



**US Army Corps
of Engineers®**

Seattle District

Notice of Preparation

Planning, Environmental and Cultural
Resources Branch
P.O. Box 3755
Seattle, WA 98124-3755
ATTN: Zachary Wilson (PMP-E)

Public Notice Date: 9 May 2019

Expiration Date: 8 June 2019

Reference: PMP-19-04

Name: Twin View Levee Rehabilitation

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 repairs to the Twin View Levee located on the Nooksack River, in Whatcom County, Washington. The repair is intended to address damage caused by high river flows in early November 2018. The purpose of this Notice of Preparation (NOP) is to solicit comments from interested persons, groups, and agencies on the Corps' proposed action under NEPA.

AUTHORITY

The proposed levee repair is 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. Whatcom County is the non-Federal Sponsor for the Twin View Levee.

In response to Sponsor's request, the Corps prepared a Project Information Report (PIR) for rehabilitation of the Twin View levee which received U.S. Army Corps of Engineers Northwestern Division (Division) approval on 20 March 2019.

PROJECT NEED AND LOCATION

The Corps estimates the level of risk reduction has been reduced from 10% Annual Chance of Exceedance (ACE), or 10-year level of protection (LOP), to a 100% ACE (1-year LOP). Any event with frequency less than 100% ACE will most likely result in 3 feet of inundation and pooling within the leveed area.

The Twin View Levee is located along the left bank of the Nooksack River, near the town of Everson, Washington, Whatcom County (Section 31, Township 40 North, Range 4 East). The levee is a little over 1.5 miles long and consists of earthen material with sod and riprap for scour protection. Immediately behind the levee is a blueberry farm, a high-value agricultural crop, and associated structures. Near the landward extent of the leveed area is a major road into Everson with residential and commercial properties. A gas pipeline also crosses through the leveed area.

About 1.5 inches of rain fell on upper watershed areas of Nooksack River on 1 & 2 November 2018. Gages with historic flow records were examined to conduct frequency analysis on the flood event. Based on flows recorded near North Cedarville (gage 12210700, upstream from damage) and Ferndale (gage 12213100, downstream from damage), the Corps estimates the storm event that damaged the Twin View Levee was a 5-year flood event. A second event occurred on 27 November 2018. This analysis of the gages near North Cedarville and Ferndale determined it was a 2-year flood event.

November flooding caused the riverward toe and embankment material, up to the top of the levee in some areas, to be scoured away. Damage was identified along 250 feet, between levee stations (STA) 55+25 and 57+75.

THE PURPOSE

The purpose of the proposed project is to restore the level of flood protection that existed prior to the damaging event in order to protect lives and property from subsequent flooding.

ALTERNATIVES

NEPA and 33 CFR Part 230 Procedures for Implementing NEPA require a reasonable range of alternatives be considered during the planning process. Alternatives considered under NEPA must include, at least, the proposed action and the “No Action” Alternative, which provides a baseline from which to compare other alternatives. The alternatives identified below were evaluated to determine if they satisfy the purpose and need of the Federal Project:

- **Alternative 1 No-Action.**
No project features would be implemented by the Corps under the No Action Alternative. The Twin View Levee would be left in a damaged condition for the near future. The No Action Alternative would reduce the level of protection and increase probability of increased damages or breaching. The No Action Alternative poses an increased risk to health and safety due to the potential for additional flood damage.
- **Alternative 2 Repair In-Kind**
The Repair In-Kind Alternative would restore 250 feet of levee to restore the damaged section back to its undamaged condition. New embankment material would be brought in to rebuild the levee prism where it has been scoured away and missing armor along the toe and slope replaced. This would entail removal and replacement of materials, reshaping the riverward slope, and restoring the riverward toe. Due to the hydraulic dynamics and the configuration of the levee alignment, the project area is susceptible to future erosion and scour which would diminish the longevity and integrity of the rehabilitation. It is for this reason that the Repair In-Kind Alternative is not ideal from a technical perspective.
- **Alternative 3 Non-Structural**
The Non-Structural Alternative consists of floodplain management strategies generally involving changes in land use offered by other Federal and state

programs. Strategies would include: zoning, easements, flood warning, floodplain evacuation, and flood insurance. Nonstructural strategies involve acquisition, relocation, elevation, and flood proofing existing structures. The costs and timeframe for implementing this alternative makes it impractical. Furthermore, the participation of the non-Federal sponsor would be required to implement the Non-Structural Alternative, and the Sponsor has not agreed to meet the various obligations in executing a Non-Structural Alternative.

- **Alternative 4 Setback Levee**

The Setback Alternative, also referred to as the layback alternative in other project documents, would shift the levee landward, approximately 17 feet, in order to avoid or minimize direct contact with the river current. The setback would be a reconstructed earth embankment structure with riprap armor and launchable toe and would remove or abandon a portion of the existing levee prism located on the river bank. The attached design drawings show the existing pre-damaged levee footprint and the proposed setback footprint. The Setback Levee Alternative is the Preliminarily Recommended Alternative.

THE PRELIMINARILY RECOMMENDED ALTERNATIVE

The Preliminarily Recommended Alternative is the Setback Levee Alternative. This alternative would restore flood risk reduction provided by the Twin View Levee by restoring the levee to pre-flood level of protection landward of its existing alignment at the project location. Mobilization, construction, and cleanup is scheduled to start in late July 2019, with all construction completed by 13 September 2019. In-water work would occur between August 5 and August 31. This is within the designated fish window of June 15 to August 31. The typical construction sequencing would occur as follows:

- Hold pre-construction meeting to ensure project goals, objectives, and all environmental responsibilities are understood.
- Field-stake project footprints and install proper Best Management Practices (BMPs).
- Establish staging and material re-handling site (as necessary).
- Clear and prepare site (as necessary).
- Construct the levee embankment rehabilitation project in accordance with the details shown on the plans. This would require the removal of any remnant armoring which should be salvaged and re-used as practical and in accordance with the gradations required. All sloughed or disturbed material shall be removed and the cross-sections constructed as shown on the details to include all buried/launchable toes, armored slopes and levee embankment.
- Place topsoil and hydroseed along levee crown for the access road and any other areas of disturbance to restore the region to the existing condition prior to construction.
- Clean up and restore disturbed landward staging and access sites.

Approximately 300 linear feet of the Twin View Levee would be laid back to restore flood risk reduction. Site photos, location, and design plans are attached to this notice. Work would follow the sequences described below.

Component 1: Site Preparation

This phase includes preparing access routes and preparing the existing prism for material removal. The site limits would be clearly marked using stakes and flagging. Access to the repair site would be along existing access road and the levee top. Staging activities would be restricted to the levee top and behind the levee (see attached drawings). Staging activities consist of temporary stockpiling of excess rock, supplies, equipment, and vehicles.

Component 2: Levee Repair Construction

Construction would begin with deconstructing and excavating the existing levee by removing, salvaging and stockpiling remnant riprap and embankment material as practicable. Embankment material within the repair footprint would be removed and stockpiled for reuse in the new alignment embankment. Where embankment material is outside of the design footprint (riverward of the new toe location), a portion of the old levee may remain. However, this material may be largely removed as it falls into the excavated area. As practicable, deconstruction of the old levee would occur down to the water level at time of the repair, except where excavation is needed to construct the new levee alignment. Deconstruction and reconstruction of the levee would include removal of approximately 22 trees and 0.15 acres of vegetated understory consisting of grass and shrubs that have grown over the levee slope. Stockpiling of excavated riprap and other material would occur in Whatcom County approved areas or disposed of off-site.

The new levee prism would then be graded as necessary to achieve a 2H:1V slope. Once the necessary slope grade is achieved a 12-inch layer of filter spalls would be placed over the levee embankment material and capped with a 3-foot thick blanket of Class IV riprap. Along the levee toe a launchable or buried toe would be constructed (see cross section D4 and C4 in the attached designs). The type of toe is dependent on whether it is constructed in-water (cross section D4) or buried in the ground landward of the shoreline in an elevated terrace between the levee and the river (cross section C4). The entire repair length is approximately 300 feet, including transition into the existing upstream and downstream portions of the levee.

Component 3: Cleanup

After repairs, topsoil would be placed as shown on the plans and hydroseeded. Hydroseed would also be applied on riverward exposed soils. To mitigate for vegetation impacts resulting from the repair, 90 conifers would be planted in the riparian area downstream of the repair. Human influence has largely removed conifer trees from the riparian area. Large conifers are key characteristics of a mature riparian forest because they can provide functional large woody debris and shade.

CONSERVATION MEASURES

Conservation measures for effects of proposed actions are evaluated as part of the NEPA process. Conservation measures could take any of the following forms:

- Avoiding effects altogether by not taking a certain action or parts of an action.
- Minimizing effects by limiting the degree or magnitude of the action and its implementation.
- Rectifying effects by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating effects over time by preservation and maintenance actions during the life of the action.
- Compensating for effects by replacing or providing substitute resources or environments.

The Corps has developed a list of conservation measures and incorporated these into the levee repair to reduce environmental impacts of the repair to endangered and threatened listed species. This list and the BMPs described below may be amended during the NEPA process. For this project the conservation measures are:

- Levee Alignment The preliminary recommended alternative sets the levee landward in a new alignment which would increase conveyance.
- Hydroseed and Mulch Disturbed soils would be hydroseeded as appropriate. This would reduce runoff from the site and speed up revegetation by providing an organic base and help in retaining a soil layer in disturbed areas.
- Repair Sequence Conducting repairs in an upstream to downstream fashion would act as a localized flow deflector and help manage flows in the installation areas. This would help reduce impacts related to turbidity and isolate the site further from the river.
- Native Plantings Willow stakes or bundles were not included in the new levee alignment due to engineering concerns in a high-energy reach. Instead, 90 conifer trees would be planted within the riparian area as mitigation for vegetation loss. The number of plantings was calculated using a 3:1 replacement ratio for tree loss and adding additional plantings to offset shrub loss. All vegetation removal would be limited to the repair sites. Any large wood removed as part of the clearing process would be stockpiled and placed unanchored into the river when construction is complete.
- Rock Placement All rocks would be carefully placed and no dumping of rocks in-water would occur.
- Repair Timing All in-water work would be accomplished during the established work window of June 15 to August 31. This would reduce impacts to aquatic species by conducting work during a time period that avoids migration, spawning, rearing to the greatest extent feasible.
- Post-Construction Review of Conservation Measures The repair site would be examined after the repair is completed. If conservation measures and repairs are different than described here, or what is depicted in the plans, they would be

recorded and described. This would be provided to the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS).

- Monitoring Planting Success Monitoring and adaptive management, including replacement and maintenance, after the first year would be conducted. If after the first year less than 80% of the plantings survive, all the dead plantings would be replaced. If replacement is done the plantings would be monitored for an additional year following any replanting that is required. The Corps would also inform the sponsor that these plantings are part of the repair and its mitigation, and should only be trimmed to the minimal amount necessary to retain adequate visual fields for inspection of the structure.

BEST MANAGEMENT PRACTICES

Construction BMPs as suggested by the Washington State Department of Ecology (Ecology) during previous rehabilitations and flood fights would be included during the construction. The following list of BMPs would be incorporated into the action. Some are integrated into the repair, while others are guides to operation and care of equipment. Note, some of these have been elaborated above as conservation measures and are included in the BMP list for construction purposes. This list may be amended during the NEPA coordination.

1. Work area is restricted to areas of the existing flood control structure.
2. All work done in the water is scheduled to occur during the in-water work window (June 15 to August 31) identified by the Washington Department of Fish and Wildlife.
3. The repair uses the steepest slope consistent with Corps engineering standards to reduce riverward impacts.
4. Rock placement would occur only within the project footprint.
5. Material placed into the water (riprap, spall rock) shall be placed individually or in small bucket loads. No end dumping of rock into the water would occur.
6. Rock placement would occur from the upstream end of the project to the downstream end so that the placed rock would act as a localized flow deflector and help manage flows in the installation areas.
7. Water quality monitoring for turbidity would be conducted during construction.
8. Vegetation removal would be limited to the repair site.
9. Plantings would be provided to the non-Federal Sponsor to plant downstream of the repair. Plantings would consist of 90 conifer trees.
10. All removed trees and rootwads would be placed into the river. Rootwads would remain attached to the tree, to the extent feasible.
11. The local sponsor would monitor, replace, and maintain the plantings for 1 year after the repair.
12. Hydroseed would be utilized on disturbed soils as appropriate.

13. All site access routes and staging areas would be repaired and hydrosseeded to restore the project to existing condition or better.
14. Refueling would occur on the back side of the levee or in staging areas away from the river.
15. Equipment used near the water would be cleaned prior to construction.
16. Biodegradable hydraulic fluids would be used in machinery where appropriate.
17. Construction equipment shall be regularly checked for drips or leaks. Any leak would be fixed promptly or the equipment would be removed from the project site.
18. At least one fuel spill kit with absorbent pads would be onsite at all times.
19. Drive trains of equipment would not operate in moving water and work would occur from the top of the bank. Only the excavator bucket with thumb attachment would extend into the water.
20. At least one Corps biologist and geotechnical engineer would be available via phone during construction. Corps biologists may visit the construction site and provide periodic updates to USFWS and NMFS on construction including an onsite visit with staff. Corps biologist may schedule a visit to construction sites with USFWS and NMFS. The geotechnical engineer may also visit the construction site. All visits would be coordinated with the PM, and Emergency Management (EM) Construction Lead.

ANTICIPATED IMPACTS

Anticipated impacts of the Preliminarily Recommended Alternative would be as follows:

Water Quality: Short-term, localized project-related increases in background turbidity levels would likely occur as a result of in-water toe or bank excavation, rock placement for toe rock, and rock placement for bank construction. Rock placement would only occur within the existing levee prism or landward of it depending on the location of the repair, except at the downstream end where a buried launchable toe is constructed. Riprap and spall rock placed into the water would be placed individually or in small bucket loads; no end dumping of rock into the water would occur. Given the construction methods for rock placement, proposed excavation techniques (only the excavator bucket with thumb attachment would extend into the water), proposed handling of excavated substrates (placement on backside levee slope or side-casting), and timing of in-water work (June 15 and August 31); it is anticipated that any project related increases in background turbidity would be very limited and localized.

The preliminarily recommended repair action would require work in the active channel with some work below the elevation of ordinary high water. Construction could be expected to cause minor, temporary, localized increases in turbidity from deconstruction of the existing levee and placement of new armor where it could occur in-water, such as at the upstream end of the repair. BMPs, including restrictions on fueling and prevention of fluid leaks from construction equipment would be employed that would

minimize discharge of pollutants into the river. Quarry rock and spalls used for the repair would be clean, and contaminant free. Turbidity would be monitored upstream and downstream of the project site during construction, as required. If turbidity exceeded state water quality standards, particulate-generating activities would be halted until standards were met and construction methods would be changed to avoid further exceedances.

Aquatic Resources: Impacts to aquatic resources from the preliminarily recommended action include possible entrainment during excavation activities, potential hydro-acoustic disturbances, alteration of substrates, temporary degraded water quality associated with excavation, impacts to migration and spawning, and vegetation removal within repair sites.

The potential for entrainment is largely dependent on the likelihood of aquatic organisms occurring within the excavation area, the scope and scale of the excavation activity, and the life stage of the organism. Given the location of proposed excavation activities, use of an open bucket excavator, and relatively slow speed of excavation; it is reasonably certain that the risk of injury to aquatic species from proposed excavation activities is low but not insignificant.

Short-term, localized project-related increases in background turbidity levels would likely occur as a result of in-water toe or bank excavation, rock placement for toe rock, and rock placement for bank construction. Short-term increases in background turbidity around the action areas resulting from in-water work would be temporary and are not expected to result in long-term adverse effects to aquatic species, or significant net change in function of the in-stream habitat.

Disturbance from vibration is possible during construction, stemming from delivery and dumping of rock on land as it is staged for construction, and as a result of excavation and placement of rock along the riverward face of the levee. Vibrational disturbance during construction would be minimized by working from the top of the bank, avoiding in-water excavation where possible, and placing rock individually or in small bucket loads (no end-dumping into the river). Following these construction techniques it is reasonably certain that impacts to aquatic species resulting from equipment use or rock placement during construction would be minimal, but not entirely insignificant or discountable for injury or adverse behavioral effects.

Adult fish migrating upstream 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. The degree to which aquatic species use the specific project location for spawning is unknown. The area affected would be limited to portion of the channel adjacent to the levee and the preliminarily recommended actions would likely have no long-term effect on migrating or spawning fish species. Additionally, the site is present in areas where flows are typically stronger than other sections of the river.

Proposed levee vegetation removal may indirectly affect aquatic species by decreasing shade, reducing plant material and insects dropped into the water for forage, reducing quality of refugia, and a decreasing large woody material input. Tree removal would only occur along the levee within repair sites. As stated before, loss of riparian vegetation would be mitigated for.

Terrestrial Resources/Wildlife: Construction would 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. Vegetation loss would affect wildlife habitat by reducing cover, perching, foraging, and nesting opportunities. Although there would be a loss of shade along the repaired levee slope, this would be offset by the proposed conifer plantings which would improve riparian shading and conditions as the trees grow. No significant temperature effects are expected from vegetation removal.

Threatened and Endangered Species: The Nooksack River is an important area for Puget Sound native fish such as Chinook and steelhead. The river and estuary are designated critical habitat for Puget Sound Chinook (*Oncorhynchus tshawytscha*), Puget Sound Steelhead (*Oncorhynchus mykiss*), and Coastal-Puget Sound bull trout (*Salvelinus confluentus*). Limiting in-water work to specific windows is a conservation measure that can be implemented to reduce impacts to species by avoiding key life cycle stages. For the area of the preliminarily recommended repair, the in-water work window is 15 June 15 to August 31. Repairs may impact listed fish and maintain long-standing detrimental conditions for aquatic life. The primary impacts would be a temporary increase in turbidity, noise, vibration, and human activity caused by heavy equipment and materials that may displace fish and wildlife during construction. The longest lasting impacts would be vegetation removal which is offset with plantings, and continued alteration of the natural shoreline with rock and channelization. Predicted impacts of the construction to the riverward slope and toe would include minor increase in turbidity, increased noise emissions from the use of heavy equipment, possible minor disturbance to fish and wildlife present during construction and removal of vegetation from the bank.

The Corps is preparing a Biological Assessment pursuant to Sec. 7(a)(2) of the Endangered Species Act for consultation with the USFWS and NMFS.

Vegetation: The preliminarily recommended repair location is vegetated mostly with black cottonwood (*Populus trichocarpa*), red alder (*Alnus rubra*), and variety of shrubs. Work would include removal of streamside vegetation, including 22 trees. Decreasing the amount of vegetation in the riparian area would impact nutrient input (plant material and insect fall) and quality of refugia for fish in high waters. It would also decrease the available riparian habitat for wildlife. Tree removal is expected to decrease river shading in the immediate area around the project.

Vegetation removal would be limited to occur only along the levee within the repair footprint, with minor understory clearing for the proposed plantings. Exposed soils

would be hydroseeded with a native seed mix post-construction. The Corps plans to mitigate for the loss of riparian vegetation by planting 90 conifer trees. Conifers trees, like Sitka spruce (*Picea sitchensis*) and western hemlock (*Tsuga heterophylla*), would be used for mitigation. Human influence has largely removed conifer trees from the riparian area. Large conifers are key characteristics of a mature riparian forest because they can provide functional large woody debris and shade. Restoring this function is pivotal in salmonids recovery efforts.

The plantings would be monitored and follow-up planting (if necessary) conducted to compensate for the temporal loss to the extent possible. However, since plantings would not mature for several years, there would necessarily be a time lag, and thus some temporal habitat loss in habitat function during this period before the plantings mature. However, the number of plantings exceed the number removed so to provide a functionally compensatory replacement.

Cultural Resources: Prior to repairs, a Corps archeologist would conduct a cultural resources survey of the project area to determine whether there is potential for the preliminarily recommended repair to cause effects to historic properties. The Corps would evaluate the project and prepare documentation necessary pursuant to compliance with Section 106 of the National Historic Preservation Act (NHPA). The report would include the findings of the investigations, recommendations for archaeological monitoring during construction, and a determination of effects to archaeological and historic properties. The Corps' determinations of effects to historic properties, the investigation report, and monitoring plan if necessary, would be coordinated with the Washington State Historic Preservation Office (SHPO), Indian Tribes, and other consulting parties prior to approval of the proposed action.

Noise: Human-related existing noise sources at the project site include, but are not limited to, traffic noise from automobiles on adjacent local roads; agricultural related activities, and adjacent agricultural fields; and overhead aircraft noise. There would be minor and temporary effects to noise levels at the levee repair site and along access roads during construction. Construction would generate noise levels ranging from between 70 and 90 decibels at a distance of 50 feet. However, equipment would only operate during daylight and typical construction hours from 7 AM to 7 PM to limit noise impacts on surrounding properties.

Air Quality: Construction vehicles and heavy equipment used during the preliminarily recommended construction would temporarily and locally generate increased gasoline and diesel exhaust fumes. The small area of construction and the short duration of the work (late July to mid-September) 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 *de minimis*, and therefore 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.

Climate Change: The preliminarily recommended repair is not expected to have a significant impact on Climate Change. Although greenhouse gas emissions associated with the repair are not expected to significantly increase the rate of climate change and sea level rise, fuel consumption from construction activities are part of world-wide cumulative contributions to change in climate by way of increases in greenhouse gas emissions. Increased use of internal combustion engines result in more fuel consumption that add to greenhouse gas emissions. Global atmospheric temperatures are correlated to increased atmospheric carbon dioxide levels. Given the minuscule contribution of greenhouse gas emissions from construction activities during the preliminarily recommended action to overall global emissions, effects are considered to be insignificant. There would be negligible effects on climate change as a result of implementing the preliminarily recommended alternative.

Geology and Soils: Increased compaction of the soil in the immediate area of construction and access may occur due to operation of heavy equipment for the repair. However the access areas are typically used and maintained with large vehicles so that some level of compaction would already exist. A setback levee would return more area to the floodplain by setting the levee back approximately 17 feet, allowing natural riverine processes to function over a larger area. A setback would also reduce the erosive force of flooding along the levee. Effects would be minor and insignificant.

Cumulative Effects: Cumulative effects include effects resulting from past, ongoing, and future Federal, State, tribal, local government, and private actions that are reasonably foreseeable in the action area.

Historic modifications within the watershed have included residential development, farming, and extensive road development, which have substantially modified the river, watershed hydrology and water quality, and the habitat in the floodplain. Agricultural practices would continue to occur throughout the basin in the foreseeable future, consistent with current practices. Future development, including residential construction, road development, and expansion of water, sewer, and other utilities, is expected as the surrounding community and region grows, and these would add to the effects of past activities.

When evaluated in the context of past, present, and reasonably foreseeable actions, the Preliminarily Recommended Alternative would not result in significant cumulative effects. Overall, contributions to cumulative environmental effects because of the preliminarily recommended Twin View Levee rehabilitation are expected to be insignificant.

COMPLIANCE WITH OTHER LAWS AND REGULATIONS

The Corps has made a preliminary determination that the environmental impacts of the proposal can be adequately evaluated under the NEPA through preparation of an EA. Preparation of an EA addressing potential environmental impacts associated with the levee rehabilitation project is currently underway.

The purpose of the Federal Water Pollution Control Act (33 U.S.C § 1252 et seq.), commonly referred to as Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. The upstream transition of the repair is exempt from permit requirements under Section 404(f)(1)(B). The setback portion of the repair does not involve discharge of fill material into Waters of the United States. Work at the downstream portion of the repair is in a riparian terrace riverward of the levee (cross section C4 in the attached drawings). While work here would occur on the riverward side of the existing levee, it would require no fill into waters of the U.S.

The preliminarily recommended repair is not expected to require a Section 404 (b)(1) evaluation or Section 401 certification. Consistency with this determination would be reevaluated as the project progresses with design. The project would comply with Section 404 and 401. Section 402 of the CWA may be triggered by construction. The area of disturbance for the proposed repair site would be assessed. A Storm Water Pollution Prevention Plan would be prepared and an application for a National Pollutant Discharge Elimination System Construction General Permit would be submitted to the Environmental Protection Act prior to construction if the site disturbs more than 1 acre.

The Twin View levee is located in a coastal area and will need to be evaluated for compliance with the Coastal Zone Management Act. A determination of consistency with the enforceable policies of the approved Washington Coastal Zone Management Program pursuant with this act would be needed.

In preparation of the environmental documentation for this project, coordination has been conducted or is ongoing with the following public agencies:

- (1) U.S. Fish and Wildlife Service;
- (2) Natural Marine Fisheries Service (NOAA Fisheries);
- (3) Environmental Protection Agency;
- (4) Washington Department of Ecology;
- (5) Washington State Historic Preservation Office.

No significant unmitigated impact to Tribal Treaty Rights is expected as a result of the preliminarily recommended activities. The proposed project would be analyzed with respect to its effects on the treaty rights or rights reserved to tribes through executive order or other legal instrument. The proposed action area is within the area of interest for the following Tribes and they would be coordinated with prior to making a final decision:

- (1) Lummi Nation;
- (2) Nooksack Tribe;
- (3) Samish Indian Nation;
- (4) Suquamish Tribe;
- (5) Swinomish Indian Tribal Community;
- (6) Tulalip Tribes.

COMMENT AND REVIEW PERIOD

The Corps invites submission of factual comment on the environmental impact of the proposal from the public; Native American Nations or tribal governments; Federal, State, and local agencies and officials; and other interested parties in order to consider and evaluate the effects of this activity. To make this decision, comments are used to assess impacts on threatened and endangered species, historic/cultural properties, water quality, and general environmental effects. The Corps considers all submissions received before the expiration date of this notice. The nature or scope of the proposal may be changed upon consideration of the comments received. The Corps would initiate an Environmental Impact Statement (EIS), and afford the appropriate public participation opportunities attendant to an EIS, if significant effects on the quality of the human environment are identified and cannot be mitigated.

COMMENTS TO THE CORPS OF ENGINEERS

Submit comments to this office, Attn: Planning, Environmental and Cultural Resources Branch, no later than *30 days after the posting of this notice* to ensure consideration. In addition to sending comments via mail to the above address, comments may be e-mailed to Zachary.M.Wilson@usace.army.mil. The Notice of Preparation can be found online at the link below.

Date: 5/9/2019

Basin: Nooksack River

Project Name: Twin View Levee Rehabilitation

Type: NOP

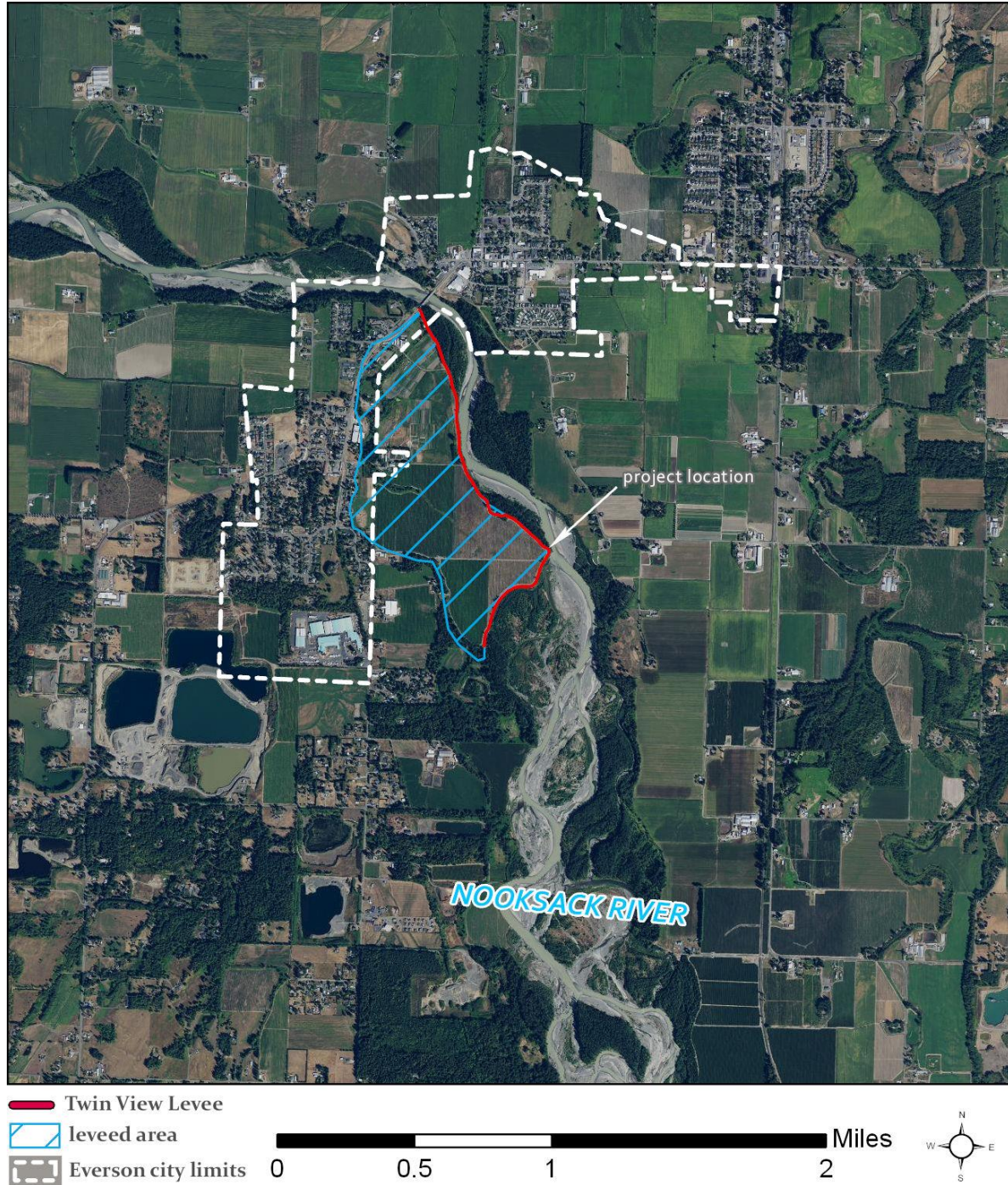
<http://www.nws.usace.army.mil/Missions/Environmental/Environmental-Documents/>

Requests for additional information should be directed to Mr. Zachary Wilson at 206-316-3896 or Zachary.M.Wilson@usace.army.mil.

Posting Date: 9 May 2019

End of Comment Period: 8 June 2019

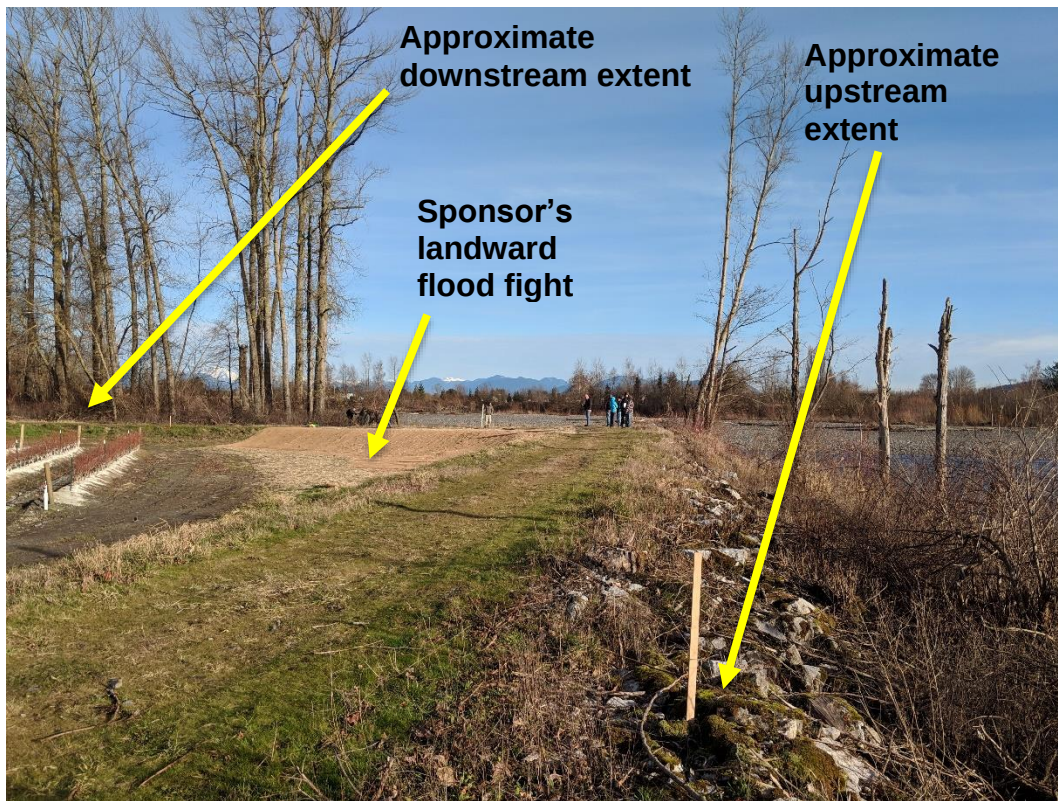
PROJECT LOCATION, PHOTOS, AND DESIGN



Twin View Levee Rehabilitation project location.



Near vertical bank from scour pool.



Looking from upstream extent of damage downstream.



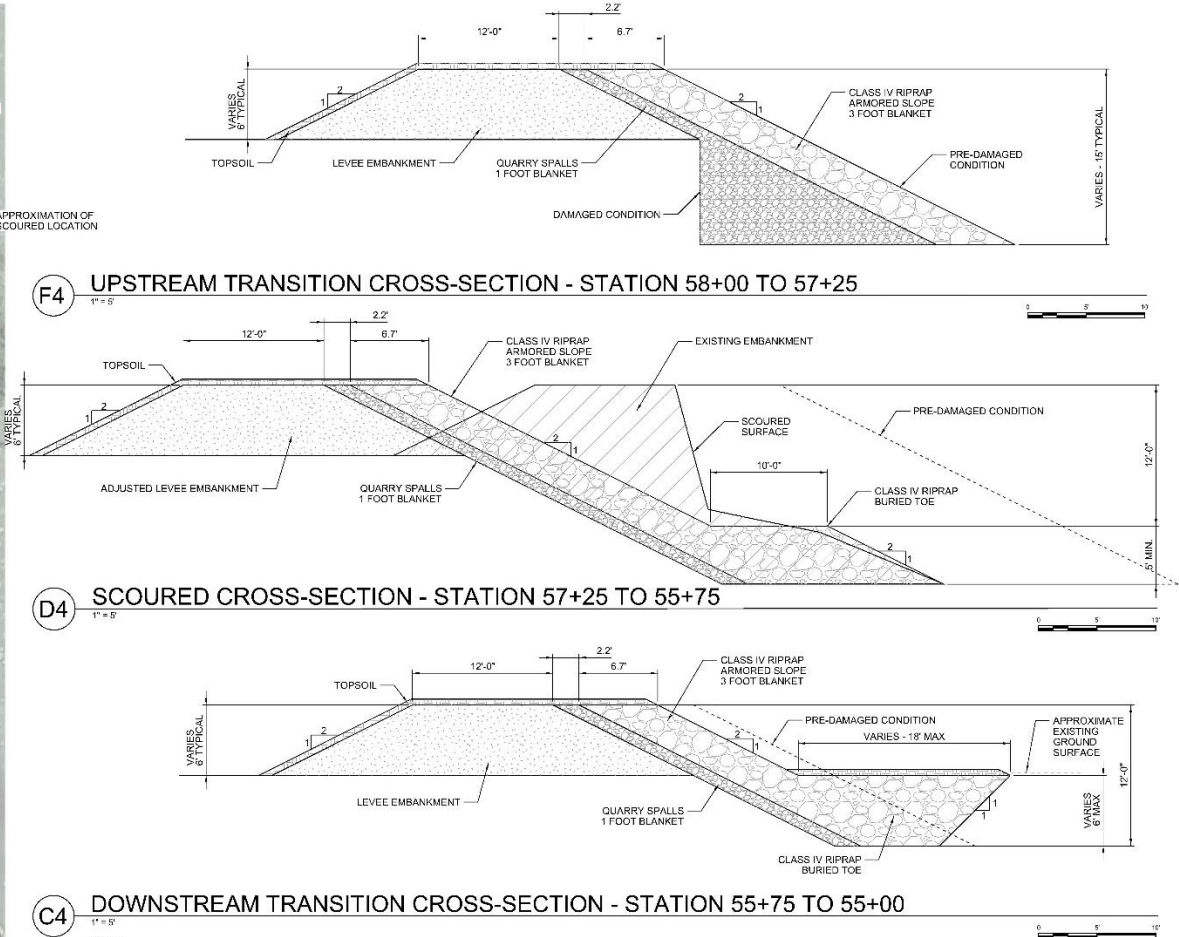
Typical levee condition upstream of the scoured area. The riverward toe of the levee is steep due to missing riprap.



Proposed site access would be along the existing levee.



A1 SITE PLAN
1" = 20'



C4 DOWNSTREAM TRANSITION CROSS-SECTION - STATION 55+75 TO 55+00
1" = 5'

NOTES:

1. PROJECT SITE EXTENDS FOR 300 LINEAR FEET, INCLUDING TRANSITIONS, FROM NATIONAL LEVEE DATABASE (NLD) STATION 55+00 TO 58+00. ACTUAL STATIONS OF CROSS SECTIONS WILL VARY DEPENDING ON FIELD CONDITIONS.
2. USACE SHALL BE RESPONSIBLE FOR LOCATING UNDERGROUND AND OVERHEAD UTILITIES AS APPLICABLE PRIOR TO COMMENCING WORK.
3. QUARRY SPALLS SHALL CONFORM TO GRADATIONS IN TABLE 1 ON C-601 AND SHALL CONSIST OF CLEAN, ANGULAR, SCREENED, CRUSHED ROCK.
4. CLASS IV RIPRAP SHALL CONFORM TO THE GRADATIONS IN TABLE 2 ON C-601. STONE SHALL BE HARD, SOUND, AND DURABLE MATERIAL FREE FROM SEAMS, CRACKS, AND OTHER DEFECTS TENDING TO LEAD TO PREMATURE WEATHERING.
5. SOIL FROM EXISTING LEVEE EMBANKMENT TO BE REUSED ALONG THE ACCESS ROAD OF THE LEVEE CROWN AND LEVEE EMBANKMENT ALONG THE ADJUSTED CENTERLINE. ADDITIONAL EMBANKMENT SOIL SHALL CONFORM TO THE GRADATIONS IN TABLE 3 ON C-601.
6. TOPSOIL PLANTING MATRIX SHALL CONSIST OF A 75/25 MIXTURE OF ENGINEERED SOIL AND ORGANIC COMPOST. ENGINEERED TOPSOIL SHALL CONFORM TO GRADATION IN TABLE 4 ON C-601 AND SHALL BE FREE OF ROOTS, CHEMICALS, GARGAGE AND DEBRIS.
7. WHERE THE HISTORICAL RIVERWARD TOE EXCEEDS THE EXTENT OF THE LEVEE REPAIR, EFFORT SHOULD BE MADE FOR EXISTING MATERIAL TO REMAIN INTACT SUCH THAT SAFE CONSTRUCTION PRACTICES AND STABLE SLOPES ARE STILL MAINTAINED.
8. LIMIT CONSTRUCTION ACTIVITIES TO WORK AREAS SHOWN.

Draft cross sections.