FINDING OF NO SIGNIFICANT IMPACT
2016 Rehabilitation of the Sande-Williams Levee
Whatcom County, Washington

1. Background. The levee is located along the right bank of the Nooksack River just downstream of the town of Deming, WA. The levee is constructed of earthen material with a riprap riverward revetment consisting of Class IV to V material. The levee protects public infrastructure as well as residential, agricultural, and commercial properties. When the Sande-Williams levee is functioning as designed, river flows begin to impact developed properties such as farm buildings in the protected area in flood events that occur on average at intervals greater than 5 years (i.e., are more severe than a 5-year-frequency event), by flanking the upper end of the levee and overwhelming the interior drainage system. The Sande-Williams levee provides flood risk reduction for a wide range of river flows, including those that exceed the levee crest elevation and activate the landward conveyance corridor. A damaged Level of Protection (LOP) of 4 years was utilized for this rehabilitation project due to the potential of river flows to directly enter the protected area through a breach condition when river flows exceed the 4-year flood event. An undamaged/repaired LOP of 28 years was used since this is the flow that would likely overtop the levee at the proposed repair location and will directly enter the protected area if the levee is repaired and does not breach. The area protected by the Sande-Williams levee from the 28-year flood event was calculated to be approximately 346 acres.

2. Proposed Action. The U.S. Army Corps of Engineers (Corps) has determined that the preferred alternative is the Repair in Place Alternative.

The proposed project will restore the levee at the damage location to the pre-flood 28-year LOP within the existing alignment. At repair site 1, the repair will consist of re-sloping the levee and shifting the crest landward by excavating the existing levee material, replacing levee material with a one foot thick quarry spall layer covered by a 4 foot thick Class V riprap on an approximately 2H:1V with a 7 foot wide launchable toe with a 1.5H:1V slope. The construction length is 300 linear feet (LF) which includes upstream and downstream tie-ins. Up to ten trees (mostly deciduous trees, ranging in diameter from saplings to 24 inches) will be removed. The repair site 2 is approximately 550 feet downstream of repair site 1. Some of the armor rock above ordinary high water (OHW) is missing. The proposed repair at site 2 is 100 LF and will involve removing and replacing the spall layer and Class V riprap armor along the riverward slope above OHW. The repair will transition to both the upstream and downstream ends. Upon completion, embankment and top of levee material (wearing course) will be replaced. No willow cuttings in the levee face are currently proposed at the OHW line during construction due to concerns of erosion of the soil layer based on expected velocities at the site.

3. Impacts Summary. Pursuant to the National Environmental Policy Act (NEPA) the Corps prepared an Environmental Assessment (EA). The EA evaluates the predicted environmental impacts associated with the proposed action and whether that action will

cause significant impacts to the quality of the human environment as briefly summarized below.

a. Project impacts have been avoided and minimized during the planning and design phase of the project to the extent possible. Construction is limited to damaged levee segments. The damaged areas would be repaired to their pre-flood level of protection within the pre-damaged levee footprint. Up to ten trees will be removed at site 1. This tree removal could decrease river shading slightly in the immediate project area; however, there is a large riparian corridor in this reach. Additionally, best management practices will be implemented during construction to limit impacts.

b. The Corps does not issue permits for its own civil works activities. Nevertheless, the Corps evaluates its civil works projects for substantive compliance of with Section 404 of the Clean Water Act (CWA), and whether they require the project to seek water quality certification under Section 401 of the CWA. The Corps concludes that the proposed repair of the Sande-Williams Levee is exempt from regulation under Section 404 of the CWA. The exemption from Section 404 under 33 USC 1344 (f) (1) (B) applies to the proposed repair because all riverward work will be conducted on a currently serviceable structure (i.e. the levee) within the pre-damaged levee footprint and the character, scope, and size of the resulting structure will not change as compared to the original fill design. Therefore, the proposed repair does not require a 404 (b) (1) evaluation or Section 401 Water Quality Certification.

c. The Corps has determined that the project is consistent to the maximum extent practicable with the enforceable policies of the State of Washington's Coastal Zone Management (CZM) Program. A determination of consistency was provided to Washington State Department of Ecology (Ecology) for their review on 4 April 2016. Concurrence from Ecology of the project's consistency with the enforceable polices of Washington's CZM Program was received on 2 June 2016.

d. The Corps consulted with the Washington State Historic Preservation Officer (SHPO) and the Lummi Nation and the Nooksack Tribes as required by the National Historic Preservation Act (NHPA). There are no properties listed in the National Register of Historic Places or the Washington State Historic Site Register in the project vicinity, and no cultural resources have been recorded within the Area of Potential Effect. The Corps notified the Tribes on 15 June 2016, and asked them to identify any concerns and sought information about properties of religious or cultural significance that might be affected by the project. The Tribes did not comment on the undertaking. The Corps notified the SHPO of our finding of No Historic Properties Affected on 14 June 2016. The SHPO agreed with our determination on 16 June 2016.

e. Due to the construction occurring during the in-water work window, the minor impacts to vegetation, the retention of the existing bank configuration with a small setback of the upper slope, the limited in-water work, and in light of the pre-flood baseline condition at the project site, the proposed repair **may affect, but is not likely to adversely affect** Chinook, steelhead, and bull trout and their designated/proposed

critical habitat. Based upon the rarity of the species in Washington and the limiting of impacts to vegetation to the minimum required to complete repairs, the proposed project **may affect but is not likely to adversely affect western yellow-billed cuckoo**. The proposed action will have **no effect on proposed critical habitat for yellow-billed cuckoo**, because the proposed critical habitat for this species is not located in Washington. A Biological Evaluation analyzing the anticipated effects of the work on listed species and their critical habitat was transmitted to the National Marine Fisheries Service (NMFS) and United States Fish and Wildlife Service (USFWS) on 31 May 2016. Consultation is not yet concluded with NMFS and USFWS. Due to the urgent nature of completing the emergency actions to protect human life and property and the effort to limit impacts to listed species by working within this window, and because the repair is time-critical in light of the ensuing flood season, the Corps may proceed with construction prior to completion of the consultation with the USFWS pursuant to the "emergency circumstances" provisions of the Endangered Species Act of 1973 (ESA) consultation regulation. The Corps will complete ESA consultation after the fact rather than delaying the urgent work in order to complete ESA consultation before construction. The Corps will commit to fully funding and performing any Reasonable and Prudent Alternatives necessary to avoid the likelihood of jeopardy to listed species or destruction/adverse modification of designated critical habitat, as well as Reasonable and Prudent Measures necessary and appropriate to minimize the impact of Incidental Take, that are described when a Biological Opinion is received from the USFWS. The EA will be reevaluated at the time that consultation is complete. If necessary, the EA will be supplemented with necessary and applicable corresponding modifications to the scope and/or nature of the project, the procedures and practices used to implement the project, and/or the type and extent of compensatory mitigation associated with the project.

f. Unavoidable adverse effects associated with this project include: (1) a possible temporary and localized increase in turbidity within the river from the work which may disrupt fish in the area, (2) a temporary and localized disruption of traffic by construction vehicles, (3) a temporary and localized increase in noise and emissions which may disrupt nearby residences and fish and wildlife in the area, and (4) ground disturbance and removal of grasses from within the proposed construction area. These unavoidable impacts would be short in duration and considered insignificant.

g. Public notice has been issued for this project. A Notice of Preparation (NOP) and NOP Addendum was issued, inviting comments from interested agencies, Tribes, and members of the public. NOP Addendum was prepared to notify the public of the addition of Site 2. Site 2 was added to this repair in April 2016. The NOP and NOP Addendum were issued 15 April 2016 and 13 May 2016, respectively. The public comment period closed on 23 May 2016. One comment was received from Suquamish Tribe stating they have no comment on the project. No other comments were received.

4. Finding. I find that the proposed action will not result in significant adverse environmental impacts and complies with all applicable laws, regulations, and agency consultations, including the CWA, CZM Act, ESA, NHPA, and NEPA, as well as applicable Executive Orders. Based on the analysis described above and provided in more detail in the accompanying EA, the 2016 Rehabilitation of the Sande-Williams Levee is not a major Federal action significantly affecting the quality of human environment, and therefore, does not require preparation of an Environmental Impact Statement.

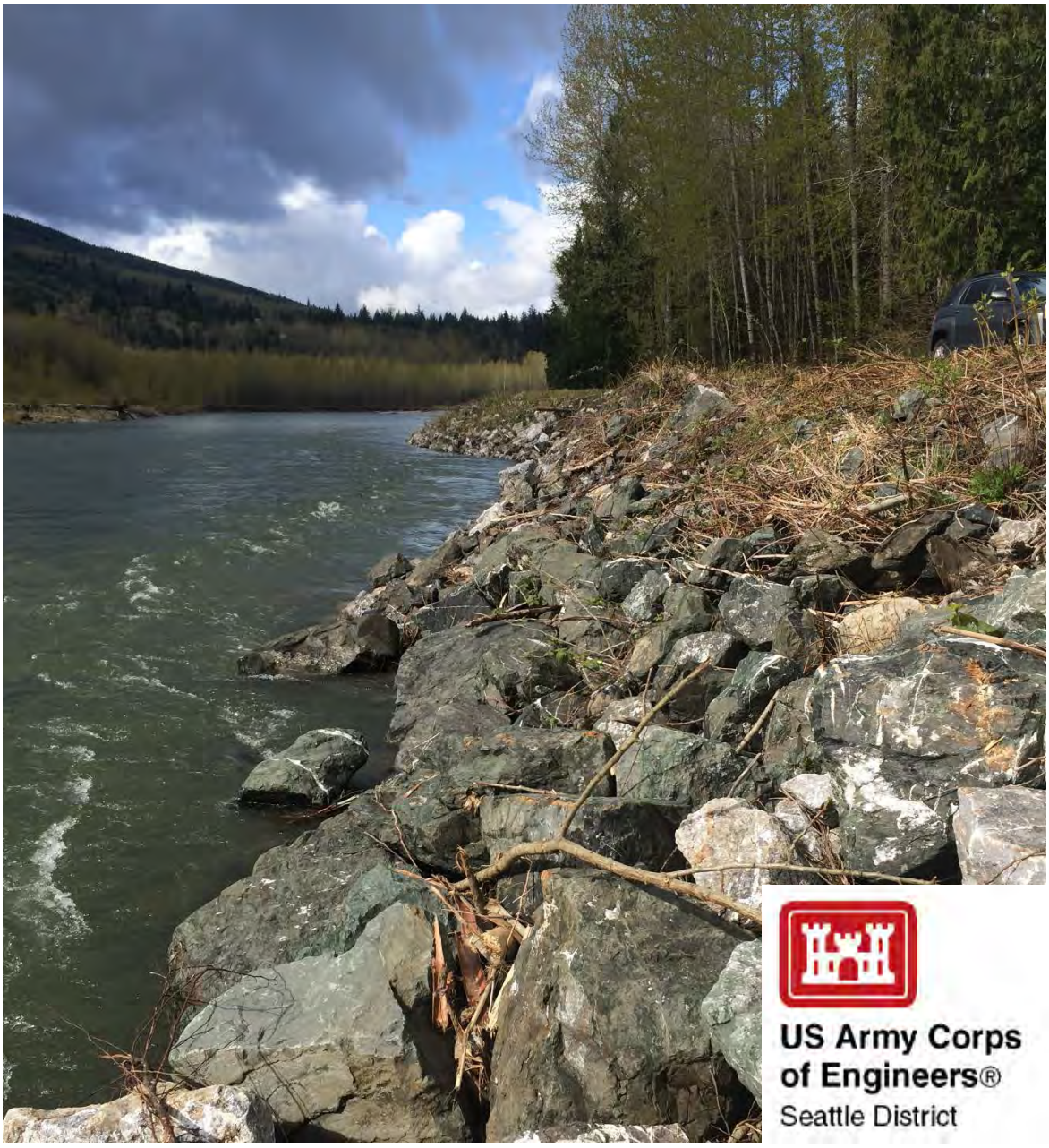
21 JUN 16
Date

JOHN G. BUCK
COL, EN
Commanding

FINAL ENVIRONMENTAL ASSESSMENT

Sande-Williams Levee

REHABILITATION OF FLOOD CONTROL WORKS
WHATCOM COUNTY, WASHINGTON



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JUNE 2016

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APPENDICES

1.0 PROPOSAL FOR FEDERAL ACTION

The Council on Environmental Quality (CEQ) regulations, 40 CFR § 1500.1(c) and 40 CFR § 1508.9(a)(1), interpreting the National Environmental Policy Act of 1969 (as amended) (NEPA) require Federal agencies 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 to ensure such actions adequately address "environmental consequences, and take actions that protect, restore, and enhance the environment." This assessment evaluates environmental consequences for the implementation of flood risk management actions carried out by the U.S. Army Corps of Engineers (Corps) in cooperation with Deming Diking District (DD) 2 in response to flood events described in this document.

1.1. Location

The levee is located along the right bank of the Nooksack River just downstream of the town of Deming, WA, located in Sections 35 and 36, Range 4 East, Township 39 North in Whatcom County, Washington (Figure 1). The Sande-Williams Levee is approximately 8,674 ft long. The upstream terminus of the levee was extended during a flood fight in 2007. The upstream end is now tied in with a buried rock key-way. Immediately upstream of the keyway is a large logjam, intended to help deflect flow or deter the thalweg of the river from flanking the levee.

1.2. Authority

The proposed levee repairs are authorized by Public Law 84-99 (33 U.S. Code Section 701n). The Corps' rehabilitation and restoration work under this authority is limited to the repair of flood control works damaged or destroyed by floods. The statute authorizes rehabilitation to the condition and level of protection exhibited by the flood control work prior to the damaging event. Deming DD 2 is the non-Federal sponsor for the proposed action.

1.3. Background

The levee is located along the right bank of the Nooksack River just downstream of the town of Deming, WA (Figure 1). The levee is constructed of earthen material with a riprap riverward revetment consisting of Class IV to V material. The levee is generally 12 feet wide at the crown and is surfaced with gravel as a drivable access road for inspections and maintenance. The riverward slope is generally 2H:1V and armored with a blanket of riprap (Class IV to Class V). The landward slopes are more gentle, varying from 2-3H:1V. The levee protects public infrastructure as well as residential, agricultural, and commercial properties (Figure 2). When the Sande-Williams levee is functioning as designed, river flows begin to impact developed properties such as farm buildings in the protected area in flood events that occur on average at intervals greater than 5 years (i.e., are more severe than a 5-year-frequency event), by flanking the upper end of the levee and overwhelming the interior drainage system. The Sande-Williams levee provides flood risk reduction for a wide range of river flows, including those that exceed the levee crest elevation and activate the landward conveyance corridor. A damaged Level of Protection (LOP) of 4 years was utilized for this rehabilitation project due to the potential of river flows to directly enter the protected area through a breach condition when river flows exceed the 4-year flood event. An undamaged/repaired LOP of 28 years was used since this is the flow that would likely overtop the levee at the proposed repair location and will directly enter the protected area if the levee is repaired and does not breach (USACE 2016).

Two high water events occurred between November 2014 and January 2015 causing flood damage to the levee. The gage at Cedarville exceeded flood stage on 28 Nov 2014, peaking at just over a two-year recurrence interval discharge (30,800 cubic feet per second [cfs]/147.02 feet [ft]). On 5 January 2015 the

river peaked at 26,900 cfs, but did not exceed flood stage. Both events were driven by high intensity precipitation originating from atmospheric river storms.

During the flood, the Nooksack River transported significant woody debris through this reach of the river and the debris dislodged slope armor along approximately 75 ft of the levee. Flood damages include loss of riverward riprap armor at two locations. The upstream damage length (site 1) is approximately 75 linear feet (LF) of debris damage (Figure 3). This damage area is located at the outside of a bend, where velocities locally accelerate and super-elevation of the water surface along the levee face during floods has been observed. The downstream repair length (site 2) is approximately 100 LF (Figure 4).

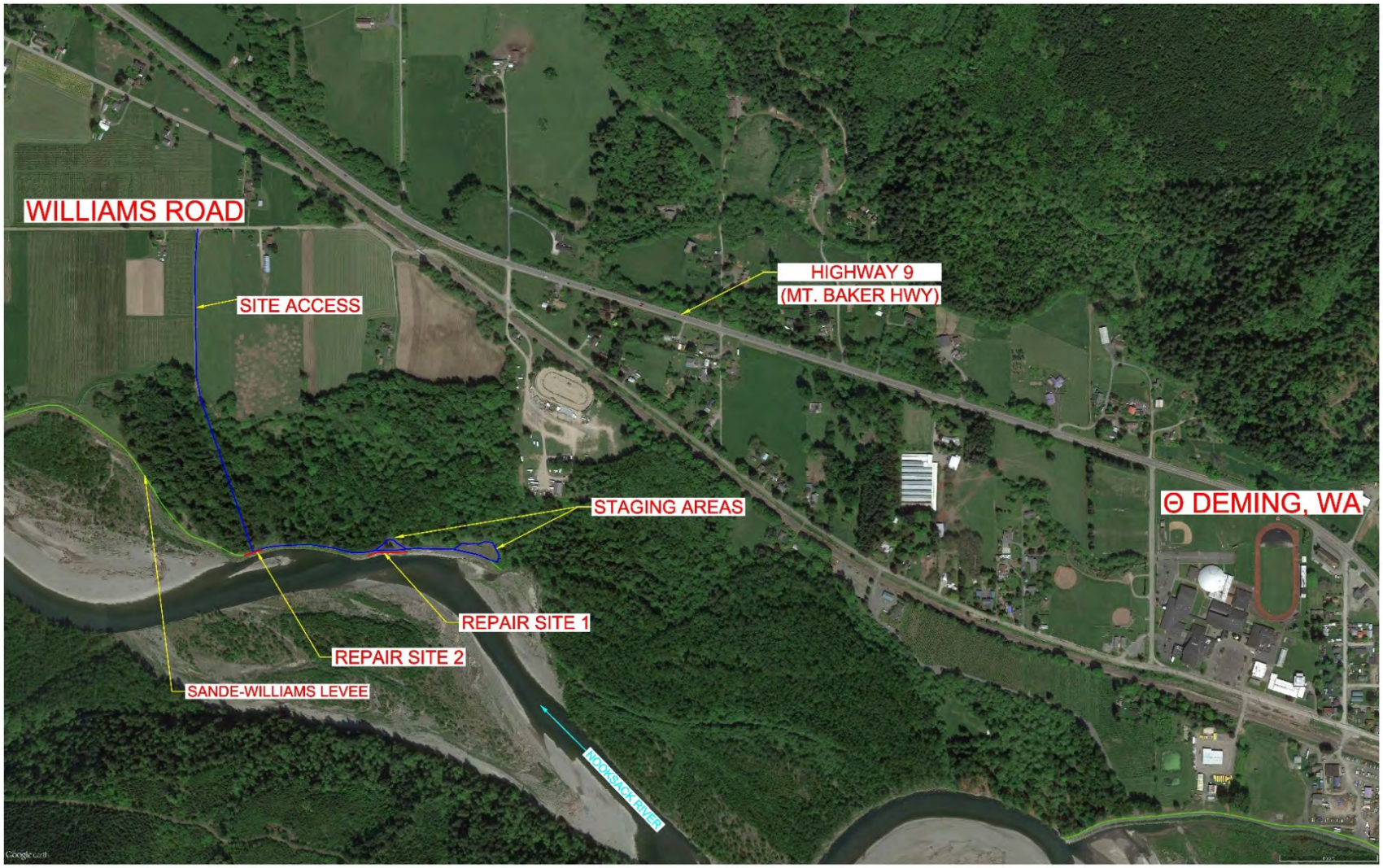

Figure 1. General project location.

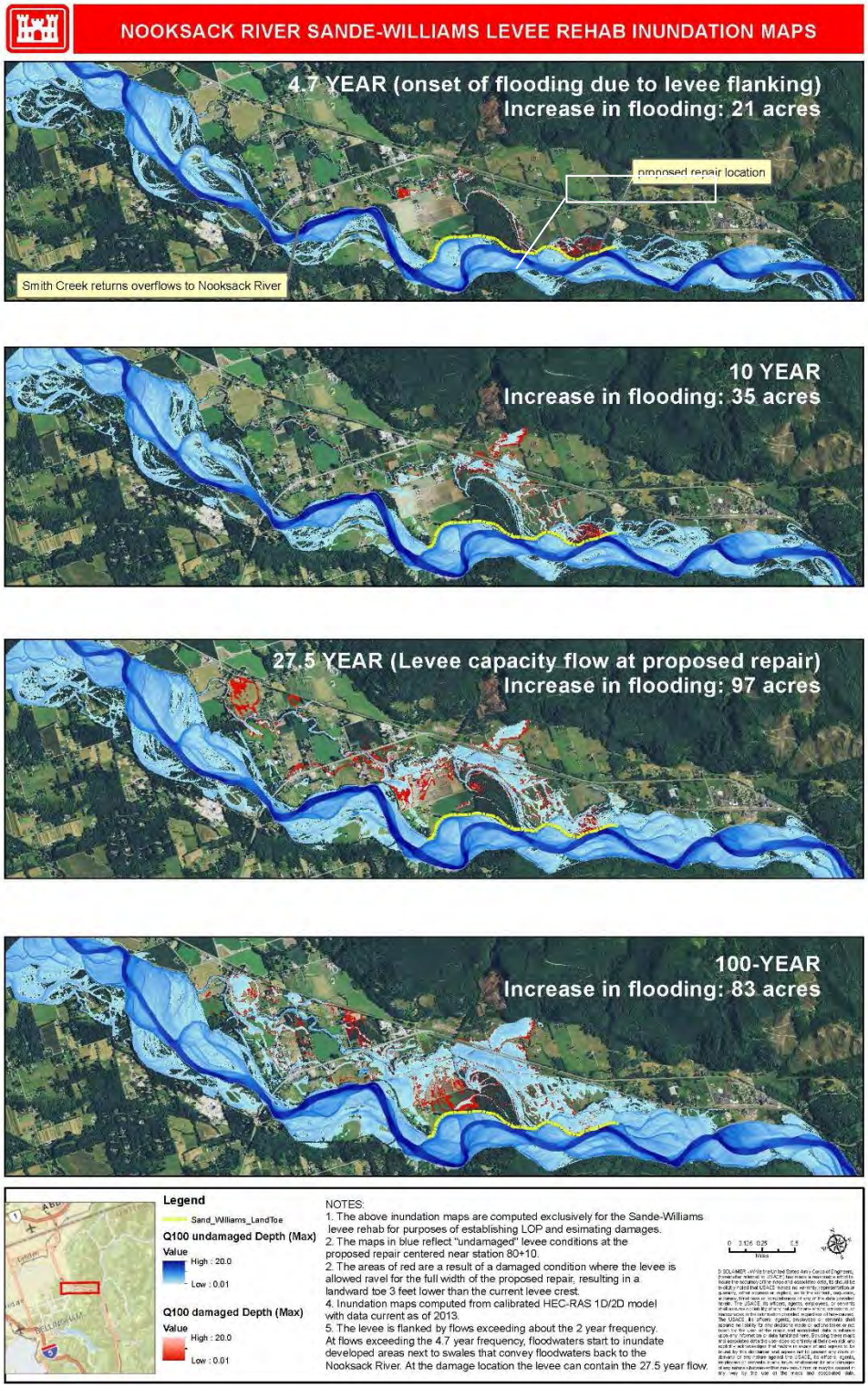

Figure 2. Inundation areas. The acres presented show new areas inundated at the flood levels analyzed (shown in red) in the without project condition, though the previously flooded areas also experience increased depths of flooding.

Figure 3. Photo looking downstream at the damaged area at Site 1.


Figure 4. Photos of Site 2: the damage (left) and the undamaged toe and lower slope (right).

1.4. Purpose and Need

The purpose of the proposed project is to restore the level of flood protection that existed prior to the 2014-2015 winter flooding in order to protect lives and property from subsequent flooding at the damage location. In the current damaged condition, the LOP for this levee is 4-year.

The area protected by the Sande-Williams levee from the 28-year flood event was calculated to be approximately 346 acres. This protected area includes acreage (approx. 249 acres) that can be inundated by water flanking the upstream end of the levee. The levee in the undamaged condition provides flood risk reduction to the entire protected area by reducing flood water elevations and associated impacts to structures. Flood water flows through a portion of the protected area when the river flows exceed the 5-year flood event, however the Sande-Williams levee reduces the amount of flow, water elevations, and the associated damages in the protected area. (USACE 2016).

2.0 ALTERNATIVE ACTIONS

2.1. No-Action Alternative

Under the No-Action Alternative, the Corps would not provide assistance to the Deming DD 2 under the PL 84-99 Program. No project features would be implemented by the Corps. The levee would be left in damaged condition for the near future; however, the Deming DD 2 may elect to use their own funding to repair the damages. Deming DD 2 would likely fix the worst damages, but may not be able to secure funds to complete the repairs in a timely fashion. The No-Action Alternative was rejected due to increased risk to health and safety due to the potential for additional flood damage. This alternative is included and analyzed in order to evaluate the relative merits and disadvantages of the action alternative. This alternative was carried through the alternative comparison to provide a baseline for comparison of future conditions.

2.2. Repair In Kind Alternative (Preferred Alternative)

The proposed project would restore the levee at the damage location to the pre flood 28-year LOP within the existing alignment. At repair site 1, the repair would consist of re-sloping the levee and shifting the crest landward by excavating the existing levee material, replacing levee material with a one foot thick quarry spall layer covered by a 4 foot thick Class V riprap on an approximately 2H:1V with a 7 foot wide launchable toe with a 1.5H:1V slope. The construction length is approximately 300 LF which includes upstream and downstream tie-ins. Up to ten trees (mostly deciduous trees) would be removed.

Repair site 2 is approximately 550 ft downstream of repair site 1. Some of the armor rock above ordinary high water (OHW) is missing. The proposed repair at site 2 is approximately 100 LF and would involve removing and replacing the spall layer and Class V riprap armor along the riverward slope above OHW. The repair would transition to both the upstream and downstream ends.

Material quantities are shown in Table 1. Upon completion, embankment and top of levee material (wearing course) would be replaced. No willow cuttings in the levee face are currently proposed at the OHW line during construction due to concerns of erosion of the soil layer due to the expected velocities at the site. See the attached project drawings (Appendix A).

Construction is expected to last a few weeks including mobilization and clean up, and in-water work would occur during designated fish window (15 June - 15 August). Construction is planned in summer 2016.

Table 1. Material Quantities

Site	Length (feet)	Riprap (CY) Class V	Quarry Spalls (CY)	Wearing Course (CY)
Repair	300 (Site 1) 100 (Site 2)	2,800* (Site 1 and 2, total)	800 (Site 1 and 2, total)	100 (Site 1 and 2, total)

*Existing riprap may be reused, but existing quantities are not known, so this number may decrease during construction.

2.3. Alternatives considered but not evaluated in detail

2.3.1. Non-structural Alternative

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

2.3.2. Levee Setback Alternative

The setback alternative would realign approximately 530 LF of levee behind the existing levee footprint. This alternative would be more costly than the repair alternative, and would require additional real estate. This is not the sponsor preferred alternative at this time, though a long term large setback at this location is being considered as a part of the System-Wide Improvement Framework that is currently under development. Due to potential costs and impacts, this is not a feasible alternative to meet the purpose and need.

2.3.3. Straighten the Levee Alignment Alternative

This alternative would connect the downstream and upstream tie-ins with a straight line levee with a 2H:1V slope. This alternative would move the toe of the levee riverward, causing the filling of 0.1 acre of aquatic habitat. This alternative would have increased environmental impacts and would require additional mitigation. This is not the sponsor preferred alternative.

2.4. Conservation Measures

Several conservation measures and best management practices will be employed during construction to minimize adverse project effects.

- Vegetation removal is limited to the repair sites.
- In-water work will be limited to the in-water work window (15 June-15 August).
- Work will be completed during daylight hours with no use of light plants or other artificial lighting.
- Equipment used near the water will be cleaned prior to construction.
- Vegetable based hydraulic fluid will be used in heavy equipment assigned to work in or near Nooksack River.
- Refueling will occur a minimum of 100 feet away from the shoreline.

- Rock will be delivered onto the land and placed individually or in small bucket loads to the levee face and toe. No end-dumping of rock into the water will occur.
- Construction equipment will be regularly checked for drips or leaks.
- Any leak will be fixed promptly or the equipment would be removed from the project site.
- At least one fuel spill kit with absorbent pads will be onsite at all times, and construction personnel will be trained in their proper use.
- Drive trains of equipment will not operate in moving water.
- A biologist will be onsite or available via phone during construction.

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. Turbidity sampling will be conducted.

3.0 ENVIRONMENTAL RESOURCES OF CONCERN

3.1. Topography, Hydrology, and Soils

The Nooksack River, located in northern Puget Sound, drains westward from the Cascade Mountains to its mouth at Bellingham Bay. The Nooksack River basin encompasses about 868 square miles. Three major forks form the Nooksack River: the North Fork, Middle Fork, and South Fork. The North and Middle Forks of the river converge upstream of the project site at RM 40.5 and the Middle Fork joins the mainstem a little over a mile upstream of the project site at RM 36.6. The North and Middle Forks originate from Mount Baker glaciers and snowfields and are typically turbid with moderate flows during summer due to glacial melt (Shared Strategy Development Committee 2007). The South Fork drains the slopes of the Twin Sisters and usually flows clear in the summer.

Land use in the vicinity of the project includes forestry, farming, rural residential developments, and recreation. The Town of Deming lies a short distance upstream of the project. The Mount Baker-Snoqualmie National Forest is located roughly 10 miles to the east of Deming. Roughly 6 miles downstream of the project, the Nooksack River leaves the mountains and flows across a broad flat plain. The dominant land use in this area is farming.

The topography of the Nooksack basin varies greatly due to its mountainous origins. Elevations range from sea level at its mouth to over 10,700 feet at the summit of Mount Baker. Elevation at the project site is 330 feet above sea level.

Precipitation is highly variable across the basin. Average annual precipitation ranges from approximately 35 inches per year at Bellingham near the mouth of the river to over 100 inches per year on Mount Baker (Western Regional Climate Center 2007). The most snowfall ever to fall in one season in the United States fell on Mount Baker in 1998-1999. That winter, 1,140 inches of snow fell on the mountain. The months with the greatest precipitation are November through January and the summer months are the driest.

With the exception of a dam on the Middle Fork which diverts water to the City of Bellingham's water supply, the Nooksack River is an unregulated river. The Nooksack River has a bimodal hydrograph; one peak occurs during late fall and winter rainfall or rain-on-snow events and the other peak is driven by spring snow-melt runoff in late spring and early summer (Shared Strategy Development Committee 2007) The summer low flow period typically occurs in August and September.

The upstream end of the levee is naturally flanked by floodwaters that overflow low gravel bars into a large relict side channel at flows ranging from roughly 30-40,000 cfs (roughly 2 to 5 year recurrence). Flows are largely contained in large ditches and old channels (levee interior drainage system) and flow back to the Nooksack River via Smith Creek. The flow in the river that causes floodwaters to emerge from the levee interior drainage system at which flood damage begins was estimated to be 41,000 cfs (4.7 year recurrence; see Figure 2).

The soils at the project location are Pilchuck loamy fine sand (NRCS 2008). The parent material of the Pilchuck soil is alluvium and found in floodplains. The soils are somewhat excessively drained and tend to be deep.

3.1.1. No-Action Alternative

Continued erosion on the banks of the Nooksack River and a higher risk of damage from flooding of the river would persist under the no-action alternative. The current soil conditions and topography would not change. 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. Emergency flood fight measures would be initiated to prevent such a breach to maintain the current river channel to the extent possible. Effects of flood fight activities would be similar to those discussed below for the Repair in Kind Alternative, though rock placement during flood events could require more rock placement and require the use of larger rocks, depending on the specific events at the time of the emergency.

3.1.2. Repair In Kind Alternative

Proposed repair of the damaged sections of the levee would minimize the erosion of the river banks. The Corps typically performs repairs by reshaping and armoring the damaged vertical riverward levee slopes over the damaged lengths. At site 1, the replaced armor rock would extend to the river bottom; with no buried toe being constructed. The armor rock at site 2 would be replaced above OHW.

Increased compaction of the soil in the immediate area of construction may occur due to operation of heavy equipment for the repair. However the areas are typically patrolled and maintained with large vehicles so that some level of compaction would already exist. Restoration of the levee and the toe will minimize the erosion of the banks on the river. Frequency and depth of floodplain inundation of the site will be maintained at pre-damage levels. Overall project effects to hydrology, soils, and topography would be insignificant.

3.2. Vegetation

The Sande-Williams levee system lies in the Eastern North Cascades Lowland Forest Ecoregion (EPA 1996). Vegetation in the ecoregion is dominated by stands of Douglas-fir, western red cedar, and western hemlock. Sitka spruce and red alder are also common. The understory is typically a diverse array of shrubs and ferns.

The project site is located in a coastal upland agricultural area. Vegetation at and near the vicinity of the project site is limited to that which occurs near the river. These include cottonwood (*Populus balsanifera),* red-osier dogwood (*Cornus sericea*), Nootka rose (*Rosa nutkana*), salmonberry (*Rubus spectabilis*), snowberry (*Magnoliopsida dilleniida*), red alder (*Alnus rubra*), Alaskan cedar (*Chamaecyparis nootkatensis*), Himalayan blackberry (*Rubus discolor*), evergreen blackberry (*Rubus laciniatus*), Douglas fir (*Pseudotsuga menziesii*), willow (*Salix spp.*), non-native naturalized cherries (*Prunus sp*.), non-native naturalized blueberries (*Vaccinium sp*.), and a variety of native and non-native grasses.

The most prominent species at the project site are cottonwood, alder, and willow with Himalayan blackberry and grasses in the understory. Several naturalized cherry trees (orchard type trees) are present along the river, suggesting the area was formerly an orchard. A patch of blueberries, which is a remnant of a former commercial berry farm, are also present on the floodplain.

The vast majority of the project area is essentially devoid of riparian vegetation directly on the levee. Adjacent to the landward slope of the levee the entire project area is bordered with various aged Douglas fir, cedar, alder, and cottonwood.

3.2.1.No-Action Alternative

Existing vegetation found on the levee is sparse. Vegetation would remain in its current condition except when trimmed or mowed for levee maintenance. Depending upon the magnitude and duration of future flood events, the levee may start to fail. Under these circumstances, a flood fight would likely be conducted to try to save the levee and protect properties, facilities, and lives from threat. Construction during a flood event is difficult and is completed as quickly as possible; therefore, vegetation would be removed or buried during emergency actions placed to prevent levee failure. If flood fighting was unsuccessful and the levee failed, inundation and possible channel migration could have substantial impacts on area vegetation.

3.2.2.Repair In Kind Alternative

Shifting the levee landward would require removal of up to ten trees (mostly cottonwood, but also big leaf maple and western red cedar, ranging in diameter from saplings to 24 inches). This tree removal could decrease river shading slightly in the immediate project area; however there is a large riparian corridor in this reach and the removed trees are on the north side of the levee.

Overall the effect of the Repair in Kind Alternative on vegetation will not be significant given the limited vegetation present at most of the sites, the small number of trees to be removed, and the proximity of similar habitat.

3.3. Fish and Wildlife

3.3.1.Fish

The Nooksack River system supports populations of chinook *(Oncorhynchus tshawytscha)*, coho (*O. kisutch*), chum salmon (*O. keta*), pink salmon (*O. gorbuscha*), and steelhead (*O. mykiss*) salmon as well as populations of bull trout (*Salvelinus confluentus*), dolly varden (*S. malma*), coastal cutthroat trout (*O. clarki clarki*), rainbow trout (*O. mykiss)*, whitefish (*Prosopium williamsoni*), three-spined stickleback (*Gasterosteus aculeatus*), sculpins (*Cottus sp*.), long-nosed dace (*Rhinichthys cataractae*), long-nose sucker (*Catostomus catostomus*), and likely other resident fish species (WDFW 2004, 2005; NMFS 2008; Wydoski and Whitney 1979). Chinook, steelhead, and bull trout in the Nooksack River are listed as threatened under the federal Endangered Species Act (ESA) and the coho salmon are a federal species of concern.

The river within the project area provides migration habitat for all anadromous species (WDFW 2004, WDFW 2005, NMFS 2008, Anchor Environmental LLC 2003, Blakely et al 2002). Adults of all anadromous species except possibly steelhead may be present during construction. Winter run steelhead adults spawn in the area through July, so may be present during the first six weeks of the construction window. Winter run steelhead adults are not present in August and September but summer run steelhead adults are present in those months as they migrate upstream to spawning grounds. Adult bull trout, chum, and coho may be holding in the project area or moving through the project areas towards their spawning areas. Juveniles of all the anadromous species except pink salmon and possibly chum salmon, are likely to be present during construction. Coho, chum, pinks, and one stock of steelhead spawn in the project

area. Steelhead eggs and alevins are likely to be incubating in the gravel adjacent to the project through August, pink salmon eggs and alevins are likely to be present starting in August, and cutthroat trout eggs and alevins may be present through September. Coho and chum start spawning in the project area in October.

3.3.2. Wildlife

The rural nature of the project location and the close proximity of extensive forest lands suggest that a wide diversity of wildlife species might be found in the project area. No comprehensive list of species was identified for the immediate project area. The WDFW Draft Priority Habitat and Species (PHS) list (WDFW 2008a) and the WDFW GAP analysis species distribution maps (WDFW 2008b) were consulted to develop a list of likely species present in the area. Other species are likely present although not documented on the GAP analysis maps. Mammals which likely occur in the project area include beaver, bobcat, coyote, elk, deer, snowshoe hare, and numerous rodents. Five species of frogs and toads, four species of salamander, and snake species are also very likely to be found in the project area. Additionally, 81 bird species are likely to be present in the area (WDFW 2008b), including a wide diversity of aquatic species, eagles, osprey, several species of hawks and other birds of prey, grouse, woodpeckers, owls, nighthawks, swifts, and numerous smaller bird species.

3.3.3. No-Action Alternative

Implementing the No-Action Alternative may lead to levee failure, necessitating flood fights that would result in a less carefully designed and implemented construction effort. Emergency actions could disrupt spawning, displacing adults from redds and potentially reducing spawning success. Emergency actions could also have negative effects on redds located within or near repair areas. Due to the naturally high turbidity of high flows during a storm event, the minor amount of additional sediment input during emergency actions do not add substantially to the water turbidity and sedimentation. If a flood event warrants repairs at extensive damage, the adverse effect to fish and wildlife from emergency flood fight actions has the potential to be substantial.

3.3.4. Repair In Kind Alternative

The life stages most sensitive to the types of disturbance that will occur during construction are the eggs and alevins developing in the gravel. During the specified construction window, steelhead, pink salmon, and/or cutthroat trout eggs and alevins are likely to be present in the channel. The degree that this specific location is used for spawning is unknown, however velocities along the right bank of the channel in the project area are likely unsuitable for spawning.

Juvenile fish along the shore may be disturbed and scared away from the site during construction. The majority of fish will likely move up or down the river for the duration of construction. Downstream of the construction site, juvenile fish would be exposed to suspended sediment loads which may reduce feeding efficiency. This effect should not extend more than 300 feet downstream.

Any adult resident and anadromous fish migrating up or down stream at the time of construction may be temporarily delayed at the construction site due to disturbance and/or sediment loads. Most migrating fish would likely continue their migrations in the evening after construction is shut down for the day; hence, delays in migration would be expected to be very short term. Sediment entering the river during construction will be temporary and will not be of sufficient quantity to affect fish habitat.

The effects of the preferred alternative on wildlife would likely include displacement of birds and other small vertebrates as a result of construction activities. Construction will also cause temporary displacement of birds in the project area due to noise and the presence of human activity. Construction may temporarily displace small mammals and may injure or cause mortality of reptiles and rodents. Loss

of trees would affect wildlife habitat by reducing cover, perching, foraging, and nesting opportunities. This effect will not be significant given the limited vegetation present onsite, the small number of trees to be removed, and the proximity of similar habitat for displaced animals. Implementation of the preferred alternative will not have significant effect on fish and wildlife.

3.4. 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 may occur in the vicinity of the project (Table 2). The following sections briefly summarize relevant information for the protected species, evaluate how the proposed project may affect the species, and conclude with a determination of effect.

Table 2. ESA Protected Species Potentially Occurring in the Project Vicinity

Species	Listing Status	Critical Habitat
Coastal/Puget Sound Bull Trout *Salvelinus confluentus*	Threatened	Designated
Puget Sound Chinook Salmon *Oncorhynchus tshawytscha*	Threatened	Designated
Puget Sound Steelhead *Oncorhynchus mykiss*	Threatened	Designated
Western Yellow-billed Cuckoo *Coccyzus americanus*	Threatened	Proposed, only outside of Washington

Other listed species may occur in Whatcom County as well but have no potential to be affected by the proposed project. The proposed project will have "*no effect*" on the following species and their designated critical habitat due to their sensitivities to human encroachment, lack of suitable habitat, or because their presence is so transitory that any temporal affects to these species from construction activities would not be perceived as unusual, cause disruption of behavior or lead to measurable reductions in their prey base. These species include the gray wolf (*Canis lupus*), streaked horned lark (*Eremophila alpestris strigata*), echelon (*Thaleichthys pacificus*) and northern spotted owl (*Strix occidentalis*). Marbled murrelet (*Brachyramphus marmoratus*) could transit the project area while travelling between nesting and feeding areas, however the additional noise and human presence is not expected to impact murrelet flight patterns due to their typical flying altitudes and typical ambient noises in this rural agricultural area. The project is expected to have no effect on marbled murrelet. Southern resident killer whale (*Orcinus orca*) may occasionally include Nooksack River Chinook salmon in their diet. However, because the impact to Chinook from the proposed action is overall minor (see effects analysis below) and because the percentage of Nooksack River Chinook that make up the killer whale diet is likely very small, no far-reaching effect to killer whale is expected. The project is expected to have no effect on Southern resident killer whale.

3.4.1.No-Action Alternative

The No-Action Alternative could lead to levee failure at a future date resulting in increased flooding frequency and flood damages to infrastructure. Levees that are in disrepair during flood event receive attention through flood fight actions. Emergency repair actions would likely occur during a time when more eggs are in the gravel; therefore, effects on listed species may be greater. Effects to riparian areas may be greater due to the rapid emergency response; therefore, cover may be further reduced relative to other alternatives. Emergency repairs associated with the No Action Alternative could have major impacts on threatened and endangered species.

3.4.2. Repair In Kind Alternative

A Biological Evaluation, assessing the effects of the proposed 2016 repair, was submitted to NMFS and USFWS on 31 May 2016. Table 3 summarizes the effect determinations made in the Biological Evaluation for each of the species potentially occurring in the project vicinity.

Table 3. ESA Effects Determination Summary

Species	Effect Determination	Critical Habitat Determination
Coastal/Puget Sound Bull Trout	Not likely to adversely affect	Not likely to adversely affect
Puget Sound Chinook	Not likely to adversely affect	Not likely to adversely affect
Puget Sound Steelhead	Not likely to adversely affect	Not likely to adversely affect
YBC	Not likely to adversely affect	No effect

Vibration could cause any fish in the area to move away from the construction zone. The Nooksack River channel provides similar habitat in nearby locations for any fish that vacate the project area. Placement of rock may lead to elevated temporary and localized turbidity levels surrounding the construction. Suspension of sediments can increase biochemical oxygen demand, and reduce dissolved oxygen levels in the water. Vibrational disturbances and turbidity will be controlled during construction by working during a period of low summer flows, avoiding in-water excavation, placing rock individually or in small bucket loads (no end-dumping into the river), working from the top of the bank, and use of clean rock with minimal fines.

The project area is within a large tract of riparian habitat, located landward of the levee. At site 1, the repair location occurs adjacent to a small turnaround access road. The project has been designed to minimize the impact to the riparian forest, while avoiding riverward encroachment. This design maintains the undulation in the bank at the project area, but in doing so requires a landward shift of the levee crest to create stable slopes. The existing condition includes a number of trees, mostly cottonwood and also big leaf maple and western red cedar, ranging in diameter from saplings to 24 inches (up to ten) within the center of the turnaround. At site 1, the proposed action requires removal of these trees and thus creates a wider unvegetated area at the project site. This tree removal could decrease river shading slightly in the immediate project area; however there is a large riparian corridor in this reach, including immediately adjacent to the area of tree removal. At site 2, the repair location is adjacent to the access road. The proposed design would not require any tree removal. At both sites, loss of herbaceous plants and shrubs on the levee face will also have a short term impact on nutrient input (plant material and insect fall) and quality of refuge habitat for fish in high waters. Due to the construction occurring during the in-water work window, the minor impacts to vegetation, the retention of the existing bank configuration with a small setback of the upper slope, the limited in-water work, and in light of the pre-damage baseline condition at the project site, the proposed repair **may affect, but is not likely to adversely affect** Chinook, steelhead, and bull trout and their designated/proposed critical habitat.

The proposed construction will occur during the breeding period for yellow billed cuckoo in the action area. Up to 10 trees will be removed for the proposed repair, including cottonwoods. Disturbance from increased noise and human presence could disturb birds in the project area. YBC are known to avoid areas with increased traffic as the sounds of vehicles can mask mating calls (Goodwin and Shriver 2011).

The proposed project **may affect but is not likely to adversely affect western yellow-billed cuckoo**. This determination is made based upon the rarity of the species in Washington and the limiting of impacts to vegetation to the minimum required to complete repairs. The proposed action will have **no effect on proposed critical habitat for yellow-billed cuckoo**, because the proposed critical habitat for this species is not located in Washington.

3.5. Cultural Resources

The Corps has coordinated its environmental review of impacts on cultural resources for NEPA with its responsibilities to take into account effects on historic properties as required by Section 106 of the National Historic Preservation Act (NHPA). Historic properties are those cultural resources that are eligible for inclusion or listed on the National Register of Historic Places. The Corps has determined and documented the area of potential effect (APE) for both direct and indirect effects, as required at 36 C.F.R § 800.4 of the regulations implementing Section 106 of the NHPA. The APE includes the length of the levee repair and all staging and access areas for all locations.

The Corps has conducted a records search and literature review of the Washington Information System Architectural and Archaeological Records Database (WISAARD). The literature review and records search revealed that there are no properties listed in the National Register of Historic Places (NRHP) or the Washington State Historic Site Register in the project APE, and no cultural resources have been recorded within the APE. The Corps previously conducted two cultural resources surveys in the project APE with negative results. The Corps have also notified the Lummi Nation and the Nooksack Tribes about the project to identify properties to which they may attach religious or cultural significance or other concerns with historic properties that may be affected. The Tribes did not comment on the undertaking.

Archival research indicates that while the original construction date of the Sande-Williams Levee is unknown, it is estimated that the build date was mid-1930s based on other levees in the surrounding area. Major modifications were made to the levee in 2005 and 2010. As the proposed repair does not alter the proposed alignment, the levee and its character defining qualities will remain intact as a flood control structure in the protection of life and property. The Sande-Williams Levee has been subject to a number of flood events and repairs, which are considered normal and routine in nature. These actions have led to a clear loss of integrity through severe erosion as well as changes of prism design and structural material. Based on this information, the Corps has determined the Sande-Williams Levee segment not eligible for listing on the NRHP.

3.5.1. No-Action Alternative

The No-Action Alternative would have no impact on cultural resources within the APE. There are no historic properties within the APE. Under this alternative, the Corps would not repair the levee, and the threat of future levee failures would increase. Future flood events could result in the erosion or destruction of historic properties located within the floodplain of the Nooksack River.

3.5.2. Repair In Kind Alternative

The repair-in-kind alternative would have no adverse impact on cultural resources, as there are no historic properties eligible for the National Register of Historic Places within the project APE.

3.6. Water Quality

Water quality concerns in Nooksack River downstream of the project site include high temperatures and pH (WDOE 2016). The Nooksack Tribe completed a Riparian Function Assessment in 2001 and found that shading along the mainstem river is low (0-20%) due to limited riparian habitat.

3.6.1.No-Action Alternative

Under this alternative, the damaged sections of the levee system may fail during the upcoming flood season resulting in an increase in erosion, turbidity, and sedimentation. Emergency repairs may be required. These repairs could create turbidity, though this effect would be minimal in relation to background levels of turbidity associated with flood levels. Flood fight activities would be expected to remove riparian vegetation, which could limit shading and natural detritus inputs to the river. Effects of the No Action Alternative and any emergency flood response on water quality would not be significant.

3.6.2.Repair In Kind Alternative

During the proposed construction activities, there may be temporary and localized water quality effects such as an increase in turbidity. Equipment will not enter the water, remaining on dry ground at all times. Rocks will be placed in the river by an excavator rather than being end-dumped. Best management practices for construction activities will be employed. Water quality monitoring will be done during sediment generating activities to ensure that state standards are being met.

The Repair In Kind Alternative will have no measurable effects to pH, bacteria inputs to the river, and dissolved oxygen. Only clean, uncontaminated materials would be used and no pollutants are expected to be introduced to the river. Effects to water quality due to the Repair in Kind Alternative will be temporary and localized, lasting no more than a day and will not be a significant portion of the water column.

3.7. Air Quality and Noise

Air quality in the Nooksack Basin is within the Environmental Protection Agency's (EPA) standards for all air quality parameters (EPA 2016). The EPA creates regulations as required by the Clean Air Act. Areas of the country where air pollution levels persistently exceed the national ambient air quality standards 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; however, there have been no standards set for green house gas emissions in Washington State. In Washington, the Seattle-Tacoma area is the only designated non-attainment area and this is due to particulate matter (PM2.5) levels (EPA 2011). The project area is rural-agricultural or on the outskirts of small cities. Typical noises consist of those generated by agricultural machinery, trucks, automobiles, aircraft, and other internal combustion engines.

This rural area is typically quiet. Typical existing noise consists of those generated by farm machinery, trucks, automobiles, and other internal combustion engines.

3.7.1.No-Action Alternative

The No-Action Alternative would mean the Corps would not repair the damaged sections of the levee; this alternative, therefore, would have no effects to air quality or noise.

3.7.2.Repair In Kind Alternative

Construction vehicles and heavy equipment used in construction would temporarily and locally generate increased gasoline and diesel exhaust fumes. The small area of construction and the short duration of the activities would limit the impact to air quality. The activity would constitute routine repair of an existing facility, generating an increase in direct emissions of a criteria pollutant or its precursors that would be clearly de minimis, and would therefore be exempted by 40 CFR Section 93.153(c)(2)(iv) from the conformity determination requirements. Emissions generated by the construction activity are expected to be minor, short-term, and well below the de minimis threshold. Unquantifiable but insignificant exacerbation of effects of CO2 emissions on global climate change would be anticipated.

During construction activities of the proposed repair, there would be a localized increase in ambient noise levels from construction equipment operating. The closest residence is approximately 1,800 ft of the repair site 2. Equipment will only operate during daylight and typical construction hours. Proposed work would be done from 7AM to 7 PM to limit noise impacts on surrounding properties. Wildlife in this agricultural area is likely habituated to periodic human activity and noise. No significant effects from noise are anticipated.

3.8. Utilities and Public Services

The levee protects 346 acres of agricultural land, residential properties, and associated public infrastructure, such as roads. No utilities are located in the levee at the construction location.

3.8.1. No-Action Alternative

Under the No-Action Alternative, a higher risk exists for flood damage to residences, commercial properties, roads, and other infrastructure. If levees are not repaired and flooding occurs due to breaches in weak sections of levees, local commercial and private citizens through increased flood damage to homes, agricultural operations, roads, and other commercial and residential infrastructure would be affected. Emergency flood fight efforts would likely be needed to protect lives and property during a flood event.

3.8.2. Repair In Kind Alternatives

The implementation of the proposed repair will prevent disruption of utilities and public services by protecting residences, commercial properties, roads, and other infrastructure from the potential damages resulting from flooding up to the pre-damaged level of protection. During construction activities, vehicles and equipment associated with the project may disrupt local traffic due to merging, turning, and traveling together. Reuse of materials will reduce the number of truck trips to and from the sites, and traffic controls will be used as needed to ensure public safety. Effects to utilities and public services as a result of the repair will be short-term and would not be significant.

3.9. Land Use and Recreation

Land use in the project area is primarily rural residential and agricultural. There are scattered homes and farms in the surrounding area.

Recreational uses of the Nooksack River at the project site is seasonal and moderate. There is no public access to the project area and access is discouraged by the land owners yet occasional public use of the area occurs. Uses include berry picking, wildlife observation, swimming, photography, hiking, and fishing.

3.9.1. No-Action Alternative

Implementation of the No-Action Alternative would not be expected to result in any land use changes. Under the No-Action Alternative, a higher risk exists for flood damage to residences, commercial properties, roads, and other infrastructure. Emergency flood fight efforts would likely be needed to protect lives and property during a flood event. These activities and local efforts to maintain the levees would be expected to be sufficient to maintain the existing land use and zoning within the floodplain behind the levee.

No effects to recreation would result from the No-Action Alternative. Any emergency repairs would occur during flood events when safety conditions would already limit recreational opportunities at the repair sites, regardless of construction activities.

3.9.2. Repair In Kind Alternative

During proposed construction activities, landowners surrounding the project areas may be disrupted while equipment and personnel access the construction areas via land easements. After completion of the entire project, residences, commercial properties, roads, and other infrastructure will be protected from the potential damages resulting from floods up to the pre-damaged level of protection. No effect to land use is expected.

Although the project site is gated and recreational use is discouraged, the project area is nevertheless used casually for berry picking, hiking, swimming, and other recreational activities. The project may temporarily disrupt these activities.

4.0 CUMULATIVE EFFECTS

Council on Environmental Quality (CEQ) regulations implementing NEPA require that the cumulative effects of a proposed action be assessed (40 CFR Parts 1500-1508). A cumulative effect is an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR § 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place (40 CFR § 1508.7). CEQ's guidance for considering cumulative effects states that NEPA documents "should compare the cumulative effects of multiple actions with appropriate national, regional, state, or community goals to determine whether the total effect is significant" (CEQ 1997).

Cumulative effects in ESA consultation refer to future nonfederal actions known or reasonably foreseeable in the project area. Whatcom County Division of Public Works has been working with the local Diking District as well as other interested parties (resource agencies, Tribes, landowners, etc) on a System Wide Improvement Framework (SWIF) that includes the project area. The SWIF process is an interagency approach lead by the local sponsor to optimize flood risk reduction by identifying longer-term solutions that efficiently use resources, prioritize corrective actions, and establish frameworks for coordinating overlapping or complementary programs or requirements. SWIF development is underway, with long-term goals of significant setbacks within the area. Dates for alternative selection and implementation are unknown. Implementation may include Federal funding or could be a wholly non-federal action.

Deming DD 2 is the nonfederal sponsor for the proposed repairs. The DD is responsible for maintaining and operating the Sande-Williams Levee and other flood control structures in the project area. The nonfederal sponsor will continue to maintain and operate the flood control structures. This would likely include bank repairs and vegetation maintenance within the action area. These actions are expected to maintain the status quo of the area. In addition, there is a known concern that the river could avulse into historic channels that run behind the levee. The levee was lengthened in an emergency action during a 2007 flood event because of these concerns. At this time, there are no plans to further lengthen the levee, instead other options such as buried boulders, logjams, etc. within the floodplain are being explored as ways to train the river back into the existing channel. However, the local sponsor or County may need to conduct emergency repairs and floodfights in this reach.

The cumulative effect of upcoming SWIF improvements would be beneficial to ESA-listed species, while the ongoing maintenance and potential emergency repairs have minor short-term impacts that maintain the status quo of the reach. The cumulative effect of the proposed action is expected to be minor.

Much of the upper basin is in relatively pristine condition. The North and Middle Forks lie largely within Mount Baker-Snoqualmie National Forest, where logging has occurred in some areas in the past, but where large areas are managed as a wilderness area (Mount Baker Wilderness). Levees are not common upstream of the site, but become more common downstream along more urbanized areas.

The proposed action will generally not change the cumulative effects that have already occurred, because the levee will be repaired generally as it was prior to the damage event. The repairs will not increase the size of the footprint of the levee. One possible exception to this is the likely effects on listed species described earlier. It is unknown whether these impacts will have long-term deleterious effects on population size or production.

The proposed levee repair would comprise the fourth repair to this particular levee since 2003. The last levee repair was in 2010. These repairs have resulted in short term and localized increases in turbidity and short term reduction in riparian habitat. Barring a catastrophic flood event, the Corps believes that this design will reduce the potential for failure and/or damage and anticipates that we will not need to repair the levee as often.

5.0 ENVIRONMENTAL COMPLIANCE

5.1. Federal Statutes

5.1.1. American Indian Religious Freedom Act

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

The project area falls within the traditional territory of the Nooksack Indian Tribe and Lummi Tribe. The Corps notified the Nooksack Indian Tribe and Lummi Tribe and asked the Tribes to identify any concerns and sought information about properties of religious or cultural significance that might be affected by the project. The Tribes did not identify any resources within the APE.

5.1.2. 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 take of either bald or golden eagles is likely through any of the actions discussed in this EA since no known nests occur closer than 2,500 feet to any of the work locations; however, if nests are observed, the Corps will consult with USFWS and depending on their advice, construction may be adjusted until the young fledge.

5.1.3. Clean Air Act

The Clean Air Act (CAA) (42 U.S.C. 7401 et seq.), amended in 1977 and 1990, was established "to protect and enhance the quality of the nation's air resources so as to promote public health and welfare and the productive capacity of its population." The CAA authorizes the EPA to establish the National Ambient Air Quality Standards to protect public health and the environment. The CAA establishes emission standards for stationary sources, volatile organic compound emissions, hazardous air pollutants, and vehicles and other mobile sources. The CAA requires the states to develop implementation plans applicable to particular industrial sources.

This EA analyzes effects on air quality from the proposed action; effects will be minimal, the project is exempt from the conformity requirements of the CAA because it will not exceed the *de minimis* threshold of emissions.

5.1.4. Coastal Zone Management Act

Under the Coastal Zone Management Act (CZMA) of 1972 (16 USCA 1451-1465), Sec. 307(c)(1)(A), "each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved state management programs."

Whatcom County is considered coastal under the CZMA. The Corps prepared and submitted a consistency determination to Ecology on 4 April 2016. Pursuant to 15 CFR 930.32(b), the Corps has determined that the work is consistent to the maximum extent practicable with the enforceable policies of the State Coastal Zone Management Program. The project is also consistent with the five other enforceable policies of the CZMA. Concurrence from Ecology of the project's consistency with the enforceable polices of the Washington State Coastal Zone Management Program was received on 2 June 2016.

5.1.5.Endangered Species Act

The ESA (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 NMFS and USFWS, as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or to adversely modify or destroy their critical habitats. A Biological Evaluation documenting the effects of the 2016 proposed repair on listed species was submitted on 31 June 2016 to the Services for informal consultation. Consultation is not yet concluded with NMFS and USFWS.

Flood season is considered to begin in the Nooksack River basin on 1 November and the in-water work window for the project area, which is an important way order to reduce impacts to listed species, is 15 June to 15 August. Due to the urgent nature of completing the emergency actions to protect human life and property and the effort to limit impacts to listed species by working within this window, and because the repair is time-critical in light of the ensuing 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. The Corps may then complete ESA consultation after the fact rather than delaying the urgent work in order to complete ESA consultation before construction. 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.

Though consultation is not complete, the Corps has reached an agency determination of species/habitat effect, based on the best factual and technical information available at the time of decision, and following preliminary coordination with the Services. Section 3.4 summarizes the effect determinations made in the Biological Evaluation for each of the species potentially affected by the project. In light of the conservation measures and best management practices that were/will be employed, the project is not reasonably expected to generate take of listed species by: (1) creating the likelihood of injury to listed

species by significantly disrupting normal behavior patterns including breeding, feeding, or sheltering, or (2) significantly modifying or degrading habitat to the extent that individual members of species would be actually killed or injured by significantly impairing essential behavior patterns including breeding, feeding, or sheltering.

The Corps believes that the levee is a part of the baseline condition of the river in this reach and that the proposed repair actions, with the best management practices/conservation measures and proposed mitigation, will have minimal impact on listed species. The Corps will commit to fully funding and performing any Reasonable and Prudent Alternatives necessary to avoid the likelihood of jeopardy to listed species or destruction/adverse modification of designated critical habitat, as well as Reasonable and Prudent Measures necessary and appropriate to minimize the impact of Incidental Take, that are described when a Biological Opinion is received from the USFWS. The EA will be reevaluated at the time that consultation is complete. If necessary, this EA will be supplemented with necessary and applicable corresponding modifications to the scope and/or nature of the project, the procedures and practices used to implement the project, and/or the type and extent of compensatory mitigation associated with the project.

5.1.6. Clean Water Act

The Clean Water Act (CWA) 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 does not issue permits for its own civil works activities. Nevertheless, the Corps evaluates its civil works projects for substantive compliance with Section 404, and whether they require as well as the obligation to the project to seek water quality certification under Section 401. The Corps concludes that the proposed repair of the Sande-Williams Levee is exempt from regulation under Section 404 of the CWA. The exemption from Section 404 under 33 USC 1344(f)(1)(B) applies to the proposed repair because all riverward work will be conducted on a currently serviceable structure (i.e. the levee) within the pre-damaged levee footprint and the character, scope, and size of the resulting structure will not change as compared to the original fill design. Therefore, the proposed repair does not require a 404 (b)(1) evaluation or a Section 401 Water Quality Certification.

Section 402 of the CWA would not be triggered by construction. The area of disturbance for proposed project including the staging areas would not be greater than 1 acre.

5.1.7. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), (16 U.S.C. 1801 et. seq.) requires Federal agencies to consult with NMFS on activities that may adversely affect Essential Fish Habitat (EFH). The objective of an EFH assessment is to determine whether the proposed action(s) "may adversely affect" designated EFH for relevant commercial or Federally-managed fisheries species within the proposed action area. The assessment describes conservation measures proposed to avoid, minimize, or otherwise offset potential adverse effects to designated EFH resulting from the proposed action. Effects on EFH are considered in this EA. The Corps has initiated consultation with NMFS on the effects to EFH in conjunction with consultation under Section 7 of the Endangered Species Act. As of the date of this EA, consultation remains incomplete. The Preferred Alternative is being coordinated with NMFS. This EA will be reevaluated at the time that consultation is complete.

EFH includes those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (16 U.S.C. 1801 et seq.). In order to qualify as freshwater EFH for Pacific salmon, four major components must exist:

- Spawning and incubation
- Juvenile rearing
- Juvenile migration corridors
- Adult migration corridors and adult holding habitat

Important features of EFH for spawning, rearing, and migration include adequate substrate composition, water quality (e.g. dissolved oxygen, nutrients, temperature, etc.), water quantity, depth and velocity, channel gradient and stability, food, cover and habitat (e.g. large woody debris, pools, channel complexity, aquatic vegetation), space, access and passage, and floodplain and habitat connectivity. EFH for Chinook, coho and pink salmon occurs in the project area (NMFS 2016).

Effects of the proposed work on EFH will be essentially identical to those discussed in Section 3.4 above, including temporary turbidity increases and loss of riparian vegetation. Substrate composition is largely unchanged from pre-flood conditions. Sande-Williams levee is armored and the repair replace materials in kind. The repair will place armoring along the project site. Short-term water quality changes may occur during construction due to increased turbidity. Overall, this effect is expected to be minimal. Water quantity, depth, velocity, channel gradient, stability, space, access, and passage were unaffected or returned to pre-flood conditions. Levees artificially create channel stability and reduce floodplain connectivity. These levee repairs maintain this diminished habitat function within the Nooksack Basin. Based on the above critical habitat analysis the Corps concludes that the proposed project *will not adversely affect EFH* for federally managed fisheries in Washington waters.

5.1.8. National Environmental Policy Act

NEPA (42 U.S.C. 4321 et seq.) provides a commitment that Federal agencies will consider the environmental effects of their actions. NEPA requires that an Environmental Impact Statement (EIS) be completed in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. Major Federal actions determined not to have a significant effect on the quality of the human environment are evaluated through an Environmental Assessment (EA). NEPA documents must provide detailed information regarding the proposed action and alternatives, the environmental effects of the alternatives, appropriate mitigation measures, and any adverse environmental effects that cannot be avoided if the proposal is implemented. Agencies are required to demonstrate that these factors have been considered by decision makers prior to undertaking actions.

This EA evaluates the environmental effects of the proposed 2016 levee repair. Of these Federal actions, the first has already taken place as of the finalization of this EA document, and is thus evaluated here retrospectively; the execution of 2015 repair is prospectively reviewed in this document. The following discussion assesses how the Corps has nevertheless complied with NEPA's requirements.

The Cooperation Agreement (CA) with the local sponsor was signed on 25 May 2016. The Corps' obligations under NEPA must be satisfied to the fullest extent possible prior to implementation of the Federal action of signing the CA. The CA was required to be signed on 25 May in order to meet solicitation and contracting schedules. Contracting schedules are constrained by the need to meet the in-water work window of 15 June to 15 August. Meeting the in-water work window is critically important for reduction of impacts to sensitive species (i.e. ESA-listed salmonids and important tribal fisheries). If these dates cannot be met, the project is in jeopardy of delay until the next available work window in summer 2016, leaving the levees in their damaged condition through the upcoming flood season.

The proposed repairs are considered "emergency actions" because they are necessary to protect human life and property and because they are critical to the restoration of the pre-flood level of protection prior to the upcoming flood season, which is considered to occur from 1 November through 31 March. Under NEPA, the Corps 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 Public Law 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."

Due to the funding timeline, it is not feasible for the Corps to complete NEPA procedures prior to committing to and initiating the Federal action, which was signing the CA with Deming Diking District. The damaging flood event occurred in Fall-Winter 2014 and 2015 and Deming Diking District's request for assistance were dated 7 March 2015 and 11 January 2016. Initial assessment of the damage were conducted on 25 February 2015. The Project Information Report was prepared and provided to NWD on 18 December 2015. NWD approved the project on 1 February 2016. The winter of 2016, requests for repairs in addition to the repair at Sande-Williams Levee were received and evaluated for approximately 33 new sites, culminating in 19 proposed projects. The Corps evaluated the number of projects in relation to available labor capacity. Seattle District determined that it had insufficient manpower to complete the required analyses and documents for all projects in such a compressed period of time.

This surge of investigation, design, and coordination effort has strained the available Corps' staff resources, as well as the resources of the coordinating agencies, slowing progress on evaluation and coordination of each individual project, including Sande-Williams Levee repair. Site 2 was added in April 2016.

Completion of the entire NEPA documentation prior to signing the Cooperation Agreements with the DDs – while still fulfilling the agency's emergency levee rehabilitation authorities and responsibilities under Public Law 84-99 – was impossible in this instance. Since the arrival of funding, insufficient time was available to identify alternatives, and coordinate, assess, and document the environmental impacts prior to the date on which the signing of the CA was necessary. Therefore, the agency complied with NEPA "to the fullest extent possible" under the circumstances.

In accordance with the NEPA, federal projects are required to disclose potential environmental impacts and provide opportunity for public involvement. A Notice of Preparation (NOP) and NOP Addendum has been issued, inviting comments from interested agencies, Tribes, and members of the public. NOP Addendum was prepared to notify the public of the addition of site 2. The NOP and NOP Addendum were issued 15 April 2016 and 13 May 2016, respectively. The public comment period closed on 23 May

2016. One comment was received from Suquamish Tribe stating they have no comment on the project. No other comments were received. (See Appendix E).

This EA has been prepared pursuant to NEPA Sec. 102(C). Effects on the quality of 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. Accompanying this EA is a Finding of No Significant Impact (FONSI).

5.1.9. National Historic Preservation Act

Section 106 of the National Historic Preservation Act requires that a federally assisted or federally permitted project account for the potential effects on sites, districts, buildings, structures, or objects that are included in or eligible for inclusion in the National Register of Historic Places. The Washington State Historic Preservation Officer (SHPO) agreed with our determination of the APE on 8 June 2016 (in Appendix D).The Project area has been reviewed and a finding of No Historic Properties Affected was transmitted to the SHPO on 14 June 2016. The SHPO agreed with our determination on 16 June 2016.

5.1.10. Treaty Rights

The Federal trust responsibility to Native American Tribes arises from the treaties signed between them. Under Article VI, Clause 2 of the U.S. Constitution, treaties with the Tribes are the supreme law of the land, superior to State laws, and equal to Federal laws. In these treaties, the United States made a set of commitments in exchange for tribal lands, including the promise that the United States would protect the tribe's people. The Supreme Court has held that these commitments create a trust relationship between the United States and each treaty tribe, and impose upon the federal government "moral obligations of the highest responsibility and trust." The scope of the Federal trust responsibility is broad and incumbent upon all Federal agencies. The U.S. government has an obligation to protect tribal land, assets, and resources that it holds in trust for the Tribes, and a responsibility to ensure that its actions do not abrogate Tribal treaty rights.

In the mid-1850s, the United States entered into treaties with many Native American tribes in the Northwest. These treaties guaranteed the signatory tribes the right to "take fish at usual and accustomed grounds and stations . . . in common with all citizens of the territory" [U.S. v. Washington, 384 F. Supp. 312 at 332 (WDWA 1974)]. In U.S. v. Washington, 384 F. Supp. 312 at 343 - 344, the court resolved that the Treaty tribes had the right to take up to 50 percent of the harvestable anadromous fish runs passing through those grounds, as needed to provide them with a moderate standard of living (Fair Share). Over the years, the courts have held that this right comprehends certain subsidiary rights, such as access to their "usual and accustomed" fishing grounds. More than de minimis effects to access to usual and accustomed (U&A) fishing area may violate this treaty right [Northwest Sea Farms v. Wynn, F. Supp. 931 F. Supp. 1515 at 1522 (WDWA 1996)]. In U.S. v. Washington, 759 F.2d 1353 (9th Cir 1985) the court indicated that the obligation to prevent degradation of the fish habitat would be determined on a case-by-case basis. The Ninth Circuit has held that this right encompasses the right to take shellfish [U.S. v. Washington, 135 F.3d 618 (9th Cir 1998)].

The proposed project has been analyzed with respect to its effects on the treaty rights described above. Project information was sent to the Nooksack Indian Tribe and Lummi Nation in addition to other Tribes with interests in the area. One comment was received from Suquamish Tribe stating they have no comment on the project. No other comments were received (see Appendix E).

5.2. Executive Orders

5.2.1. 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. This EA concludes that the project would have no effect on wetlands as none exist within the project area.

5.2.2.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 (Engineering Regulation 500-1-1), the provisions of EO 11988 are normally not applicable to the repair of flood control works to the pre-disaster condition, as the repair actions do not directly affect either the modification or occupancy of floodplains, and do not directly or indirectly impact floodplain development. The proposed project does not constitute a major rehabilitation project, require extensive engineering and design, or significantly change the project footprint and therefore is not required to be evaluated for its impact on the floodplain.

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

Executive Order 12898 directs every Federal agency to identify and address disproportionately high and adverse human health or environmental effects of agency programs and activities on minority and low-income populations.

The project does not involve establishing a facility that will discharge pollutants or contaminants, so no human health effects will occur. The levee rehabilitation work will not decrease property values in the area, or socially stigmatize local residents or businesses in any way. No interference with Native American Nations' treaty rights will result from the proposed project. The Corps has determined that no disproportional effects will occur for minority or low-income populations.

6.0 AGENCIES CONSULTED

The Corps contacted the following entities during the environmental coordination of this project:

- National Marine Fisheries Service (NMFS)
- Nooksack Indian Tribe
- Deming Diking District
- Lummi Tribe
- U.S. Fish and Wildlife Service (USFWS)
- Washington Department of Fish and Wildlife (WDFW)
- Washington Department of Ecology (Ecology)
- Washington State Historic Preservation Officer (SHPO)
- Washington State Department of Archaeology and Historic Preservation (DAHP)

Coordination with the above listed agencies and tribes consisted of providing project information at the start of the public comment period, phone conversations, and e-mail exchanges. Topics discussed during

this coordination include project design, project construction timing, effects to listed species, and other environmental concerns.

A NOP for the Sande-Williams Levee Rehabilitation Project was issued for a public comment on 15 April 2016. A NOP Addendum was issued for public comment on 13 May 2016 to include site 2. The public comment period closed on 23 May 2016. One comment was received (Appendix E).

7.0 CONCLUSION

In light of the minor expected effects, the Repair in Kind Alternative for the proposed Sande-Williams Levee Rehabilitation would not generate significant impacts on the quality of the human environment, and thus the preparation of an EIS is not required.

8.0 REFERENCES

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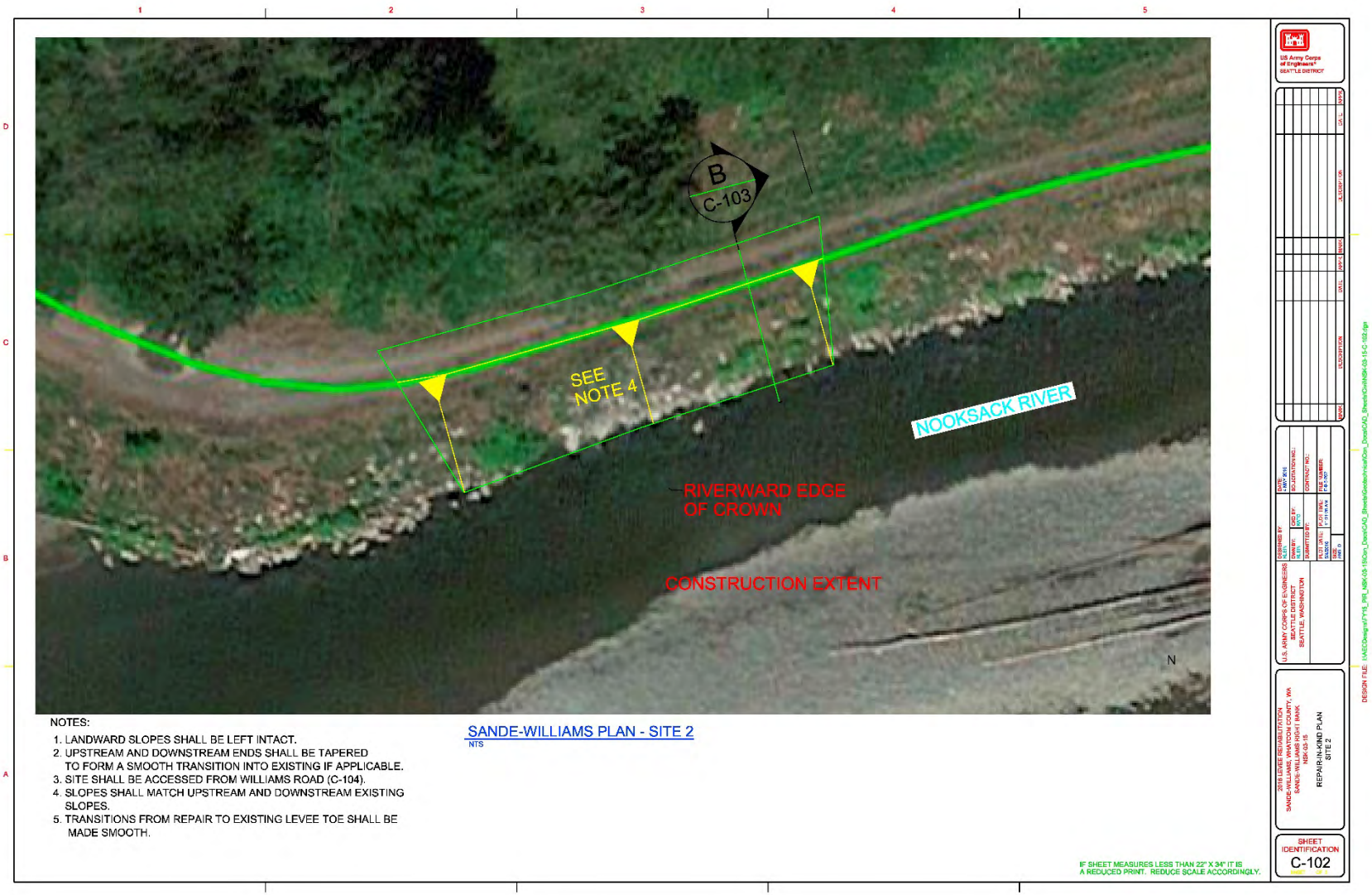
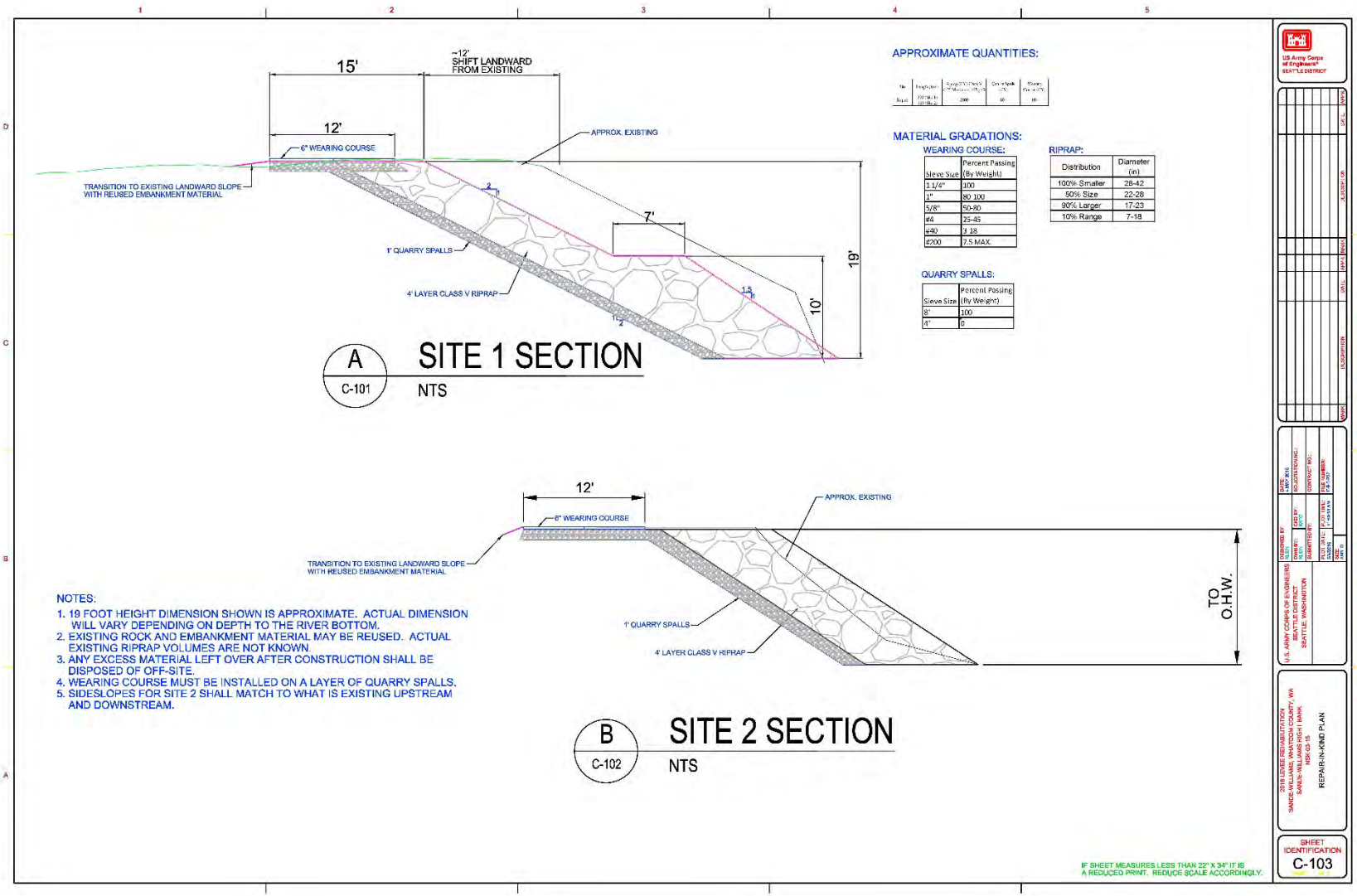
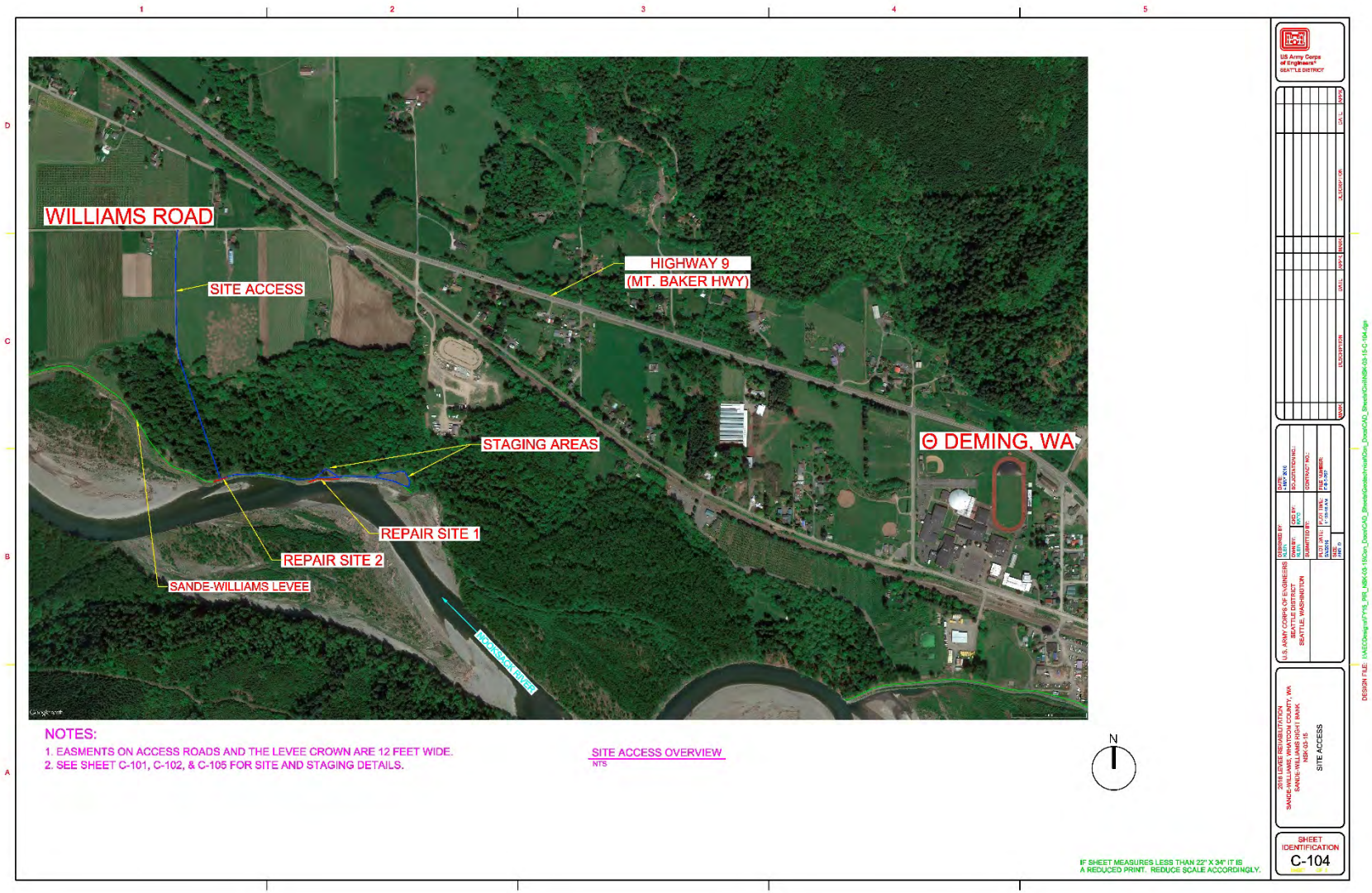
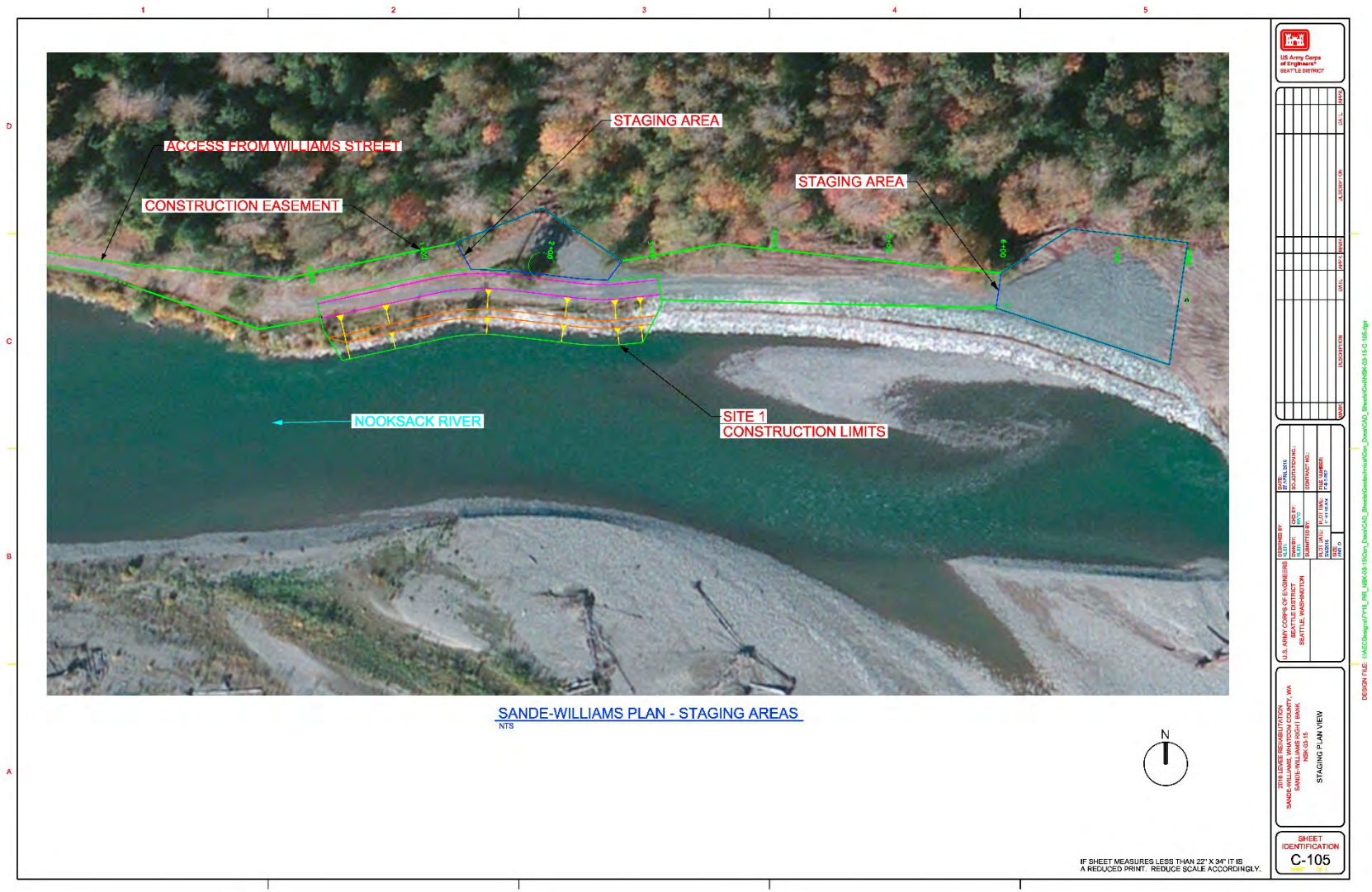
APPENDIX A: DESIGN DRAWINGS


CONSTRUCTION EASEMENT
A
C-103
TREE TO BE REMOVED
2+00
3+00
1+00
0+00
EDGE OF ROAD
LANDWARD EDGE OF WORK
2H:1V
2H:1V
2H:1V
2H:1V
1.5H:1V
1.5H:1V
1.5H:1V
TIE IN TO EXISTING BENCH UPSTREAM
TAPER TO EXISTING
NOOKSACK RIVER
CONSTRUCTION EXTENT
7' ROCK BENCH
SANDE-WILLIAMS PLAN - SITE 1
1"=30'
N
NOTES:
1. LANDWARD SLOPES SHALL BE BLENDED INTO EXISTING LANDWARD AREA.
2. UPSTREAM AND DOWNSTREAM ENDS SHALL BE TAPERED TO FORM A SMOOTH TRANSITION INTO EXISTING.
3. SITE SHALL BE ACCESSED FROM WILLIAMS ROAD.
4. WHEN TREE IS REMOVED, REMOVED ROOTS UP TO A HALF INCH IN DIAMETER. REPLACE WITH EMBANKMENT MATERIAL AND WEARING COURSE AS NEEDED.
IF SHEET MEASURES LESS THAN 22" X 34" IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY.
US Army Corps of Engineers
SEATTLE DISTRICT
U.S. ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
SEATTLE, WASHINGTON
2016 LEVEE REHABILITATION
SANDE-WILLIAMS, WHATCOM COUNTY, WA
SANDE-WILLIAMS LEVEE / NOOKSACK RIVER
NSK-03-15
REPAIR-IN-KIND PLAN
SITE 1
SHEET IDENTIFICATION
C-101


B
C-103
SEE
NOTE 4
NOOKSACK RIVER
RIVERWARD EDGE
OF CROWN
CONSTRUCTION EXTENT
N
NOTES:
1. LANDWARD SLOPES SHALL BE LEFT INTACT.
2. UPSTREAM AND DOWNSTREAM ENDS SHALL BE TAPERED TO FORM A SMOOTH TRANSITION INTO EXISTING IF APPLICABLE.
3. SITE SHALL BE ACCESSED FROM WILLIAMS ROAD (C-104).
4. SLOPES SHALL MATCH UPSTREAM AND DOWNSTREAM EXISTING SLOPES.
5. TRANSITIONS FROM REPAIR TO EXISTING LEVEE TOE SHALL BE MADE SMOOTH.
SANDE-WILLIAMS PLAN - SITE 2
NTS
IF SHEET MEASURES LESS THAN 22" X 34" IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY.
US Army Corps of Engineers
SEATTLE DISTRICT
U.S. ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
SEATTLE, WASHINGTON
2016 LEVEE REHABILITATION
SANDE-WILLIAMS, WHATCOM COUNTY, WA
SANDE-WILLIAMS LEVEE / NOOKSACK RIVER
NSK-03-15
REPAIR-IN-KIND PLAN
SITE 2
SHEET IDENTIFICATION
C-102


15'
12'
SHIFT LANDWARD FROM EXISTING
12'
6" WEARING COURSE
APPROX. EXISTING
TRANSITION TO EXISTING LANDWARD SLOPE WITH REUSED EMBANKMENT MATERIAL
2:1
7'
1' QUARRY SPALLS
4' LAYER CLASS V RIPRAP
1.5:1
1:2
19'
10'
A
C-101
SITE 1 SECTION
NTS
APPROXIMATE QUANTITIES:
MATERIAL GRADATIONS:
WEARING COURSE:
Sieve Size | Percent Passing (By Weight)
3 1/4" | 100
1" | 80-100
5/8" | 50-80
#4 | 25-45
#40 | 3-18
#200 | 7.5 MAX.
RIPRAP:
Distribution | Diameter (in)
100% Smaller | 26-42
50% Size | 22-28
90% Larger | 17-23
10% Range | 7-18
QUARRY SPALLS:
Sieve Size | Percent Passing (By Weight)
8" | 100
4" | 0
12'
6" WEARING COURSE
APPROX. EXISTING
TRANSITION TO EXISTING LANDWARD SLOPE WITH REUSED EMBANKMENT MATERIAL
1' QUARRY SPALLS
4' LAYER CLASS V RIPRAP
TO O.H.W.
B
C-102
SITE 2 SECTION
NTS
NOTES:
1. 19 FOOT HEIGHT DIMENSION SHOWN IS APPROXIMATE. ACTUAL DIMENSION WILL VARY DEPENDING ON DEPTH TO THE RIVER BOTTOM.
2. EXISTING ROCK AND EMBANKMENT MATERIAL MAY BE REUSED. ACTUAL EXISTING RIPRAP VOLUMES ARE NOT KNOWN.
3. ANY EXCESS MATERIAL LEFT OVER AFTER CONSTRUCTION SHALL BE DISPOSED OF OFF-SITE.
4. WEARING COURSE MUST BE INSTALLED ON A LAYER OF QUARRY SPALLS.
5. SIDESLOPES FOR SITE 2 SHALL MATCH TO WHAT IS EXISTING UPSTREAM AND DOWNSTREAM.
IF SHEET MEASURES LESS THAN 22" X 34" IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY.
US Army Corps of Engineers
SEATTLE DISTRICT
U.S. ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
SEATTLE, WASHINGTON
2016 LEVEE REHABILITATION
SANDE WILLIAMS, WHATCOM COUNTY, WA
SAMISH RIVER, SAMISH BAY
NSR 03-15
REPAIR-IN-KIND PLAN
SHEET IDENTIFICATION
C-103


WILLIAMS ROAD
SITE ACCESS
HIGHWAY 9
(MT. BAKER HWY)
STAGING AREAS
DEMING, WA
REPAIR SITE 1
REPAIR SITE 2
SANDE-WILLIAMS LEVEE
NOOKSACK RIVER
NOTES:
1. EASMENTS ON ACCESS ROADS AND THE LEVEE CROWN ARE 12 FEET WIDE.
2. SEE SHEET C-101, C-102, & C-105 FOR SITE AND STAGING DETAILS.
SITE ACCESS OVERVIEW
NTS
N
IF SHEET MEASURES LESS THAN 22" X 34" IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY.
US Army Corps of Engineers
SEATTLE DISTRICT
U.S. ARMY CORPS OF ENGINEERS
SEATTLE DISTRICT
SEATTLE, WASHINGTON
2016 LEVEE REHABILITATION
SANDE-WILLIAMS, WHATCOM COUNTY, WA
SANDE-WILLIAMS LEVEE / BANK
NSK-03.15
SITE ACCESS
SHEET IDENTIFICATION
C-104


ACCESS FROM WILLIAMS STREET
CONSTRUCTION EASEMENT
STAGING AREA
STAGING AREA
NOOKSACK RIVER
SITE 1
CONSTRUCTION LIMITS
SANDE-WILLIAMS PLAN - STAGING AREAS
NTS
N
IF SHEET MEASURES LESS THAN 22" X 34" IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY.
U.S. ARMY CORPS OF ENGINEERS SEATTLE DISTRICT SEATTLE, WASHINGTON
2016 LEVEE REHABILITATION SANDE-WILLIAMS, WHATCOM COUNTY, WA NOOKSACK RIVER, RIVER MILE 1.6 MAIN NSK-03-15
STAGING PLAN VIEW
SHEET IDENTIFICATION
C-105

APPENDIX B: COASTAL ZONE MANAGEMENT ACT DOCUMENT

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

June 2, 2016

Evan Lewis
Chief, Environmental and Cultural Resources Branch
U.S. Army Corps of Engineers, Seattle District
PO Box 3755
Seattle, WA 98124

RE: **Coastal Zone Consistency for 2016 Sande-Williams Levee Rehabilitation Project – Deming Diking District #2, Nooksack River, near Deming, Whatcom County, Washington**

Dear Mr. Lewis:

On April 4, 2016, U.S. Army Corps of Engineers, Seattle District (Corps) submitted a Consistency Determination with the Washington State Coastal Zone Management Program (CZMP) for rehabilitation of the Sande-Williams Levee. A revised project description was submitted on May 20, 2016, including a statement affirming that the project remains consistent with the Washington's CZMP.

The proposal entails repairs of a levee at two sites:

Site 1 (48°49'36.88"N, 122°14'33.43"W):
Repair 300 feet of levee in order to restore the pre-flood level of protection at the damage location. The repair would consist of re-sloping the levee and shifting the crest landward by excavating the existing levee material, replacing levee material with a 1-foot-thick quarry spall layer covered by 4-foot-thick Class V riprap on an approximately 2H:1V slope, with a 7-foot-wide launchable toe with a 1.5H:1V slope.

Site 2 (48°49'36.78"N, 122°14'44.71"W):
Repair approximately 100 linear feet of levee, 550 feet downstream from Site 1. The repair would consist of removing and replacing the spall layer and Class V riprap armor along the riverward slope above Ordinary High Water. The repair would transition to both the upstream and downstream ends.

The project is located along the right bank of the Nooksack River, at approximately River Mile 34, just downstream of Deming, Whatcom County, Washington, Sections 35 and 36, T. 39 N., R. 4E., WRIA 1.

Pursuant to Section 307(c)(3) of the Coastal Zone Management Act of 1972 as amended, Ecology concurs with the Corps' determination that the proposed work is consistent with Washington's CZMP.

If you have any questions regarding Ecology's consistency determination please contact Rebekah Padgett at (425) 649-7129.

YOUR RIGHT TO APPEAL

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 1111 Israel RD SW STE 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Sincerely,

Erik Stockdale

Erik Stockdale, Section Manager
Shorelands and Environmental Assistance Program
Northwest Regional Office

ES:rrp:ap

By certified mail 7012 1640 0000 6245 8187

cc: Joel Ingram, Washington Department of Fish and Wildlife
Tammy Armstrong, Washington Department of Natural Resources
Andrew Hicks, Whatcom County Planning & Development

e-cc:

Evan Lewis, U.S. Army Corps of Engineers	evan.r.lewis@usace.army.mil
Bobbi Jo McClain, U.S. Army Corps of Engineers	Bobbi.J.Mcclain@usace.army.mil
Hannah Hadley, U.S. Army Corps of Engineers	hannah.f.hadley@usace.army.mil
Chad Yunge – BFO	
Loree' Randall – HQ	
Bob Wright – NWRO	
Art Anderson	aartmarcia@gmail.com
ecyrefedpermits@ecy.wa.gov	

APPENDIX C: ENDANGERED SPECIES ACT COORDINATION

PENDING

APPENDIX D: NATIONAL HISTORIC PRESERVATION ACT DOCUMENT

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

June 16, 2016

Mr. Evan Lewis
Environmental & Cultural Resources
Seattle District
Corps of Engineers
PO Box 3755
Seattle, Washington 98124

Re: Sande-Williams Levee Rehabilitation Project
Log No.: 2016-06-04046-COE-S

Dear Mr. Lewis:

Thank you for contacting our department. We have reviewed the materials you provided for the proposed Sande-Williams Levee Rehabilitation Project near Deming, Whatcom County, Washington.

We concur with your Determinations of No Historic Properties Affected.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and the concerned tribe's cultural staff and cultural committee and this department notified.

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in compliance with the Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations 36CFR800.4. Should additional information become available, our assessment may be revised, including information regarding historic properties that have not yet been identified. Thank you for the opportunity to comment and a copy of these comments should be included in subsequent environmental documents.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360) 890-2615
email: *rob.whitlam@dahp.wa.gov*

State of Washington • **Department of Archaeology & Historic Preservation**
P.O. Box 48343 • Olympia, Washington 98504-8343 • (360) 586-3065
www.dahp.wa.gov

APPENDIX E: COMMENTS AND RESPONSES TO PUBLIC NOTICE

From: Alison Osullivan
To: Hadley, Hannah F NWS
Subject: [EXTERNAL] RE: 2016 Rehabilitation of Sande-Williams Levee Project - Addendum
Date: Saturday, May 21, 2016 12:10:17 AM

The Suquamish Tribe will not be reviewing or providing comment on the proposed project.
Alison

-----Original Message-----
From: Hadley, Hannah F NWS [mailto:Hannah.F.Hadley@usace.army.mil]
Sent: Friday, May 13, 2016 12:49 PM
To: Hadley, Hannah F NWS <Hannah.F.Hadley@usace.army.mil>
Cc: Mcclain, Bobbi J NWS <Bobbi.J.Mcclain@usace.army.mil>
Subject: 2016 Rehabilitation of Sande-Williams Levee Project - Addendum

Dear Sir and Madam,

Interested parties are hereby notified that the U.S. Army Corps of Engineers, Seattle District (Corps) plans to prepare, pursuant to the National Environmental Policy Act (NEPA), an Environmental Assessment (EA) for proposed levee repair to the Sande-Williams Non-Federal Levee in the Nooksack River basin near the City of Deming, Whatcom County, Washington.

An original Notice of Preparation (NOP) was published on April 15, 2016, however additional damage (100 feet) has been found since and is being proposed for addition to the project. As such, the attached NOP Addendum is being distributed to provide information to the public. The public notice period has been extended to May 23, 2016.

Submit comments to the address at the top of the attached NOP or to hannah.f.hadley@usace.army.mil no later than May 23, 2016. The Corps has posted the attached NOP Addendum at the following website:
Blockedhttp://www.nws.usace.army.mil/Missions/Environmental/EnvironmentalDocuments.aspx
under "Addendum - Rehabilitation of the Sande-Williams Levee."

Regards,

Hannah Hadley
Environmental Coordinator
US Army Corps of Engineers, Seattle District
206) 764-6950
P.O. Box 3755
Seattle, WA 98124-3755

Corps response: Thank you for your interest in the project.