location i.e. "crib wall" "seepage berm", "rotational failure" and "bank stabilization".
- * Identify the function of the "ramp", is it a boat ramp, a function of the mill, is it a public access point, etc.?
- * Out of the 2,120 cubic yards of material that was placed, how much was washed downriver? Was 18" minus quarry rock adequate for this repair? Which Site is this in reference to?
- * Please describe more fully the seepage berm alternative. Within this area of expertise this description is fine but it is too brief and technical for a public noticed document.
- * What is a seepage berm? Why do you want the levee to seep?
- * What is "pressure head" and what is an "exit gradient" ? What are "postulated deficiencies in the conduits"? Do you mean you are going to replace the pipe that carries the creek into the river because it is an old wooden pipe and will fail sometime soon?
- * Why are there two pipes shown in the diagram and what are their function?
- * Under your Site 1 description, do you mean that the pressure from high water in the river pushes water out of the cracked wooden pipe which saturates the levee causing flood water to seep out onto the landward side of the levee? How would purposefully creating a seepage berm be any different?
- * It is not clear if all of the wooden pipe would be replaced. Also, are you going to work below the OHWM in Mutch Creek or the St. Joe River when replacing this pipe?

BIOLOGICAL RESOURCES

If there was a considerable loss of fill experienced during the flood fight, will this be addressed by the USFWS under Section 7? If so, how will the Corps avoid this in future flood fights in this area?

WATER QUALITY

The St. Joe River from St. Maries River to the mouth is an un-assessed waterbody. It is protected for cold water aquatic life and primary contact recreation beneficial uses. The turbidity standard at IDAPA 58.01.02.250.02.e. applies to both Mutch Creek and the St. Joe River.

It would be helpful if the EA specifically described best management practices associated with each of these projects. This includes staging areas, equipment storage, fueling and maintenance locations, dewatering, diversions, timing of work, BMP products, BMP design and their locations. How will snow or rain-on-snow be dealt with if work is done in the winter months?

Is the Corps required to comply with the EPA's NPDES Construction General Permit? EPA is the permitting authority in Idaho for the NPDES program.

Thank you for the opportunity to comment on this project.

June

June Bergquist

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

2110 Ironwood Parkway

Coeur d'Alene, ID 83814

phone (208) 666-4605

fax (208) 769-1404

e-mail: june.bergquist@deq.idaho.gov <<mailto:june.bergquist@deq.idaho.gov>>

Receptionist telephone number (208) 769-1422

Response to Idaho DEQ comment email dated 4 June 2012

The Corps thanks the DEQ for their comments. The project is within the boundaries of the Coeur d'Alene reservation, so 401 certification has been coordinated with the Tribe.

The Corps acknowledges that the level of detail in the NOP is insufficient for complete analysis. The NOP is completed early in the planning process in order to get project information to the public and agencies so that their comments and concerns can shape the project, however due to the early notification many details of the design are not yet known. Also, in order to keep the document a manageable size, not all information can be included. The details and clarifications requested have been added to this EA.

From: Terra Berns, Mary [mary.terra-berns@idfg.idaho.gov]
Sent: Monday, June 18, 2012 2:32 PM
To: McClain, Bobbi J NWS
Cc: june.bergquist@deq.idaho.gov
Subject: RE: St. Maries Levee rehabilitation (UNCLASSIFIED)

Bobbi,

I understand that this project is entirely within the CDA Reservation boundaries - correct??

I think June Bergquist covered many of my concerns in her email comments to you on 6/4.

In general, the Notice of Preparation lacks detail and background information that would facilitate providing substantive comments.

Mary

Response to Idaho Department of Fish and Game comment email dated 18 June 2012

The Corps thanks the Department of Fish and Game for their comments. The project is within the boundaries of the Coeur d'Alene reservation so 401 certification has been coordinated with the Tribe.

The Corps acknowledges that the level of detail in the NOP is minimal. In order to keep the document a manageable size, not all information can be included. Also the NOP is completed early in the planning process in order to get project information to the public and agencies so that their comments and concerns can shape the project, however due to the early notification many details of the design are not yet known. The details and clarifications requested have been added to this EA.

Appendix D: ESA Concurrence Letter



United States Department of the Interior
FISH AND WILDLIFE SERVICE
Idaho Fish and Wildlife Office
Northern Idaho Field Office
11103 East Montgomery Drive
Spokane Valley, Washington 99206



File

August 9, 2012

Evan Lewis
Chief, Environmental and Cultural Resource Branch
Department of the Army
Seattle District, Corps of Engineers
Seattle, Washington 98124

Subject: Section 7 Consultation for the St. Maries Levee Rehabilitation Project
(FWS Ref: 01EIFW00-2012-I-0398; CONS 100-(a))

Dear Mr. Lewis:

This responds to your July 23, 2012, letter referencing the Biological Assessment (BA) for initiation of consultation for the St. Maries Levee Rehabilitation Project (Project). Specifically, the U.S. Army Corps of Engineers (COE) is completing consultation for levee repair work that was conducted during an emergency flood event that occurred March and April, 2011, and which is the subject of an emergency consultation initiated by the COE on March 29, 2011, under emergency consultation provisions of the Endangered Species Act Endangered Species Act of 1973, as amended (Act). Additionally, the COE is initiating consultation for work at three sites to be completed September through November 2012, which will take place on the St. Joe River in Benewah County at Township 46 North, Range 2 West, Section 22, Boise Meridian, Idaho. We understand that the COE is requesting initiation of consultation to address potential effects of Project implementation upon bull trout (*Salvelinus confluentus*) and its designated critical habitat. Your letter was received in our office July 23, 2012, and requested U.S. Fish and Wildlife Service (Service) concurrence with your determination of effect for bull trout and designated bull trout critical habitat.

Emergency Consultation

In late March 2011, emergency actions were taken at Site 2 as a result of erosion caused by an extended period of high water. The erosion was threatening a crib wall that was responsible for stabilizing a ramp, parking area, and turnaround pad in the levee. A total length of 180 feet of riverbank was stabilized using approximately 2,120 cubic yards of 18-inch minus riprap. The majority of the work was completed out of the water, however approximately 75 feet of in-water work occurred.

Proposed Action

As stated in the BA, the purpose of the proposed Project is to fully restore the pre-flood level of protection to the St. Maries Levee. The proposed repairs at Site 1 and Site 2 include no in-water

work and construction is anticipated to occur in September/October 2012. Work at Site 3 is proposed for November 2012, and will include in-water work. A detailed description of work activities at the three locations is as follows:

Site 1:

Proposed repairs at Site 1 include pipe replacements and construction of a 2-foot to 4-foot seepage berm. The seepage berm will include installation of a nonwoven filter fabric and 2½-inch minus ballast. The berm will be capped with aggregate base and finished with 4 inches of asphalt pavement. The landward toe of the berm will be located such that the project will not impact adjacent wetlands. The total length of work at Site 1 will be approximately 1,500 feet of paved surface and will also result in a wider roadway (Railroad Avenue) landward of the levee. The current road is typically 25 feet wide. The width of the proposed road will vary from 26 feet for 170 feet, 32 feet wide for 870 feet, and 30 feet wide for 604 feet (total 1500 feet).

Currently, runoff from Railroad Avenue is directed toward the existing wetland and retention pond behind the levee, which acts as a retention area for all drainage in this area. Construction will replace the existing 37,500 square feet (0.86 acres) of impermeable roadway with 46,100 square feet (1.06 acres) of impermeable roadway. Upon Project completion, runoff will continue to be directed toward the wetland and retention pond.

The seepage berm construction will avoid impacting the wetland and pond adjacent to the pump house; however excavation for the pipe replacement will require temporary impacts to the wetland. Approximately 267 square feet of wetlands and 505 square feet of pond would be impacted. Construction would involve removal of vegetation, including approximately 18 trees averaging a 7-inch diameter at breast height. Once the Project is complete, the elevations will be rebuilt to resemble preconstruction slopes and native plantings will be installed within the repair area.

Additionally, the proposed repairs will also entail replacing approximately 150 feet of the 48-inch Mutch Creek diversion pipe with 48-inch high density polyethylene (HDPE) butt welded pipe, as well as replacing approximately 120 feet of the 20-inch pump house outlet line with 20-inch HDPE butt welded pipe. Repair of the pipe through the levee, and rerouting of traffic during construction will require a portion of the levee, up to 500 feet, to be removed and rebuilt. The excavated area for the pipe replacement is expected to accumulate groundwater at a rate of 10 gallons per minute to 100 gallons a minute depending on the rate of excavation. As a result of the adjacent Environmental Protection Agency superfund site, the potential for groundwater contamination does exist. As such, no water will be released into the St. Joe River unless it meets Water Quality Standards for Approved Surface Waters of the Coeur d'Alene Tribe. These standards require that sample collection, preservation, and analytical procedures conform to the guidelines of 40 CFR, Part 136, and with the Coeur d'Alene Tribe's Quality Assurance Project Plan for Nonpoint Source and Point Source Pollution Monitoring and Water Quality Standards Implementation Monitoring (approved by Environmental Protection Agency in October, 2003). Prior to field work, the COE will review and approve the construction contractor's plans for ensuring compliance with these regulations. If onsite treatment methods cannot be used to achieve required water quality (or if offsite treatment is economically favorable), the water will be disposed of at a certified wastewater treatment plant.

Site 2:

As noted above, Site 2 was the location of the emergency action. The repair proposed for 2012 at Site 2 includes removing the overburden due to development of a tension crack that occurred in the levee as a result of the material that was placed during the 2011 emergency repair. The total length of overburden removal is approximately 145 feet and will include excavation of material above the waterline. No excavation will occur below the waterline. Once removal of the overburden is complete, the working pad will be reduced to a 12-foot wide bench and the riverward slope will be re-graded to reduce slope angle.

Site 3:

Proposed work will include armoring 160 feet of slope below the existing levee bench with 8 to 22-inch rock riprap. The armoring will tie into existing rock at the downstream end. Depending on the water level at the time of construction, the repair may require rock placement in the water. An excavator working from the levee will be used for Project implementation.

Conclusion

Emergency Consultation

As noted above, the action occurred on the riverbank of the St. Joe River, which serves as an important migratory corridor for bull trout. During the time of the emergency action (late March through early April), it is possible that juvenile bull trout were in the area. However, to minimize impacts to bull trout, material was trucked to the site, dumped onto the levee crown, and placed individually by an excavator. No vegetation removal or excavation was conducted. Furthermore, a filter blanket was not placed on the riverward bank prior to placement of riprap, further reducing potential impacts to bull trout. Lastly no turbidity increases in the St. Joe River were noted by the COE during the action. For these reasons and for other described below, the actions completed under emergency consultation are expected to have resulted in insignificant effects to bull trout and their designated critical habitat.

Proposed Action

Bull trout are present in the St. Joe River and implementation of the proposed action has potential to result in short term increases in suspended sediment, noise and turbidity. Bull trout use this portion of the river primarily as a migration corridor to and from upstream spawning and rearing areas and are not expected to be in the area during in-water work activities (i.e. placement of riprap) conducted in November. Additionally, Project implementation is not likely to significantly affect the ability of the St. Joe River to function biologically as migratory habitat for bull trout. Furthermore, while the road surface will be widened and paved resulting in an increase of impermeable surface area, the expected change in amount and quality of any runoff is not likely to be significantly different from the pre-project condition, as soils in this area have extremely low infiltration rates and the area landward of the roadway is currently a compacted parking area. Additionally, the road will continue to serve as a dead end entrance to a lumber mill, and is not expected to increase the volume of traffic that currently uses the road. As a result, due to the minimal amount of disturbance, timing of the proposed Project, and use of conservation measures, potential short-term minor impacts to bull trout and their designated critical habitat that may occur as a result of Project implementation are expected to be insignificant.

The BA states that best management practices specifically targeted to minimize sediment input into the river, and minimize the likelihood of leaks or spills from heavy equipment will be utilized. These include limiting vegetation removal to the minimum extent possible. Best management practices designed to minimize the likelihood of leaks or spills include refueling on the backside of the levee; as well as other proven effective measures described in the BA.

We have reviewed the information provided and concur with your finding that the emergency action "affected, but did not adversely affect" bull trout and their designated critical habitat. Furthermore, we also concur with your finding that the proposed Project "may affect, but is not likely to adversely affect" bull trout and their designated critical habitat. Relative to the proposed action, concurrence by the Service is contingent upon implementation of the proposed Project as described in the BA.

The Service also recommends that all disturbed areas be re-planted using native vegetation.

This concludes informal consultation pursuant to section 7(a)(2) of the Act. This Project should be re-analyzed if new information reveals that effects of the actions may affect listed species or critical habitat in a manner, or to an extent, not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; and/or if a new species is listed or critical habitat is designated that may be affected by the Project.

If you have further questions about this letter, or your responsibilities under the Act, please contact Jay Martini of my staff at the above address (telephone: 509-893-8002; fax: 509-891-6748).

Sincerely,



Ben Conard
Field Supervisor

cc:

IDFG, CdA (Corsi)

Appendix E: NHPA Coordination Letters



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

Environmental Resources Branch

MAR 21 2011

Dr. Jill Wagner
Tribal Historic Preservation Officer
Coeur d'Alene Tribe
Post Office Box 408
Plummer, Idaho 83851-0408

SUBJECT: Update on the St. Maries Flood Control Works, Benewah County, Idaho 2011
Section 205 Levee Rehabilitation Project (Section 106 National Historic Preservation Act
Compliance)

Dear Dr. Wagner:

The U.S. Army Corps of Engineers (Corps) would like to provide you with an update on the St. Maries Flood Control Works project. Per our December 3rd, 2008 correspondence the St. Maries Flood Control Works was damaged during a high water event in May 2008 which caused excessive seep in the levee. The project is located in Section 22, Township 46 North, Range 2 West in Benewah County, Idaho.

The Corps has determined that the repair work to the St. Maries levee will consist of removing the diversion pipe from underneath the levee; removing the levee prism, and placing an impermeable clay cutoff within the levee to prevent excess seepage. The total repair length is approximately 1300 linear feet (lf). The repairs will include excavating the levee prism for 1300 lf and installing an impermeable clay cutoff. The impermeable clay cutoff will extend approximately 12 feet below the levee into native sediments (Enclosures). The excavated levee prism will be reused and placed back within the levee.

In addition, the Mutch Creek diversion pipe that passes underneath the levee will be replaced. It is believed that the diversion pipe underneath the levee is a steel pipe and is approximately 150 feet long. The pipe will be removed and replaced during the excavation and installation of the impermeable clay cutoff. Two manholes, one on the landward side and one on the riverward side will be placed where the new pipe will be connected into the existing system. Currently, staging areas will be in paved areas. During construction vehicular access will be detoured around the project area.

As stated in our previous correspondence we are not aware of any archaeological survey that has taken place within the levee area in recent years, and as the flood control works was constructed in 1941-1942, it is very unlikely that it was preceded by such a survey. The flood control works itself is over 50 years of age and although parts of it have been altered, the system should be evaluated by a qualified historic expert for National Register eligibility. There is potential for historic (and possibly prehistoric) archaeological deposits near or under the levee as part of the old St. Maries townsite is shown on early maps within the levee footprint. A Corps archaeologist will conduct a cultural resources survey of the APE as part of the levee rehabilitation effort.

In accordance with Section 106 of the National Historic Preservation Act (NHPA or the Act) of 1966, as amended (36 CFR 800.4[a]), we request your assistance in identifying properties in the APE that may be eligible for the National Register of Historic Places, including identification of known sites and previous inventories or surveys within the APE. In the absence of previous survey of the APE of adequate quality to support the project's environmental compliance process for planning, design and construction, we intend to inventory the APE as soon as possible.

We appreciate any help you can provide us in our efforts to comply with Section 106. Please be assured that the Corps will treat any information you decide to share with us with the degree of confidentiality that is required in Section 800.11(c) of the Act, or with any other special restrictions you may require.

If you have any questions about this request, please call me at (206) 764-6857. You also may reach me by fax at (206) 764-4467 or by e-mail at Kara.M.Kanaby@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kara M. Kanaby', with a long horizontal flourish extending to the right.

Kara M. Kanaby, Archaeologist
Environmental Resources Branch

Enclosure

Copies of this correspondence with enclosure are being provided to:

Dr. Kenneth Reid
Idaho State Archaeologist
Idaho State Historical Society
210 Main Street
Boise, Idaho 83702



DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

REPLY TO
ATTENTION OF

Environmental and Cultural Resources Branch

2012
MAY 29 2006

Dr. Jill Wagner
Tribal Historic Preservation Officer
Coeur d'Alene Tribe
P.O. Box 408
Plummer, Idaho 83851-0408

SUBJECT: Section 106 Consultation for the St. Maries Flood Control Works, Benewah County, Idaho 2012 Section 205 Levee Rehabilitation Project

Dear Dr. Wagner:

The U.S. Army Corps of Engineers (Corps) would like to provide you with an update on the St. Maries Flood Control Works project for Section 106 Consultation. Subsequent to our March 11, 2011 correspondence several changes have occurred to the project. Changes include a design change regarding the repair alternative chosen to fix the damage (Site 1) that occurred during the 2008 high water event and the addition of two new sites (Sites 2 and 3) that were damaged during the late March/early April 2012 high water event. The Area of Potential Effect (APE) has been expanded to include these two new damage sites.

Design Change

Our 2011 correspondence described the proposed repair to the St. Maries levee at Site 1 which was damaged during the 2008 high water event. At that time the Corps' proposed repair consisted of removing approximately 1300 linear feet (lf) of levee prism and placing an impermeable clay cutoff within the levee to prevent excess seepage. In addition, the diversion pipe from underneath the levee would be removed and replaced.

In consultation with our non-federal sponsor, the City of St. Maries, the Corps has since chosen a new recommended repair alternative to Site 1. The new recommended repair alternative includes pipe replacements and constructing a 2-foot to 4-foot seepage berm behind the levee and on top of Railroad Avenue. The berm would create an effective seepage control structure and allow for increased road width of Railroad Avenue. The City of St. Maries would like to increase the road width in this confined area to improve traffic flow.

The seepage berm would include a non-woven filter fabric and 2 feet minimum of 2 ½-inch minus ballast. The berm would be capped with aggregate base course and finished with 4 inches of asphalt pavement. A retaining wall, approximately 100 feet in length, would be included along the southerly length of the roadway near the pump station constriction point. The project would be transitioned to the existing roadway height for approximately 100 feet at each end of the seepage berm at a reasonable roadway grade. The total length of the project would be 1500 lf to include these transition areas.

Finally, the Mutch Creek culvert and the 20" pump house outlet would be replaced to correct any postulated deficiencies in the conduits. It is theorized that, when the flap gates are closed on these pipes, pressure is developed and any weak points in the pipes leak, creating pressure in the ground water and causing piping damage to the levee. The proposed repair would entail replacing approximately 150 feet of the 48-inch Mutch Creek diversion pipe with 48-inch HDPE butt welded pipe and replacing approximately 120 feet of the 20-inch pump house outlet line with 20-inch HDPE butt welded pipe. Ground disturbance will consist of the removal of the pump house outlet and Mutch Creek culvert pipes and removing approximately 500 lf of the levee to facilitate pipe replacement and the rerouting of traffic.

New Damage Sites

A high water event in late March and early April of 2012 resulted in further damage to the St. Maries Federally Authorized Levee occurring in two separate areas. Damage at Site 2 consists of a 60-foot long tension crack that developed in spall material (overburden) that was placed during a 2011 high water event. The crack measures 3 wide with the largest portion measuring 7.5 inches wide and is 4 inches deep. The vertical displacement is approximately 8 inches. Repair to the tension crack will remove approximately 145 feet of overburden and include excavation of material placed above the waterline. The working pad would be reduced to a 12 foot wide bench and the slopes re-graded to a more gradual slope. The vertical and horizontal repair limits will occur within the overburden.

Site 3 is located upstream of the floodwall and sustained a rotational slope failure during the high water. A severe rain event causing the high water saturated the slope making it more susceptible to instability. The rotational failure is approximately 5 feet in height and approximately 20 feet wide. The depth into the slope is approximately 5 feet. During site investigation, three downstream areas of undercut bank were observed. Allowing to tie-in to strategic points, the full repair would be 160 LF. Repair to Site 3 will include armoring the slope with a Class II riprap. The armor would include a 1 foot filter blanket that should also improve drainage from the slope. The weight and strength of this rock armoring is intended to buttress the slope, while nullifying any potential for erosion and bank undercutting. The full repair would be 160 feet. This repair will constitute a change in substrate at this location, placing rock on what had been an earthen bank, but will maintain the pre-damaged slope and footprint. The repair will tie into existing rock at the downstream end, extending the existing armored bank through the 160 ft repair.

In March 2012, Corps Archaeologist Kara Kanaby conducted a cultural resource survey for the St. Maries Levee repair project APE (with the exception of Sites 2 and 3). The cultural resources survey consisted of a pedestrian survey along the length of the levee and monitoring of wetland delineation probes. No archaeological resources were discovered during the cultural resource survey, however; the St. Maries Levee and associated pump house were constructed in 1942 and have been determined eligible under Criterion C for inclusion to the National Register of Historic Places. The Corps has determined that the proposed project will have no adverse affect to the St. Maries Levee or pump house. However, archaeological monitoring will occur during ground disturbing activities for levee removal, any ground disturbance into native sediment under the levee and during pipe replacement at Site 1. In addition, monitoring will occur at Site 2 during ground disturbing activities. No monitoring is required at Site 3 as all of the work will occur within the limits of the overburden placed at the site during the 2011 high water event.

The cultural resources report and monitoring plan have been enclosed for your review.

We invite you to concur with our determination. If you have any questions or need additional information, please contact Kara Kanaby of my staff at 206.764.6857 or by email at Kara.M.Kanaby@usace.army.mil.

Sincerely,



Evan Lewis, Chief
Environmental Resources Branch

Enclosure

Appendix F: CWA documents

Clean Water Act Section 404 Analysis

**St Joe River – St Maries Levee Repair
Rehabilitation of Flood Control Works**

Benewah County, Idaho

Prepared by:

**U.S. Army Corps of Engineers
Seattle District
Environmental and Cultural Resources Branch**

June 2012



**US Army Corps
of Engineers** ®
Seattle District

Introduction

The purpose of this document is to record the U.S. Army Corps of Engineers (Corps) compliance evaluation of the repair of the St Maries Levee on the St Joe River, Benewah County, Idaho, pursuant to the Clean Water Act (CWA), and the General Regulatory Policies of USACE. Specifically, Section 404 of the CWA requires an evaluation of impacts for work involving discharge of fill material into the waters of the U.S., and evaluation guidance can be found in the CWA 404(b)(1) Guidelines [40 CFR §230.12(a)]. The General Regulatory Policies of the Corps of Engineers [33 CFR §320.4(a)] provide measures for evaluating permit applications for activities undertaken in navigable waters.

Attachment A provides the specific USACE analysis of compliance with the CWA Section 404(b)(1) and the General Regulatory Policy requirements.

15 Project Background

During the May and June 2008 flood event, seepage paths developed in the St. Maries Federally Authorized Levee at Site 1 (Figure 1), allowing significant seepage along a 1,300 foot reach. The high river flows likely resulted in the pressurization of the Mutch Creek diversion pipe and the pump house outlet pipe. The pressure is presumed to have led to the pipe's failing. At the same time, seepage occurred along a longer reach of the levee presumably due to a lens of permeable material below the levee or potentially due to seepage along other utility pipes in the landward toe of the levee.

On March 29, 2011 Benewah County requested assistance based on Northwest River Forecast Center predictions that the St. Joe River would exceed flood stage. Upon inspection, a back eddy was noted and the riverbank had lost material in a rotational slump in front of the Potlatch Mill cribwall. The rotational failure threatened the crib wall which stabilizes a ramp, parking area and the turn-around pad in the levee. A concrete floodwall protects the levee upstream of the crib wall, but stops at the top of the ramp before the parking and turn-around pad. Further slumping threatened the levee integrity in the reach that has no floodwall. For approximately 24 hours on the evening of March 31st, the Corps placed 2,120 cubic yards of quarry rock (≤ 18 inches in diameter) onto the riverward face and toe of the levee adjacent to the Potlatch Mill crib wall to prevent further rotational failure. The full repair placed along 180 feet with a roughly 2.0:1 to 2.5:1 riverward slope. The majority of this work was out of the water, with approximately 75 ft of work in the water.

A third high water event in late March and early April of 2012 resulted in further damage to the levee at two locations. Site 2 is located downstream of the floodwall where a 60-foot long tension crack developed in the material that was placed during the 2011 emergency response. In general, this crack is 3 inches wide and 4 inches deep with a vertical displacement of 3 inches. At its widest point, the crack was measured at 7.5 inches wide with a vertical displacement of 8 inches. The third damage area, Site 3, is located upstream of the floodwall and sustained a rotational slope failure during the high water. The rotational failure is approximately 5 feet in height and approximately 20 feet wide. The depth into the slope is approximately 5 feet. During

the site investigation, the team also noted areas of undercut bank between the rotational failure and the floodwall.

16 Project Need

The levee within the project area provides flood risk reduction to about 38 residences and 13 commercial businesses including Potlatch Corporation. Potlatch Corporation is a lumber mill complex which is the largest employer in Benewah County employing approximately 375 local residents. The commercial businesses are located between the levee and the railroad and the residences are located south of the railroad with boundaries of North 20th Street to the west, Center Street to the south, and North 10th Street to the east.

Three damage areas have reduced the level of protection of the St Maries levee. Prior to the damage, this levee offered at least a 100-year level of protection. In the current damaged state, the levee provides protection from approximately a 5-year flood event.

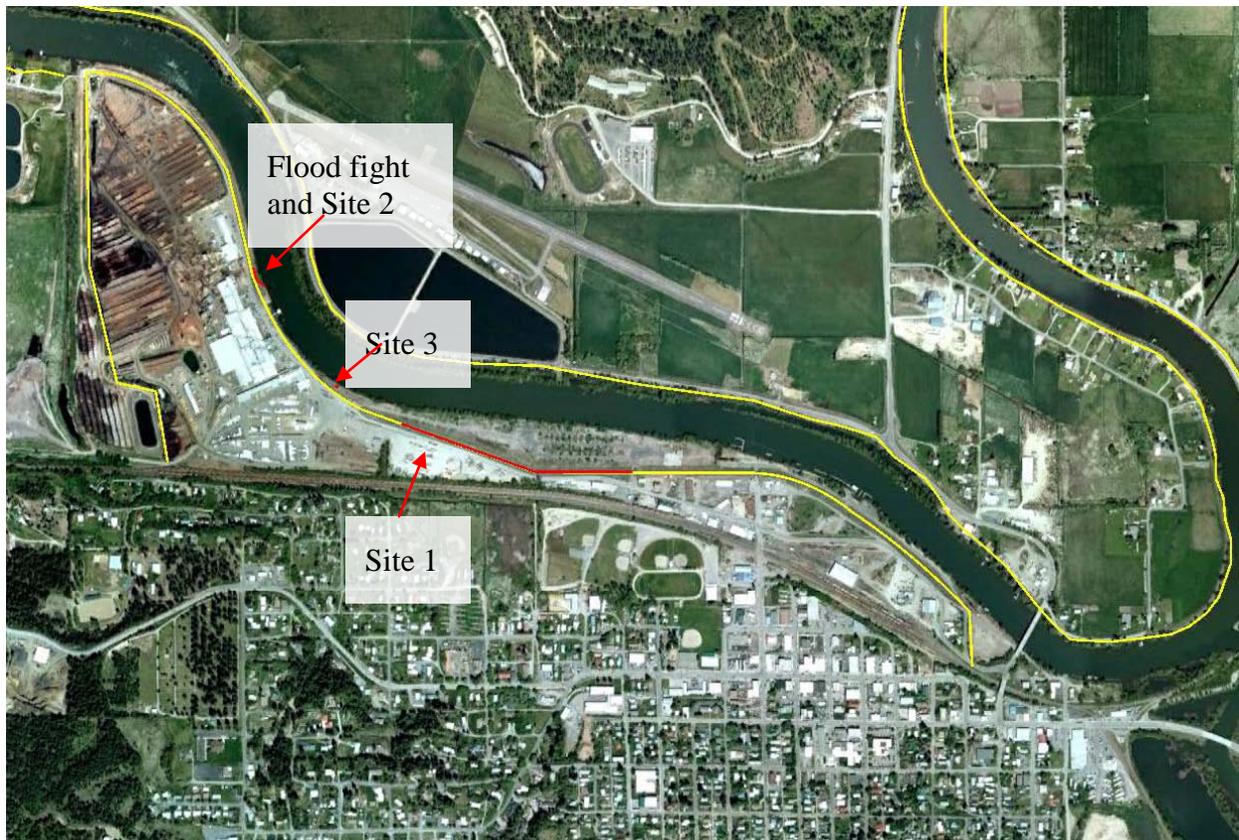


Figure 1. Overview map showing the location of proposed repairs as well as the completed flood fight. The yellow line shows the extent of levees in the area.

17 Project Purpose

The project would repair the damaged portions of the St Maries Levee to restore and maintain adequate and reliable flood protection for the businesses and public infrastructure to the same level of protection that was provided by the levees prior to the 2008 flood event. The Corps has determined that failure to repair these sites greatly increases the chances of economic damage.

18 Proposed Action and Alternatives

As discussed above, part of the work covered in this document was completed as an emergency flood response. For approximately 24 hours on the evening of March 31st, the Corps placed 2,120 cubic yards of quarry rock (≤ 18 inches in diameter) onto the riverward face and toe of the levee adjacent to the Potlatch Mill crib wall to prevent further damage to the levee. The full repair was 180 feet with a roughly 2.0:1 to 2.5:1 riverward slope.

Multiple alternatives for proposed work were considered as follows.

a. No Action Alternative:

The No-Action Alternative would leave the levee in its current damaged state. The No-Action alternative would not meet the project goals due to the high likelihood of damage or levee failure from future flood events.

b. Repair to Pre-flood Condition Alternative:

This repair returns the levee to the designed level of protection, as provided prior to the flood damage by returning the levee to the same condition as existed prior to the damage.

c. Pipe Replacement Alternative:

This alternative would replace the deteriorated wooden Mutch Creek diversion pipe and the pump house outlet pipe.

d. Sheet Pile Alternative:

This alternative would drive sheet pile to approximately 40-foot depth along 1,300 feet of the levee toe. This alternative would address seepage concerns, but would not address the suspected pipe failure or levee damage related to the pipe failure. Due to the high cost of this alternative and the ability to meet project purpose and goals with other lower cost alternatives, this alternative was not chosen as the preferred plan.

e. Seepage Berm Alternative:

This alternative adds material on the landward side of the levee to provide a downward weight to counteract the high exit gradients at the levee's landward toe. Seepage berms also lengthen the

seepage path, to decrease pressure head and decrease the seepage pressure in the area beyond the berm.

f. Non-Structural Alternative:

This alternative would relocate all existing structures, utilities and other infrastructure within the damage area protected by this section of levee. The costs associated with this alternative were deemed too high for the level of benefit associated with this alternative.

The proposed alternative includes the Seepage Berm Alternative with pipe replacement for Site 1, and the Repair to Pre-flood Condition Alternative for Sites 2 and 3. Construction of the Site 1 and Site 2 repairs are anticipated for September/October 2012 and Site 3 is proposed for November 2012, during the in-water work window for bull trout (July 15 - Sept 1 and Nov 1 - Feb 28).

The recommended repair alternative for Site 1 (Figure 2) includes pipe replacements and constructing a 2-foot to 4-foot seepage berm by essentially raising Railroad Avenue. The berm would create an effective seepage control structure. The seepage berm would include a non-woven filter fabric covered by 2 feet minimum depth of ballast rock (≤ 2.5 inch in diameter). The berm would be capped with aggregate base course and finished with 4 inches of asphalt pavement. The landward toe will be located such that the project will not impact the adjacent wetland. The project would be transitioned to the existing roadway height for approximately 100 feet at each end of the seepage berm at a reasonable roadway grade. The total length of the project would be 1500 feet to include these transition areas. Also, the Mutch Creek diversion pipe and the 20-inch pump house outlet pipe would be replaced to correct any postulated deficiencies in the conduits. It is theorized that, when the flap gates are closed on these pipes, pressure develops and any weak points in the pipes leak, creating pressure in the ground water and causing piping damage to the levee. The proposed repair would entail replacing approximately 150 feet of the 48-inch Mutch Creek diversion pipe with 48-inch HDPE butt welded pipe and replacing approximately 120 feet of the 20-inch pump house outlet line with 20-inch HDPE butt welded pipe. Repair of the pipe through the levee, and rerouting of traffic during construction will require a portion of the levee, up to 500 ft, to be removed and rebuilt.

This alternative will also result in a wider roadway (Railroad Avenue) landward of the levee. The current road is typically 25 ft wide. The width of the proposed road varies from 26 ft (at the pinch point near the pump house) for 170 ft, 32 feet wide for 870 ft, and 30 ft wide for 604 ft (total 1500 ft). The current amount of impervious surface is 37,500 sq ft and the proposed road would have 46,100 sq ft (a 23% increase of impervious surface). This roadway is highly travelled by logging trucks entering and exiting the mill. The City of St. Maries requested that the roadway be widened to improve traffic safety in this stretch. As a sole responsibility, the City is responsible for designing, permitting, and constructing the needed stormwater drainage system to handle the runoff from the increased impermeable surface.

The recommended repair alternative for Site 2 (Figure 3) includes removing the overburden at this location. The tension crack occurred in material that was placed during a 2011 high water. The total length of overburden removal is approximately 145 feet and would include excavation of the material above the waterline. No excavation would occur below the waterline. The working pad would be reduced to a 12-foot wide bench and the slopes would be re-graded to a more gradual slope to meet the new catch point.

The recommended repair alternative for Site 3 (Figure 4) includes armoring the slope with Class II riprap. The armor would include a 1 foot filter blanket that should also improve drainage from the slope. The weight and strength of this rock armoring is intended to buttress the slope, while nullifying any potential for erosion and bank undercutting. The full repair would be 160 feet. This repair will constitute a change in substrate at this location, placing rock on what had been an earthen bank. The repair will tie into existing rock at the downstream end, extending the armored bank by 160 feet.

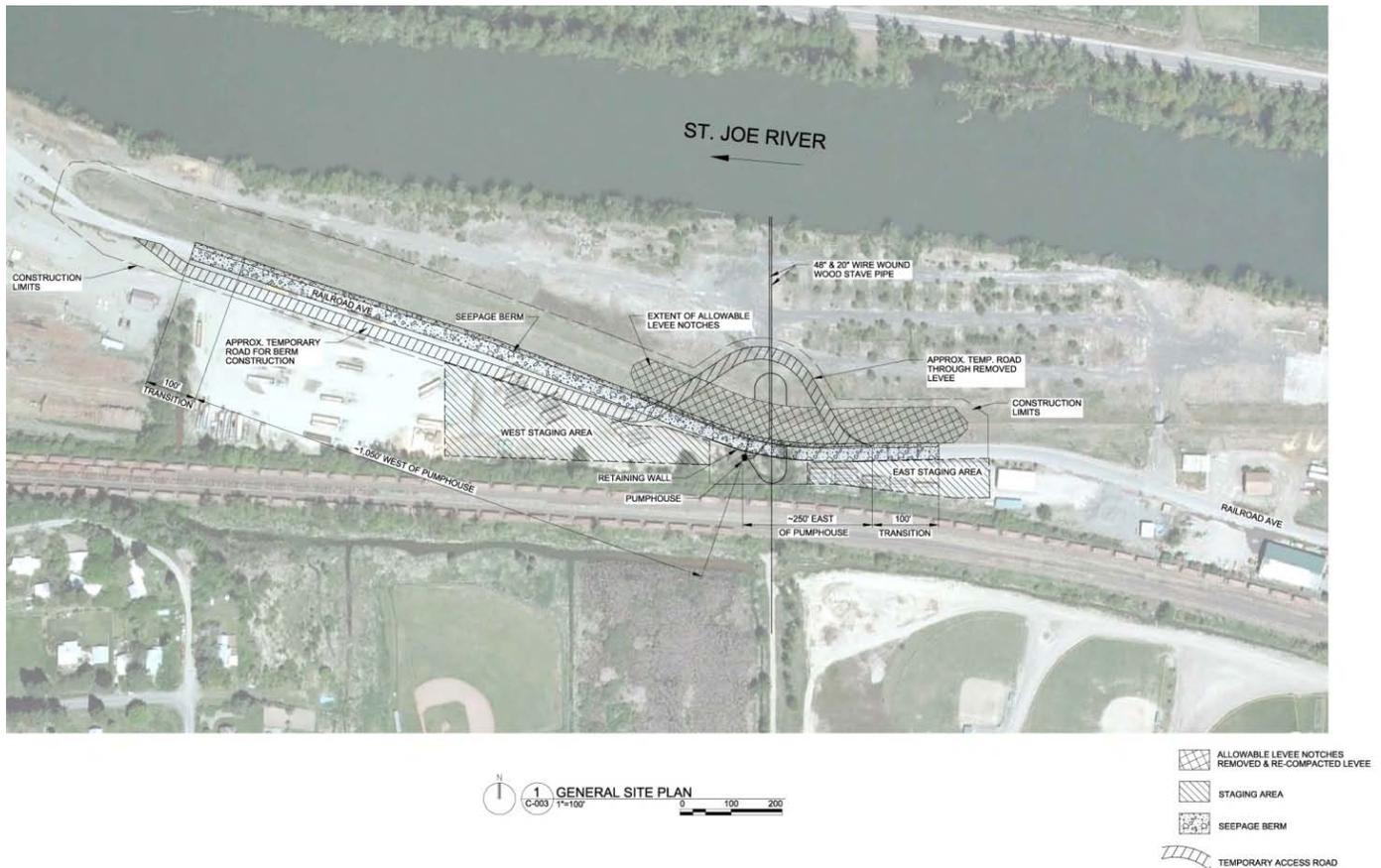


Figure 2. Plan view of Site 1.

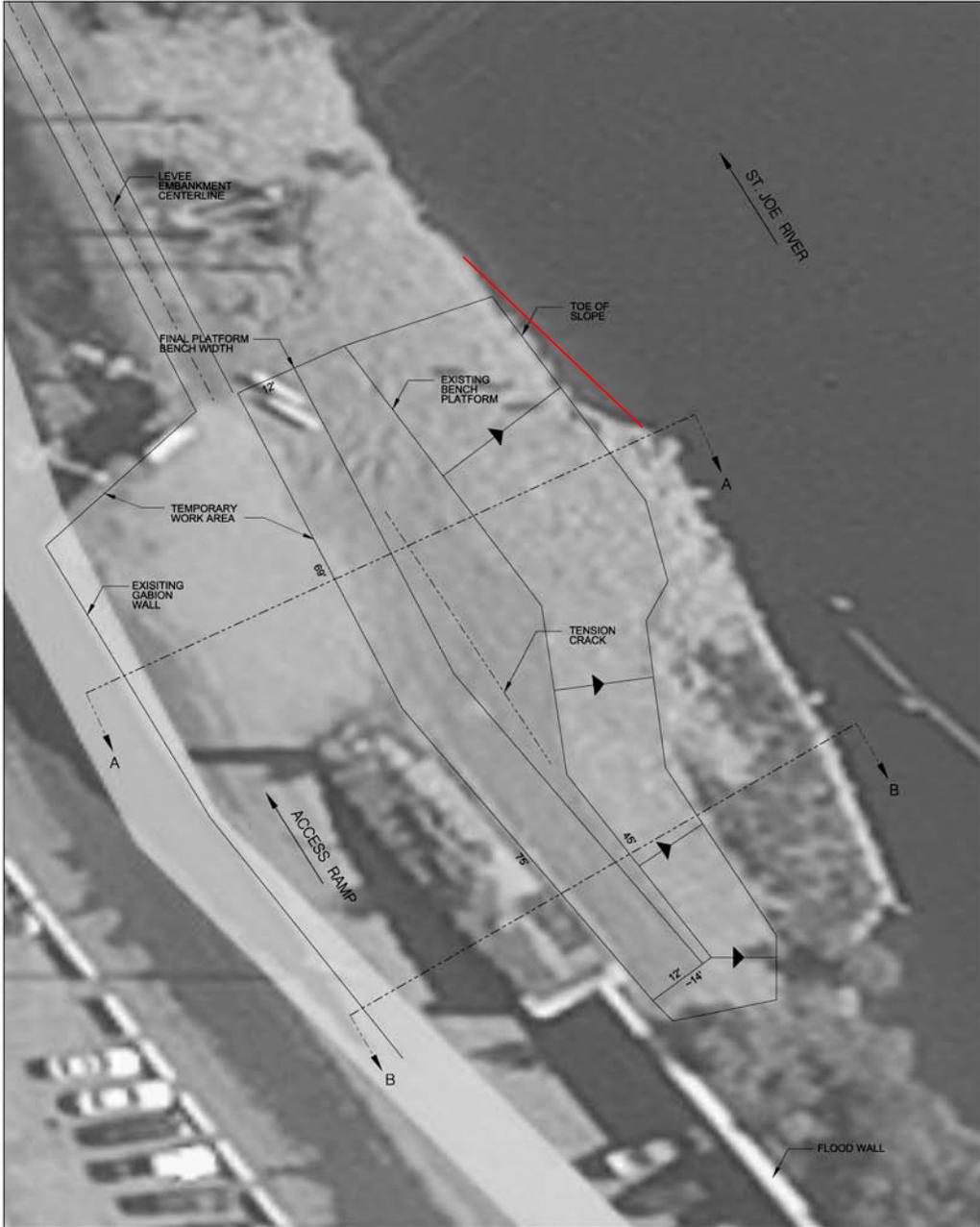


Figure 3. Plan view of Site 2. The flood fight (180 ft) included placement of material throughout the proposed repair area (145 ft) and slightly farther on each end. The red line indicates the portion of the flood fight that was conducted in the water.



Figure 4. Plan view of Site 3.

The seepage berm construction will avoid impacting the wetland and pond adjacent to the pump house, excavation for the pipe replacement will require some temporary impacts. Approximately 267 sq ft of wetlands and 505 sq ft of pond would be impacted.

One wetland was found in the project area and was delineated using the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0; 2010). The wetland is a highly disturbed riverine wetland associated with a ditch and pond. The northern portion of the wetland receives overbank flow from the ditch, water from a culvert under Railroad Avenue, and runoff from the road. The southern portion receives overbank flow the ditch and runoff from the railroad embankment. An onsite pump house system is used to drain water from the adjacent ditch and pond to the St. Joe River.

At the time of the site visit the majority of soils sampled were saturated to the surface. This satisfies the requirement for primary Wetland Hydrology Indicator A3 in the delineation manual. In other areas, oxidized rhizospheres were observed, providing evidence of recent soil saturation. This satisfies the requirement for primary Wetland Hydrology Indicator C3 in the delineation manual. Wetland hydrology is presumed to be provided by overbank flow from the ditch and runoff from the road and railroad embankment.

The wetland is comprised of herbaceous, shrub and forested plant communities. It is dominated by black cottonwood (*Populus balsamifera*) trees in the overstory, red-osier dogwood (*Cornus sericea*) and hardhack (*Spiraea douglasii*) in the shrub layer, and reed canarygrass (*Phalaris arundinacea*) in the herbaceous layer.

Wetland soil was recorded in three locations (Figure 5). At one location in the northern portion of the wetland (SP-1), soils consisted of black (10YR 2/1) silty clay loam over dark greenish gray (Gley 1 10GY 4/1) and greenish gray (Gley 1 5GY 5/1) silt loam with many prominent concentrations as soft masses. This meets the criteria for Hydric Soil Indicator F2, Loamy Gleyed Matrix. Upland soil consisting of fill material was recorded at the railroad embankment (SP-3) and slope adjacent to the road (SP-5).

Primary functions identified are water quality improvement and wildlife habitat. The wetland receives pollutants from the railroad line, road, and nutrients and sediment from water conveyed in the ditch. Persistent ungrazed vegetation and small depressions in the wetland may help trap and remove pollutants, improving water quality. The wetland is also part of a wildlife corridor, providing potential habitat for birds and small mammals.

Construction would involve removal of vegetation, including a small number of trees. Once the pipe replacement is complete, the elevations would be rebuilt to resemble the pre-construction slopes and native plantings would be done within the repair area.

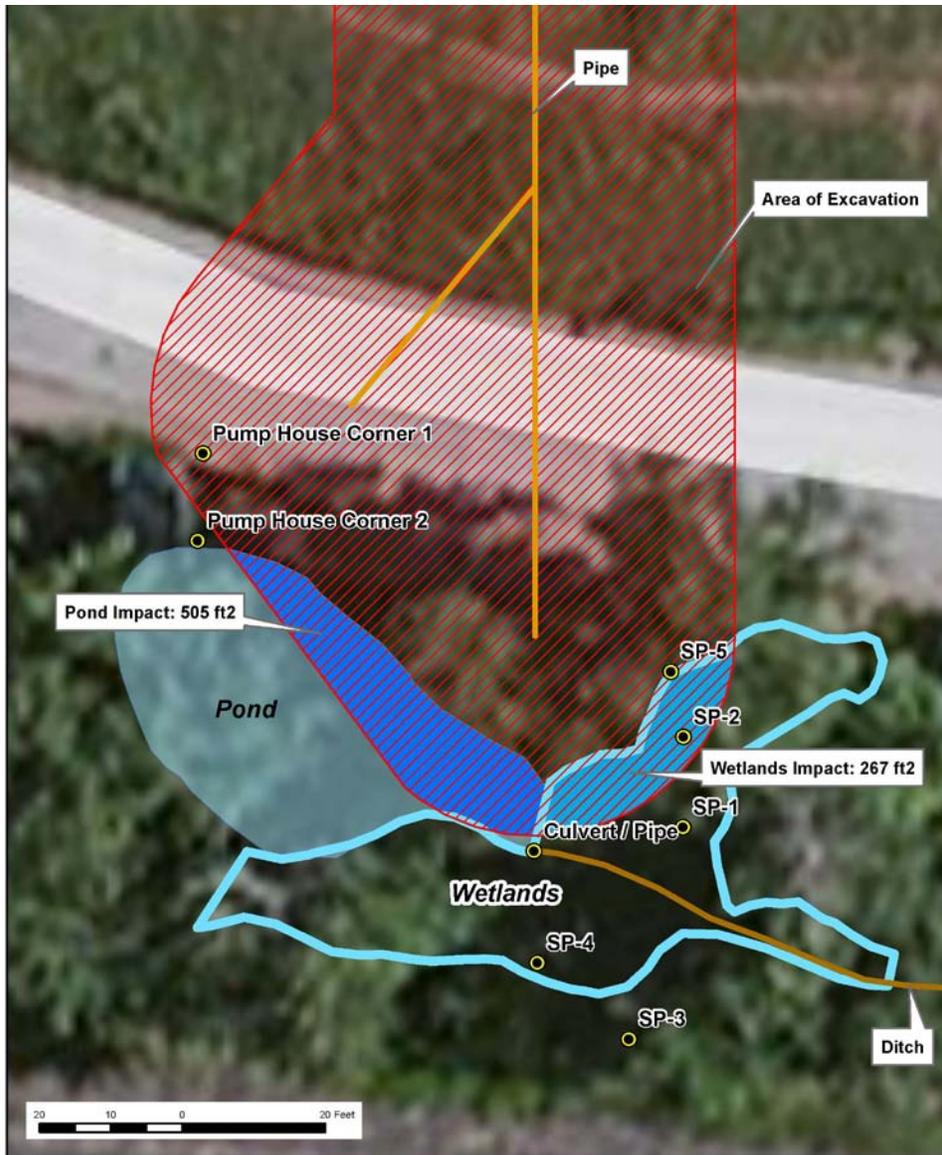


Figure 5. Wetland impacts location.

The St. Maries Creosote Superfund Site is located riverward of the levee at Site 1. Studies done by the potentially responsible parties and the Environmental Protection Agency (EPA) found that sediments, soils and groundwater have been contaminated with creosote from the former wood-pole treating plant at that location. The Corps is closely coordinating the repair efforts with the EPA to ensure that no work would occur in contaminated areas and no disturbance to the Superfund Site would occur. The excavated area for the pipe replacement is expected to accumulate groundwater. As the potential exists for groundwater contamination, this accumulated water will be tested. The contractor will establish a treatment plan that would include either onsite treatment or transporting the contaminated water to an offsite facility. No water would be released into the adjacent river unless it meets or exceeds appropriate water quality standards. The contractor's disposal plan will be reviewed to ensure that disposal is in accordance with all federal State, regional, and Local laws and regulations.

Construction of the Site 1 and Site 2 repairs are anticipated for September/October 2012 and Site 3 is proposed for November 2012. Average precipitation in St Maries is least in August and greatest in November and December. Site 1 has the greatest area of land disturbance and would be started first to avoid the wetter periods. Average September precipitation is 1.42 inches, increasing to 2.01 inches in October and 4.13 inches in November.

19 Potentially Adverse Effects (Individually or Cumulatively) on the Aquatic Environment

a. Effects on Physical, Chemical, or Biological Characteristics of the Aquatic Ecosystem

The March 2011 flood fight effort at Site 2 was not completed during the approved in-water construction period. The emergency work included in-water and lasted for nearly 24 hours. Prior to construction, vegetation at this site consisted of a few dogwood shrubs and willows in the downstream half. The vegetation was covered with material placed for the flood response. The upstream half was previously armored with quarry spalls (see Figure 6).

The finished site length is 180 feet, with approximately 75 feet of that work being below ordinary high water (OHW). The total quantity of rock delivered to the site was 2,120 cubic yards. Environmental effects of the project included loss of several immature willows and dogwoods growing on the river bank and minor turbidity during construction. The quarry rock delivered to the site had a small amount of fines that leached off the rock that entered the water (Figure 6). Turbidity plumes were intermittent, covered a space of usually no more than 10 feet long and 1 foot wide, and dissipated within 10 minutes. While larger rock would be preferable for bull trout cover, it was unavailable during the flood. Due to the predominance of shale in this region and the characteristic of shale to fracture easily, larger rock is difficult to obtain on short notice. The proposed work at site 2 removes a portion of the material placed during the emergency response. No in-water work would be included, therefore no turbidity is anticipated. Temporary impacts would include increased noise and vibration during excavation.

The eddy seen during the high water event is likely due to the sharp angle of the crib wall to the bank. Typical designs allow for gradual, smoother returns to the natural bank. The in-water work during the emergency response decreased this angle (smoothed the bank) to avoid similar eddying in the future.

At site 3, a permanent change of bank material from the existing earthen bank to an armored bank for 160 ft. There will also be a slight movement of the bank riverward to accommodate the needed volume of material. The size of rock required for the in-water work at Site 3 (Class 2 riprap) will meet the set standard for that rock gradation and will have minimal fines. Class 2 riprap has rocks of approximately 12 inches in diameter or less. This rock size would create interstices that bull trout could use as cover.

Temporary impacts at Site 3 would include possible minor turbidity plumes during riprap placement and minor loss of vegetation. Vegetation at the site is predominantly grasses, immature willows and dogwoods, though there is one mature tree (two trunks) that would also be removed. See Figure 7 for photographs. Other temporary impacts would include increased noise and vibration during construction.

Impacts at Site 1 would be temporary and would include excavation in the wetland and pond adjacent to the pumphouse. Vegetation removal will be limited to that required to complete the repair. Following completion, slopes will be returned to the pre-construction status and native

planting will be completed. The project includes replacement of the Mutch Creek diversion pipe. This will be a permanent change in the material, though the length, slope, pipe diameter, and general condition of the creek through the project area will remain unchanged by the project.



Before the flood fight
(2011)



After the flood fight



Tension crack
(2012)



Tension crack
(2012)

Figure 8. Photographs of Site 2.



Figure 7. Photograph of Site 3. The red arrow indicates the rotational failure location.

b. Effects on Recreational, Aesthetic, Historical, and Economic Values

All three repair sites are on private land and are not used for recreational purposes.

The cultural resources assessment found that the St. Maries levee is eligible for inclusion to the National Register of Historic Places (NRHP) under criteria A. While the levee is eligible for inclusion to the NRHP, the Corps finds that the proposed repair project will have No Adverse Effect to the levee, pump house and associated culverts and pipes. Approximately 500 feet of the St. Maries levee will be removed to facilitate the replacement of the Mutch Creek diversion pipe and outlet pump that runs under the levee. The levee will maintain the same footprint, mass, height and width and the original levee material will be reused after the pipe replacement is complete. The removal of the original diversion pipe will be documented during archaeological monitoring.

The cultural resources survey did not yield significant archaeological sites or material; however, there is a high probability that cultural material could exist either within the levee prism or under the levee within the native sediment. Within the lower portion of the St. Joe river basin, natural levees have the potential for prehistoric archaeological sites, and if the landform upon which the levee is located was a natural levee, evidence of such sites may be present. Archaeological monitoring is recommended for both the diversion pipe replacement and levee removal. In addition, archaeological monitoring is recommended during the slope failure repairs.

The levee is adjacent to Railroad Avenue, which provides the only entry and exit route for the Potlatch Corporation lumber mill complex. Potlatch Corporation is the largest employer in Benewah County employing approximately 375 people. The levee protects this road and the mill

complex during flood events. Access routes will be prepared and flaggers will be used to maximize safety and to minimize disturbance to traffic during construction, allowing business to be conducted as normal at the mill.

c. Findings

Proposed repairs for Site 1 includes a change in materials for the pipe, constituting a changed condition below the OHW line of Mutch Creek. The flood fight at Site 2 included placement of rock along 75 ft of riverbank work below OHW outside the footprint of the original levee. The work at Site 3 includes placement of rock along 160 ft of bank below OHW which constitutes a change in material. The Site 3 work also shifts the bank slightly riverward, outside of the pre-flood levee footprint. This work is not exempt from Section 404 of the CWA. Based on the analysis of the completed and proposed work, the levee repair work will not have a significant environmental impact.

20 All Appropriate and Practicable Measures To Minimize Potential Harm to the Aquatic Ecosystem

a. Impact Avoidance Measures

Multiple project alternatives have been proposed to select the best alternative for minimizing cost and impact to the environment while fully restoring flood protection. The proposed project action was selected because it minimizes the footprint as well as the negative impact on the environment and will restore flood protection prior to the next flood season. At Site 1, the width of the berm adjacent to the wetland will be designed to avoid any wetland fill. Runoff control devices such as compost sock will be put in place as needed to protect the adjacent wetland during construction. As construction will be completed during drier months, limited runoff is expected. At Site 2, the proposed work will include no in-water work to avoid turbidity and in-water excavation. At Site 3, the bank cannot be reestablished in kind (with dirt) as that would entail placement of fines directly into the river with the expected associated turbidity plumes, or would require dewatering the repair site to place and fully compact the material. The use of rock, while it constitutes a permanent change in bank material, avoids the impacts associated with these other alternatives while meeting the project purpose.

b. Impact Minimization Measures

USACE will take all practicable steps during construction of the project to minimize impacts to aquatic and terrestrial resources. Contingencies will be in place if any of the water quality protection measures fail to achieve their intended function. USACE will observe all in-water construction windows for proposed repairs to ensure that impacts to migratory fish will be avoided or minimized. The minimization measures will be as follows:

- Project design will incorporate planting of native shrubs and trees to replace those lost at Site 1 for the pipe replacement along the wetland, as well as seeding with native grasses all disturbed ground to provide erosion control and initiate re-establishment of native species;
- Best management practices (BMPs), such as stormwater runoff prevention, will be used to ensure that no unnecessary damage to the environment occurs;
- Biodegradable hydraulic fluids will be used in machinery where appropriate;
- Equipment used near the water will be cleaned prior to construction;

- Construction equipment shall be regularly checked for drips or leaks;
- At least one fuel spill kit with absorbent pads will be onsite at all times;
- Refueling will occur on the backside of the levee, not adjacent to the wetland or pond;
- Proposed in-water work would be accomplished only during the approved in-water work window for bull trout (July 15 - Sept 1 and Nov 1 - Feb 28);
- Only clean rock will be placed on the riverward side of the levee. There will be no end dumping of material into the river. Riprap will be individually placed; quarry spalls will be placed in small quantities from the bucket of an excavator;
- Any groundwater removed from the pipe excavation area will be tested and disposed of as required to meet state and local water quality requirements;
- Vegetation removal will be limited to the minimum extent needed to complete the repairs; and
- A USACE biologist will periodically check on construction progress to ensure BMPs are in place and environmental impacts are properly avoided and minimized.

c. Compensatory Mitigation Measures

As discussed above, to counter the unavoidable impacts to wetlands and ground disturbance, mitigation alternatives have been included. Excavated areas within the wetland and pond at Site 1 will be returned to the pre-construction slopes and elevations. Native shrub and tree plantings will be completed, and all disturbed areas will be seeded with native grasses. Similarly at Sites 2 and 3, all disturbed ground will be seeded with native grasses post-construction.

d. Findings

USACE has determined that all appropriate and practicable measures have been taken to minimize potential harm to the environment.

21 Other Factors in the Public Interest

a. Fish and Wildlife. USACE is in a consultation process to coordinate construction and impact compensation activities with the Coeur d'Alene Tribe, as well as state and federal resource agencies to minimize impacts to fish and wildlife resources. USACE will submit a Biological Evaluation to the USFWS for their review of this project in regards to impacts to bull trout. The Corps has determined that the project may affect, but is not likely to adversely affect bull trout and their critical habitat, and the project will have no effect on other species listed in the project area.

b. Water Quality. USACE concluded that this project will not violate the Coeur d'Alene Water Quality Standards (2010). Similar levee repairs completed by the Corps in Washington have been closely monitored with minimal turbidity increases and no exceedances of the Washington State Code. During extensive repairs on the Skagit River in 2007, the average increase over background levels at a distance appropriate to allow for acceptable mixing was 0.9 NTU, ranging from 0.3 to 6.7 NTU. These repairs and samples occurred in the mainstem, as well as in slow

velocity sloughs. As noted previously, turbidity plumes seen during the flood fight were intermittent, covered a space of usually no more than 10 feet long and 1 foot wide, and dissipated within 10 minutes. This was mostly due to the amount of fines in the material available quickly for the emergency repair. Turbidity plumes during rock placement at Site 3 would be expected to be less than that seen during the emergency due to the use of clean rock with minimal fines. Turbidity levels are not expected to increase significantly during the proposed 2012 construction and no impact to pH or temperature are expected. If a visible plume is noted, sampling will be conducted downstream of the repairs at a distance appropriate to allow for acceptable mixing and dilution of any released sediment, as allowed under the Coeur d'Alene regulations (Water Quality Standards for Approved Surface Waters, 2010). If samples indicate that water quality maximum standards for turbidity are exceeded, project work will be halted and modified so that standards can be met. Any turbidity effects were and would be temporary and limited to areas along the shore within a short distance downstream of the project site.

Site 1 construction will result in a 23% increase of impervious surface. This roadway is highly travelled by logging trucks entering and exiting the mill. The City of St. Maries requested that the roadway be widened to improve traffic safety in this stretch. As a sole responsibility, the City is responsible for designing, permitting, and constructing the needed stormwater drainage system to handle the runoff from the increased impermeable surface.

As noted previously, there is expected to be groundwater accumulation during the pipe replacement portion of the project. This water will be tested and disposed of properly such that any input to the river would comply with appropriate water quality standards.

c. Historical and Cultural Resources

See 5b above.

e. Environmental Benefits.

This project has no net benefits to the environment. Compensatory environmental features are designed to balance the impacts of the completed repair project.

9. CONCLUSION

USACE finds that this project is within the public's interest and complies with the substantive elements of Section 404 of the Clean Water Act.

Attachment A

Clean Water Act 404(b)(1) Evaluation [40 CFR §230] Permit Application Evaluation [33 CFR §320.4]

404(b)(1) Evaluation [40 CFR §230]

Potential Impacts on Physical and Chemical Characteristics [Subpart C]:

1. Substrate [230.20]

The construction at Site 1 will remove substrate temporarily, but will rebuild the existing structure with the same material to the same slopes. The berm construction will place new material on the roadway and landward toe of the levee replacing the existing 37,500 sq ft of impermeable roadway with 46,100 sq ft of impermeable roadway (a 23% increase in this area). The placement of material (≤ 18 inches in diameter quarry rock) along 75 ft of the shoreline at Site 2 during the emergency repair constituted a change in material below OHW. The bank had included a timber crib wall and natural bank prior to the repair. The proposed work at site 3 would also change the bank substrate from native soils to Class 2 riprap (rocks 8-22 inches in diameter) for 160 ft.

2. Suspended particulates/turbidity [230.21]

Minimal turbidity was noted during the emergency flood response work and little or no turbidity is expected during construction. Any in-water work did or would involve individually placed rocks or placement of small quantities with an excavator bucket and no uncontrolled dumping. Best management practices (BMPs) for sediment control will be used throughout construction to minimize any potential turbidity issues.

3. Water [230.22]

The work is not expected to add any nutrients to the water that could affect the clarity, color, odor, or aesthetic value of the water, or that could reduce the suitability of the St Joe River for aquatic organisms or recreation. Excavation for pipe replacement will impact a wetland and pond that have water quality and habitat functions. These impacts will be offset onsite by restoring the pre-construction slopes and planting native species at the impacted location.

4. Current patterns and water circulation [230.23]

USACE expects minimal disruption of current patterns and water circulation during or after construction. Placement and retention of the 75 ft of material placed during the flood fight at Site 2 will smooth the bank and the flow of water out of the pinch point created by the crib wall. A Hydraulic Engineer assisted with the design of the projects to determine rock size and design details to restore flood protection and minimize disturbance.

5. Normal water fluctuations [230.24].

The levee repair work would have no effect on normal water fluctuations.

6. Salinity gradients [230.25]

The St Joe River is a freshwater river system. No effect to salinity gradients would occur.

Potential Impacts on Biological Characteristics of the Aquatic Ecosystem [Subpart D]:

1. Threatened and endangered species [230.30]

USACE has prepared a Biological Evaluation for this project that will be submitted to the U.S. Fish and Wildlife Service to ensure compliance with the Endangered Species Act. The Corps has found that the project may affect, but is not likely to adversely affect bull trout and will have no effect on other species listed in Benewah County.

2. Fish, crustaceans, mollusks, and other aquatic organisms in the food web [230.31]

Fish may have been impacted during flood fight as the work was outside of the approved in-water work window. The removal of riparian vegetation has a negative impact on habitat for all salmonid species as it decreases detritus inputs and insect fall into the river and simplifies the shoreline. The conversion of the natural bank to the rough surface of riprap may cause descaling of juvenile salmonids during high river flows and changes the types of other aquatic organisms that will use the site. The rock at Site 3 will tie into existing rock that was placed in 2001. The older riprap is still visible with limited vegetation growth. In-water work for the proposed and completed levee repair has been minimized to the extent possible and includes only minimal vegetation loss. Because of the short length of substrate change and the limited vegetation loss, impacts to fish, crustaceans and other aquatic organisms are expected to be inconsequential.

3. Other wildlife [230.32]

Wildlife in the vicinity of the project is expected to be acclimated to human presence and noise as the project area is adjacent to the lumber mill and its access route. Birds and other wildlife may be temporarily displaced due to the tree and vegetation removal at Site 1 and at Site 3. No vegetation would be removed due to the proposed work at Site 2 and limited vegetation impact occurred during the flood fight. Because these impacts will only occur during the weeks of construction and plantings will occur at site 1 to replace lost vegetation, impacts to wildlife are expected to be inconsequential and temporary.

Potential Impacts on Special Aquatic Sites [Subpart E]:

1. Sanctuaries and refuges [230.40]

The proposed and completed actions will have no effect on sanctuaries and refuges.

2. Wetlands [230.41]

Temporary impacts will occur to approximately 267 sq ft of wetlands and 505 sq ft of pond. The wetland is a highly disturbed riverine wetland associated with a ditch and pond. The wetland is comprised of herbaceous, shrub and forested plant communities. It is dominated by black cottonwood (*Populus balsamifera*) trees in the overstory, red-osier dogwood (*Cornus sericea*) and hardhack (*Spiraea douglasii*) in the shrub layer, and reed canarygrass (*Phalaris arundinacea*) in the herbaceous layer. Primary functions identified are water quality improvement and wildlife habitat. The wetland receives pollutants from the railroad line, road, and nutrients and sediment from water conveyed in the ditch. Persistent ungrazed

vegetation and small depressions in the wetland may help trap and remove pollutants, improving water quality. The wetland is also part of a wildlife corridor, providing potential habitat for birds and small mammals. Construction would involve removal of vegetation, including a small number of trees. Once the pipe replacement is complete, the elevations would be rebuilt to resemble the pre-construction slopes and native plantings would be done within the repair area to replace lost vegetation. Because slopes will be returned to the pre-construction configuration and vegetation plantings will be completed, impacts to wetlands and their functions are expected to be inconsequential and temporary.

3. Mud flats [230.42]

No mud flats are present at the project sites; therefore, the proposed and completed action will have no effect on mudflats.

4. Vegetated shallows [230.43]

No vegetated shallows are present at the project sites; therefore the proposed and completed action will have no effect on vegetated shallows.

5. Corral reefs [230.44]

Not applicable.

6. Riffle and pool complexes [230.45]

No riffle and pool complexes are present at the project sites; therefore, the proposed and completed action will have no effect on riffle and pool complexes.

Potential Effects on Human Use Characteristics [Subpart F]:

1. Municipal and private water supplies [230.50]

The proposed and completed action will have no effect on municipal or private water supplies.

2. Recreational and commercial fisheries [230.51]

The project is located on private land and is adjacent to a known Superfund site. Fishing access is very limited at the project area. No effect to recreational and commercial fisheries is expected.

3. Water-related recreation [230.53]

The proposed and completed action will have no effect on water-related recreation.

4. Aesthetics [230.53]

During construction there will be some disturbance from excavation and heavy equipment noise and exhaust. There will be minimal vegetation loss. After construction the shoreline will look different because the bank stabilization structure will have replaced the natural bank within Site 3 and Site 2. The repair sites will look less natural initially. Plantings will be done to offset the loss of vegetation at Site 1 and disturbed ground at all sites will be seeded with native grasses. It is expected that foliage will begin to develop relatively quickly and the repair areas will blend in more with the surroundings.

5. Parks, national and historic monuments, national seashores, wilderness areas, research sites and similar preserves [230.54]

Not applicable.

Evaluation and Testing [Subpart G]:

1. General evaluation of dredged or fill material [230.60]

Bank stabilization material will consist of Class 2 riprap and quarry spalls. All imported material will

be free from contamination and obtained from a permitted local quarry.

2. Chemical, biological, and physical evaluation and testing [230.61]

Groundwater pumped from Site 1 has the potential for contamination. The contractor will develop and submit a waste water management plan that identifies methods and procedures for management of any contaminated water. The plan will be reviewed to ensure that disposal is in accordance with all Federal state, regional, and local laws and regulations.

Also, the wood stave pipe that is to be replaced is likely to be treated with creosote and will be required to be disposed of off-site. According to the Idaho Department of Environmental Quality, treated timbers (creosote and pentachlorophenol) are not hazardous wastes. These timbers may be disposed either by placement in a municipal landfill (which may require waste characterization), timbers may be reused, such as for landscaping, or used as fuel in permitted industrial furnaces or boilers.

No soil sampling is required to determine if the soil to be removed is hazardous. EPA testing of the Superfund Site has shown that it does not extend into the project footprint. If waste characterization of the soil and timbers is required for disposal, collection of two wood core samples and two soil samples will be sufficient. The samples would be tested for semivolatiles in a laboratory analysis.

Actions to Minimize Adverse Effects [Subpart H]:

1. Actions concerning the location of the discharge [230.70]

The materials to be discharged (riprap and spall rock) are clean and the materials to be excavated at Site 1 will be reused on site.

2. Actions concerning the material to be discharged [230.71]

Bank stabilization material will be required to meet USACE standards for placement of riprap. Material will be imported from an approved, clean source.

3. Actions controlling the material after discharge [230.72]

Following placement of the materials for the revetment and buttress fill, no further dispersion is expected, therefore no measures to control placement of these materials are considered necessary.

4. Actions affecting the method of dispersion [230.73]

The rip rap will be placed individually or in small batches by a hydraulic excavator. The excavator will work from the crown of the levee or the top of the bank. Dumptrucks will deliver material, and dump it onto the crown of the levee. No end dumping into the river will occur. Turbidity impacts are expected to be minor and temporary.

5. Actions related to technology [230.74]

The technology used in the proposed project is considered acceptable for this scope of work. Disposal will involve use of a hydraulic excavator with material transported to the site in dump trucks. No other specific actions to minimize effects related to technology are needed.

6. Actions affecting plant and animal populations [230.75]

The USACE has coordinated construction activities and mitigation features with state and federal resource agencies to minimize impacts to fishery and wildlife resources. There will be

temporary disturbance to wildlife in the project vicinity due to noise from operation of machinery. Plantings will minimize lost water quality and habitat functions.

7. Actions affecting human use [230.76]

The Corps has taken all appropriate and practicable steps to assure minimal impacts to human use, safety and general appreciation of the area. Repair of the flood control structure did not and is not expected to diminish water quality, but may temporarily impact the aesthetics of the site.

8. Other actions [230.77]

Best management practices were used during the completed flood fight activities and will be used in the proposed construction to ensure that no unnecessary damage to the environment occurs during construction.

General Policies for Evaluating Permit Applications [33 CFR §320.4]

1. Public Interest Review [320.4(a)]

USACE finds this repair to flood control structures to be in compliance with the 404(b)(1) guidelines and not contrary to public interest.

2. Effects on wetlands [320.4(b)]

See 404(b)(1) evaluation above. No net loss of wetlands is expected.

3. Fish and wildlife [320.4(c)]

USACE has consulted and continues to consult with state and federal resource agencies, tribes and other interested members of the public on this action. Mitigation is proposed to offset the impact to the wetland.

4. Water quality [320.4(d)]

USACE certifies that this project will not violate Water Quality Standards as set forth by the Clean Water Act. USACE is seeking a 401 Water Quality Certification from the Couer d'Alene Tribe.

5. Historic, cultural, scenic, and recreational values [320.4(e)]

While the levee is eligible for inclusion to the NRHP, the Corps finds that the proposed repair project will have No Adverse Effect to the levee, pump house and associated culverts and pipes.

Due to a high probability that cultural material could exist either within the levee prism or under the levee within the native sediment, archaeological monitoring is recommended for both the diversion pipe replacement and levee removal at site 1 and the proposed repairs at Site 3.

6. Effects on limits of the Territorial Sea [320.4(f)]

Not applicable.

7. Consideration of property ownership [320.4(g)]

Access for construction equipment and materials will be via public rights-of-way and real estate rights of entry provided by the City of St Maries, the non-federal sponsors for the repairs. No change in property ownership will occur.

8. Activities affecting coastal zones [320.4(h)]

Not applicable.

9. Activities in marine sanctuaries [320.4(i)]

Not applicable.

10. Other federal, state, or local requirements [320.4(j)]

USACE has initiated formal consultation with the U.S. Fish and Wildlife Service on the findings of the Biological Evaluation for the proposed repair as well as the completed flood fight activities. Coordination is ongoing with the Coeur d'Alene Tribe regarding cultural and biological resources. Also this Clean Water Section 404(b)1 analysis will be provided to the Coeur d'Alene Tribe in support of their analysis for Clean Water Section 401 compliance.

11. Safety of impoundment structures [320.4(k)]

Not applicable.

12. Floodplain Management [320.4(l)]

The project is in compliance. The Corps considered alternatives supporting avoidance of development in the floodplain, continuing to reduce hazards and risks associated with floods and to minimize the impact of floods on human safety, health and welfare, and restoring and preserving the natural and beneficial values of the base floodplain. The project maintains the status quo of the floodplain.

13. Water supply and conservation [320.4(m)]

Not applicable.

14. Energy conservation and development [320.4(n)]

Not applicable.

15. Navigation [320.4(o)]

This project will not impede current navigability within the St Joe River.

16. Environmental benefits [320.4(p)]

No net benefits are anticipated as a result of the repair of the flood control structures.

17. Economics [320.4(q)]

Economic studies were undertaken which included studies enumerating and evaluating damages related to the existing economic development protected by the levee, sensitivity evaluations and optimization scenarios evaluating the benefits and costs of alternative project scopes. The outcome of these evaluations combined with engineering, environmental, and local sponsor considerations have led to the selection of the recommended plan. The project reduces damages from flooding to about 38 residences and 13 commercial businesses including Potlatch Corporation, a lumber mill complex. Potlatch Corporation is the largest employer in Benewah County employing approximately 375 people.

18. Mitigation [320.4(r)].

To address the temporary impacts to wetlands and the loss of vegetation, the Corps proposes to restore pre-construction elevations and slopes and complete native plantings and seeding of disturbed areas. No other mitigation is needed.



COEUR D'ALENE TRIBE

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PLUMMER, IDAHO 83851
(208) 686-1800 • Fax (208) 686-1182

REFERENCE:

Evan Lewis, Chief
Environmental Resources Section
U.S. Army Corps of Engineers, Seattle District
P.O. Box 3755
Seattle WA, 98124-3755

Coeur d'Alene Tribe, Clean Water Act 401 Certification for St. Maries Levee Rehab project 2012:

As per your request, the Coeur d'Alene Tribe Water Resource Program has reviewed the plans you have provided and developed this Clean Water Act Section 401 Water Quality certification for the Army Corps of Engineers St. Joe River Levee Rehabilitation 2012 project.

The applicant shall comply with all conditions proposed in their CWA 401 certification request and additional conditions imposed by this Clean Water Act 401 certification and/or other Tribal conditions which may be imposed by the Tribe's Encroachment Management program, the Coeur d'Alene Tribal Historic Preservation Officer, and the Tribes Tribal Employment Rights Office.

The applicant shall provide the Tribe a detailed work schedule (when completed) and notify the Tribe five business days prior to the start of ground disturbing activities. Except for work to be completed below the ordinary high water mark, all ground disturbing activities shall be completed during the summer and early fall months (dry season).

All work conducted below the ordinary high water mark (OHWM) shall be completed during low water conditions (late fall early winter). Placement of fill material may be done from either the shore or from a barge. Fill material must be clean rock with very little fines as to not create additional water quality impairments during placement. The Applicant must obtain a Coeur d'Alene Tribe encroachment permit for all material placed below the OHWM before fill is placed.

The applicant shall submit a notice of intent under EPA's construction stormwater NPDES permitting program. The applicant shall comply with all provisions set forth in EPA's construction stormwater permitting process. Furthermore the applicant shall at all times allow Tribal and/or EPA inspectors access to the site for inspections. The applicant shall ensure that all construction activities are fully surrounded (where possible) by at least one best management practice for stormwater. Upon final grading, all slopes steeper than 3:1 shall be protected with additional mid slope BMP's during construction (such as straw wattles) and be further stabilized with semi permanent erosion blankets or a permanent rock cap until such time as vegetation can be established. All soils disturbed by the construction of this project must be stabilized prior to winter shutdown. All sites disturbed as part of this project shall be replanted with native vegetation.

Mutch Creek Culvert Replacement: The culvert slated for replacement runs through an active contaminate cleanup site known as the St. Maries Creosote site. Given this contaminated status, all work conducted within the exterior boundaries of the site must be held to cleanup requirements which have been developed by EPA through a Record of Decision (ROD). For the portions of this project which pass through this site the applicant and its contractors shall comply with these standards. During the culvert replacement the applicant and its contractors shall capture and store all ground water and/or surface water which enters into the culvert replacement trench. This water shall be placed in a temporary holding container until testing verifies that it is safe to discharge to Tribal waters. Any groundwater collected from this site will be expected to meet the clean up levels found in Table 24 of the St. Maries Creosote Site Record of Decision (July 20, 2007) (Table 24: Cleanup Levels for Groundwater) before it can be discharged to Tribal waters. If contaminants are found to be in excess of the limits set forth in the ROD the water shall be treated through mechanical and chemical treatment methods until such time as it is proven (through additional testing) that it meets the ROD cleanup requirements. Treated water shall be stored onsite until testing confirms it has been successfully treated. If the water collected through this project cannot be treated to acceptable levels it shall be removed from the site and sent to a certified hazardous waste storage and treatment facility.

This 401 certification will expire 3 years from the date of permit issuance. The Tribe reserves the right to modify or withdraw this certification at any time.

By issuing this 401 certification the Coeur d'Alene Tribe in no way relinquishes its sovereign right to self-governance nor its right to assert jurisdiction over this levee in the future. Furthermore this certification in no way supersedes the obligation of the City of St. Maries and the Army Corps of Engineers to comply with other Tribal, and Federal laws pertaining to the ownership and operation of this levee.

If you have questions or concerns with this certification contact Scott Fields, Water Resource Program Manager, 208-686-0252, or email at sfields@cdatribe-nsn.gov.

Sincerely,



Philip J. Cerna
Director, Lake Management Department
Coeur d'Alene Tribe