Portfol Number:
Intake Posted:
Intake Approved:

Intake Form

Section 1: Applicant Information

Section 1A: Applicant	
Organization Name: Tillamook County	**Organization Type:** County
Street Address: 201 Laurel Avenue, Tillamook, OR 97141 **County:** Tillamook	**Mailing Address:** 201 Laurel Avenue, Tillamook, OR 97141
Office Phone: 503-842-3404	**Website:** www.tillamook.or.us
Primary Contact Name: Rachel Hagerty	**Primary Contact Title:** Chief of Staff
Primary Contact Phone: 503-842-3404	**Primary Contact Email:** rhagerty@co.tillamook.or.us

Section 2: Project Information

Section 2A: Project Overview

Project Name: Shilo Levee Rehabilitation, Tillamook County

Project Location: (physical address/attach map)	Project Category:
along Wilson River, between Wilson River Bridge at US Hwy 101 and Shilo Inn	Design & Construction

Is the project a water or wastewater infrastructure project? ○ Yes ◉ No

Are all lands on which the project will take place municipally owned? ◉ Yes ○ No

If no, provide a description of the ownership situation:

The levee is located on ODOT and private properties. A 1952 agreement describes the USACOE's responsibility of constructing the levee and Tillamook County's indefinite responsibility of structure maintenance and integrity.

Project Description:

Need: In 1952, the ACOE constructed a levee along the Wilson River to divert river flows away from the abutments supporting the historic US Highway 101 bridge over the Wilson River. The ACOE regularly conducts inspections, and its 2016 inspection rates the structure as "minimally acceptable". The county, which is responsible for levee maintenance, hired DOWL engineering to further assess the structure in 2022. DOWL found, among other deficiencies, that the 71-year-old levee has significant and/or large-scale structural deficiencies in slope stability and erosion of the levee toe.

Solution: Repair 1,200 feet of scoured areas, slope failures, and other deficiencies.

Partners: ODOT, City of Tillamook, and Tillamook Bay Flood Improvement District.

Section 2B: Funding Request

Funding request from Business Oregon	$ 1,000,000.00	
Funds from potential applicant		○ Budgeted ◉ Not Budgeted
Other Funds: Homeland Security-FEMA Pre-Disaster Mitigation	$ 3,000,000.00	○ Committed ◉ Pending
Other Funds: Oregon Capital Funding; IIJA	$ 708,000.00	○ Committed ◉ Pending
Estimated Total Project Cost	$ 4,708,000.00	

Cost Estimate Date: 12/9/2021	Prepared by: DOWL Engineering
Estimated Project Start Date:	8/1/2023
Estimated Project Completion Date:	9/30/2024
Estimated date of first draw:	10/2/2023

If funding assistance from Business Oregon includes a loan, how will it be repaid?
Note: identify source of local funds, i.e. user rates, property taxes etc

not applicable

Section 2C: Project Readiness/Timing

Is the project identified in a planning document? ◉ Yes ○ No

If yes, when was the planning document completed?

8/26/2022 DOWL Engineering Site Assessment and 2018 USACOE Inspection Report. Final engineering and permitting still needs to be completed and is checked here.

If no, is a technical assistance/planning project being considered? ◉ Yes ○ No

Are there any urgent timing issues related to the project (i.e. must be completed by a certain date)? ○ Yes ◉ No

If yes, please specify:

Does the applicant intend to apply for funding within the next 6 to 9 months? ◉ Yes ○ No

If no, when does the applicant intend to apply for funding?

Section 2D: Other (provide any other useful information)

-2023 Executive Summary w/ map and pictures
-2022 DOWL Site Assessment
-2018 ACOE Inspection
-1952 ACOE-Tillamook County Cooperative Agreement
-1952 Tillamook County Board of Commissioners Resolution

Section 3: * Business Oregon use only *

Regional Development Officer:

Section 3A: CDBG	
Is the community CDBG eligible?	○ Yes ◉ No
Is the project CDBG eligible?	○ Yes ◉ No
Is CDBG being considered as a source of funding?	○ Yes ◉ No

Section 3B: Water/Wastewater (W/W) Financing Program Eligibility

For Design and Construction Projects: Wastewater and drinking water projects that are needed to maintain compliance with the Clean Water Act or the Safe Drinking Water Act are eligible for W/W financing. Urgent wastewater, drinking water, or stormwater projects may be eligible for W/W funding as determined by the Department.

Is the project needed to maintain compliance with the federal Clean Water Act or Safe Drinking Water Act? ◉ Yes ○ No

If yes, attach documentation from the Oregon Department of Environmental Quality (DEQ) for wastewater projects, the Oregon Health Authority (OHA) for drinking water projects, or a regulatory agency contracted agent (if applicable). Documentation should describe that the project is needed to achieve or maintain compliance with the Clean Water Act or the Safe Drinking Water Act.

Does the project address any of the following needs?

An urgent community drinking water supply concern?	◉ Yes ○ No
An urgent stormwater project intended to reduce community vulnerability to flooding?	◉ Yes ○ No
An urgent wastewater project to address a surface or groundwater quality concern not covered under the federal Clean Water Act?	◉ Yes ○ No
An urgent drinking water health risk not covered under the federal Safe Drinking Water Act?	○ Yes ◉ No

If yes, attach documentation to further describe and corroborate the urgent need. The Department will use the documentation to assess project eligibility for W/W financing.

For Planning Projects: Water Master Plans, Wastewater Facility Plans, and regionalization studies do not require regulatory agency documentation. Other feasibility studies do need documentation from ODEQ or OHA that the "study is needed".

Is the project a feasibility study? ○ Yes ◉ No
If yes, attach documentation from ODEQ or OHA that the study is needed.

Section 3C: Stand-Up Meeting Notes: (to be filled out by RDO)	
Funding Source: If other, please specify:	**Comments:**
Next Steps: ○ No additional information needed; ready to invite application. ○ Additional information needed; see tasks identified below. Ready to invite application once tasks completed. ○ Project not ready to proceed; further development is needed. Must return to Stand-Up after further development completed.	

Section 3D: Outstanding Tasks/Items	
Task	**Responsible Party**

Project Development Tips

- Ideally, the applicant should already be working with an engineer on the project.
- The project should be identified in a current planning document. Examples of planning documents include feasibility studies, a Wastewater Facility Plan, or a Water Master Plan.
- A current, detailed cost estimate that has been developed for the project is another readiness to proceed factor.

- Permits, regulatory processes, or required easements can add uncertainty to the project and impact timeframes.
- Any concerns related to the project should be noted. Examples include lack of capacity, staffing shortages, political discord, etc.
- Rate increases should be planned for (i.e. loan repayment).
- Any services associated with the project (e.g. water or sewer) provided to adjacent communities or anyone outside of the city limits should be noted.
- Project specific economic benefit such as job creation should be noted and highlighted.

Tillamook County Board of Commissioners
201 Laurel Avenue, Tillamook, OR 97141
Phone: 503-842-3403

Erin D. Skaar, Chair
Mary Faith Bell, Vice-Chair
David Yamamoto, Commissioner

February 22, 2023

Melanie Olson
Business Oregon
775 Summer Street NE, Suite 200
Salem, Oregon 97301

RE: "Shilo Levee Rehabilitation Project" Request for Funding

Dear Ms. Olson:

Thank you for your consideration of funding the Shilo Levee Rehabilitation Project in Tillamook County, Oregon under the Special Public Works Fund.

The structure is vital for the protection of US Highway 101, Fred Meyer, Goodwill, Ashley Inn, acres of farmland, and numerous local residences. US Highway 101 is the primary route along the north Oregon coast that carries all traffic that services local, regional, and national interests including milk trucks from farms to the Tillamook Creamery and log trucks from forests to lumber mills. These commercial enterprises serve as the economic backbone for Tillamook County.

Inspection reports from the US Army Corps of Engineers (ACOE) and an independent engineering firm cite the Shilo levee as "unacceptable" or "minimally acceptable" in many categories. The levee was built in 1952 by the ACOE and the county is responsible for all maintenance, as set forth in a cooperative agreement.

The county does not have the funds needed to perform the critical rehabilitation work. The last inspection report recommended that the Levee Safety Manager for the ACOE, Portland attend the next inspection. Tillamook County Public Works Director states:

> *"US 101 is listed by the Oregon Department of Transportation as a Tier 1 – Critical Seismic Route. Failure of the Shilo Levee will destroy the highway and the bridge over the Wilson River. It will take years to design and construct a new bridge. Diverting the traffic onto local roads that do not have the capacity to carry highway traffic will immediately impact emergency response at a time when it is needed most."*

Thank you again for your consideration.

Sincerely,

BOARD OF COMMISSIONERS FOR TILLAMOOK COUNTY, OREGON

Erin D. Skaar, Chair	Mary Faith Bell, Vice-Chair	David Yamamoto, Commissioner

Tillamook County, Oregon
Shilo Levee Rehabilitation

Need for Repairs

Structure Age

- *71 years old*

Structural Deficiencies

- *ACOE asseses structure as minimally acceptable' Significant and/or large-scale slope stability and, toe erosion*
- *Escarpment 10' high and 150' long*
- *Cracks up to 3' deep*

Solution

- Restore structure to its as-built condition
- Repair 1,200' of scoured areas, slope failures, and other deficiencies

$4.7 MILLION

URGENCY

- Intense flood event will likely cause severe structural damage
- Levee breach could devastate public and private infrastructure in the City of Tillamook's north business district
- Historic Wilson River Bridge and US Highway 101 are at risk

PROJECT STATUS

Levee Assessment	Completed
Conceptual Design & Cost Estimate	Completed
Secure Funding	2023
Engineering & Permitting	2023
Construction	2024

PARTNERS

Oregon Dept of Transportation

City of Tillamook

Tillamook Bay Flood Improvement District

Rachel Hagerty
Chief of Staff
rhagerty@co.tillamook.or.us
503.842.3404

MEMORANDUM

TO:	Chris Laity, PE – Tillamook County Public Works
FROM:	Jason Kelly, PE – DOWL Ben Wewerka, PE – DOWL Brian Meunier, PE, CFM – DOWL
DATE:	August 26, 2022
SUBJECT:	Shilo Training Structure Site Assessment

The Shilo Training Structure has experienced erosion along the riverward side of the structure at a meander bend in Wilson River, just upstream of US Highway 101. A 2018 US Army Corps of Engineers (USACE) inspection identified deficiencies in riverward slope stability and erosion of the embankment toe, among other more minor deficiencies. The local cooperation agreement requires that Tillamook County operate and maintain the structure following the original construction, which was federally funded. Tillamook County intends to repair the scoured areas, slope failures, and other deficiencies noted in the bank protection inspection report.

DOWL completed a visual site assessment of the training structure on August 8, 2022, to achieve the following objectives:

- Complete a visual inspection of the riverward toe of the training structure.
- Evaluate features or conditions that provide information concerning the cause of the erosion and embankment instability as well as the potential for continued erosion.
- Evaluate site constraints that could affect the design or construction of potential improvements.
- Discuss potential improvements with stakeholders.

Relevant Background Information

The training structure is an embankment constructed out of soil and riprap approximately 20 feet tall from the river's edge. The riprap material appears to be a Class 400. Some pieces of Class 1000 were visible but are mostly located in the water near the toe of the slope.

Most of the structure was recently mowed. The cut grasses covered most of the ground obscuring much of the details of the soil slopes. Since the 2018 inspection, small woody vegetation, mostly willows, has established itself along most of the length of the training structure at the ordinary high-water mark. Red Alder and other trees exist at the far west and east termini of the structure. The mowed extent of the structure was approximately 1,100 feet in length, but structure appears to extend at least 100 feet to the north/west. The 2018 inspection report does not expressly indicate which direction stationing begins and ends; however, one can ascertain from the photograph descriptions that the previously used stationing ran from east to west (i.e. in the downstream direction).

There are four survey points on top of the training structure surrounded by 24-inch PVC pipe. The structure is located in T01S R09W Sec 19; a cursory review of the County survey records online did not find reference to the monuments located on the structure. It is presumed these points were set to monitor the horizontal and/or vertical position of the structure.

Condition and Severity of Damage

The middle two-thirds of the structure has slope failures throughout, with hummocky ground and longitudinal tension cracks up to 18 inches wide and approximately two feet deep. Previously failed slopes have re-established annual vegetation indicating that the damage to the structure and resulting slope stability is likely caused by larger infrequent events rather than small regularly occurring events. Probing of the areas found voids up to three feet deep into the structure, including locations where rodents (moles) have created burrows. Areas of escarpment also exist approximately ten feet high and 150 feet long. A photo log has been attached to provide documentation of the conditions during site visit.

Portions of the structure that were once armored with riprap have experienced slope failures where the riprap has slumped into the river. The riprap slope within the water appears to be approximately a 2H:1V slope, which is shallower than the side slope of the training structure at approximately 1H:1V. The training structure is almost straight between stations 0+00 and 6+00 preventing the river from curving as it would naturally. in the resulting erosive forces along this bank are at work on the training structure removing the earthen cover and destabilizing some of the riprap.

Evidence of prior erosion repairs was also found near the east end in the forms of sandbags along the ordinary high-water mark. The sandbags were placed immediately upstream of the visible riprap bank protection.

On-site discussions with the Tillamook County indicated that the structure has overtopped in the past in the location reported in Figure 1; however, no indication of damage due to overtopping was observed.

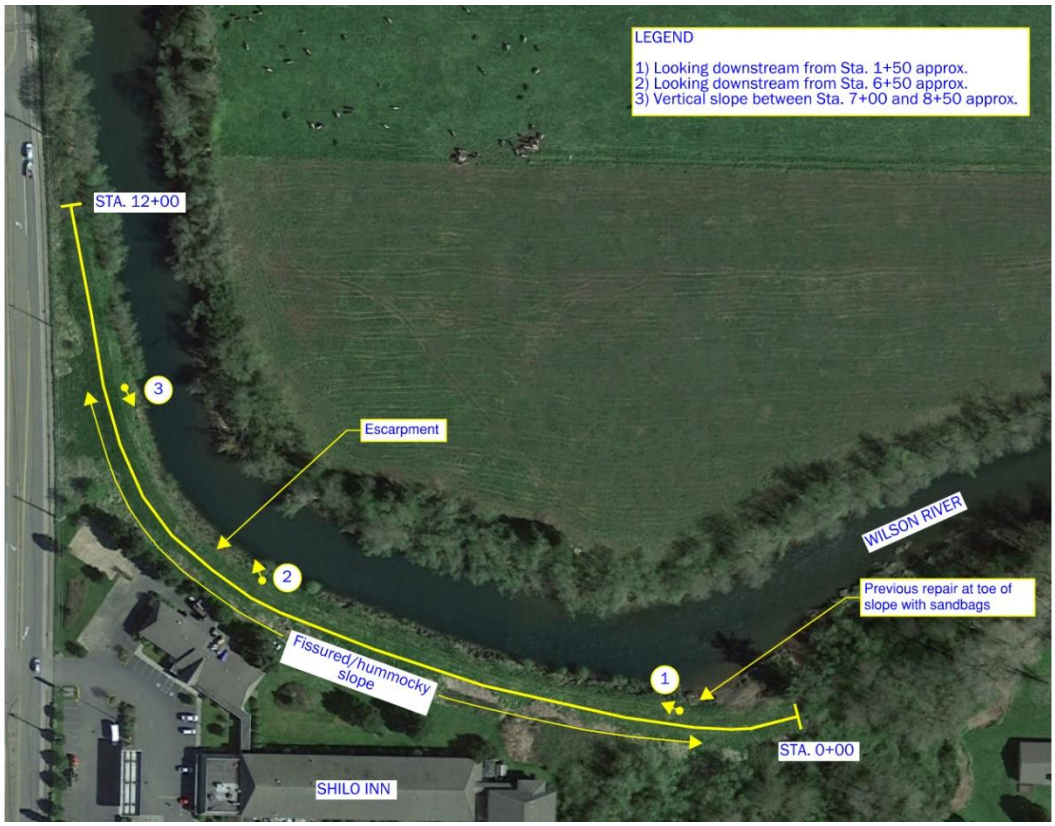


Figure 1: Vicinity Map

Future Design Considerations

The presence of intermittent slope failures throughout the length of the training structure will require improvements along the majority of the training structure, approximately from station 0+50 to 11+00. The repairs should be made in a continuous fashion, given the frequency of the deficiencies and the high likelihood for failure of a piece-meal approach. Improvements to the training structure will require work in the water to re-establish the toe of the riprap and earthen slopes. A significant isolation effort will be required to excavate and appropriately install repairs.

Additional curvature could be provided between stations 1+00 to 7+50 to reduce the erosive force of the river along the training structure; however, this would impinge on the Shilo Inn property south of the training structure. Alignment improvements should be investigated with consideration of easement and adjacent property constraints.

Conclusion

Based on USACE, the condition of slope stability, erosion, and settlement are appropriately categorized as “unacceptable”. The deficiencies do not appear to be critical or pose an immediate threat; however, the deterioration far exceeds what could be considered “minor” given the scale of defects. The defects appear to be significant and/or large-scale. An intense flood event would likely cause severe damage to the structure given its compromised state. Continued degradation of the embankment and an absence of significant repairs would likely result in the defects being deemed critical.

PHOTO LOG

PROJECT NAME: Shilo Training Structure

PROJECT NUMBER: 2636.80389.01 DATE: 8/24/2022

NOTES: August 8, 2022 Site Assessment Photos

LOOKING DOWNSTREAM FROM STA. 1+50 APPROX.

LOOKING DOWNSTREAM FROM STA. 6+50 APPROX.

VERTICAL SLOPE BETWEEN STA. 7+00 AND 8+50 APPROX.

RODENT HOLE WITH PROBE PENETRATION 2.5-3 FEET

SURVEY MARKER STA. 6+50 APPROX.

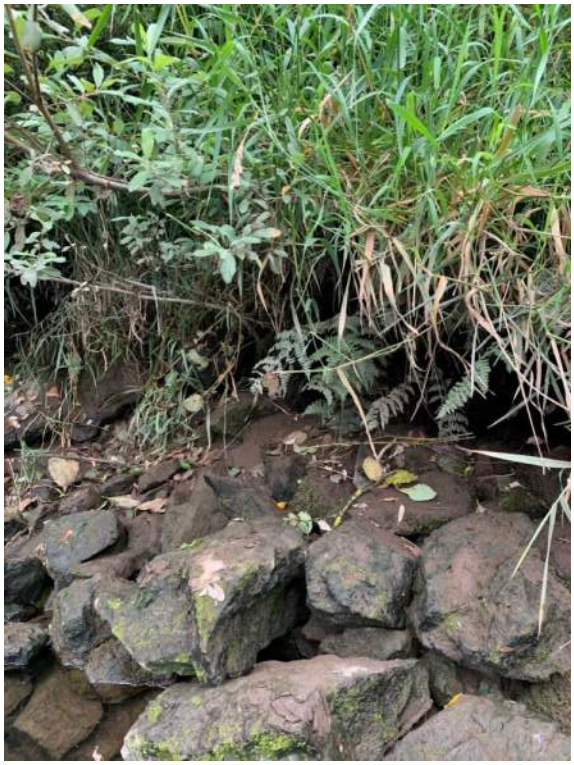
UNDERCUT SLOPE STA. 8+40

VERTICAL SLOPE STA. 8+25

SANDBAGS AT BEGINNING OF THE TRAINING STRUCTURE STA. 1+50

BANK FAILURE ABOVE SANDBAGS STA. 1+50

RIPRAP AND BANK FAILURE STA. 2+00 APPROX.



UNDER CUT BANK STA 6+00

RIPRAP EXTEND 12 FEET INTO RIVER FROM ORDINARY HIGH WATER

RIPRAP SIZES NEAR TOE OF SLOPE

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
PO BOX 2946
PORTLAND, OR 97208-2946

Engineering and Construction Division 07 DEC 2018

Mr. Bill Baertlein, Chair
Tillamook County Board of Commissioners
201 Laurel Avenue
Tillamook, OR 97141

Dear Mr. Baertlein:

Enclosed is the report for the biennial inspection of the Wilson River (Hwy 101) location bank protection project, conducted on October 30, 2018. The inspection was conducted to evaluate the structural integrity of the revetment, assess emergency preparedness, and to provide any advice needed regarding the operation and maintenance (O&M) of the project. A "Minimally Acceptable" rating has been assigned for this project.

The local cooperation agreement for this project requires your organization to operate, maintain, repair, replace, and rehabilitate the revetment for as long as the project is authorized. Our assessment of your overall emergency preparedness considers your Emergency Response Plan, training needs, stockpiled supplies, availability of equipment, and access for emergency operations. We currently have a copy of your plan dated November 2016 on file. Your organization's capability to operate during a flood emergency is considered acceptable.

Maintenance requirements for the project may require federal, state and local permits. For additional information pertaining to permits, please contact Kinsey Friesen in our Portland Regulatory Office at (503) 808-4378.

For questions or comments related to the inspection, please contact Richard Gunsolus, R.G., at (503) 808-4854 or at richard.a.gunsolus@usace.army.mil. If we can assist you further with the O&M of your bank protection project, your emergency preparedness program, or for questions related to the Inspection of Completed Works Program, please contact Shane Cline, P.E., at (503) 808-4242 or at shane.k.cline@usace.army.mil. A copy of this letter has been forwarded to Chris Laity, Tillamook County, Director of Public Works.

Sincerely,

Lance A. Helwig, P.E.
Chief, Engineering & Construction
Division

Enclosure

US Army Corps of Engineers®

Bank Protection Project Inspection Report

Name of Project: Wilson River (Revetment)

Public Sponsor(s): Tillamook County

Public Sponsor Representative: Rachel Hagerty

Sponsor Phone: 503-842-3403

Sponsor Email: rhagerty@co.tillamook.or.us

Corps of Engineers Inspector: Richard Gunsolus Date of Inspection: 10/30/2018

Inspection Report Prepared By: Richard Gunsolus Date Report Prepared: 11/23/2018

Internal Technical Review (for Periodic Inspections) By: N/A Date of ITR: N/A

Final Approval By: N/A Date Approved: N/A

Type of Inspection:

- ■ **Annual Inspection**
- ☐ **Other:**_____

Overall Project Rating:

- ☐ **Acceptable**
- ■ **Minimally Acceptable**
- ☐ **Unacceptable**

Contents of this Report:

- ■ **Instructions**
- ■ **Pre-Inspection**
- ■ **General Items**
- ■ **Bank Protection**

Note: In addition to the report contents indicated here, a plan view drawing of the system, with stationing, should be included with this report to reference locations of items rated less than acceptable. Photos of general system condition and any noted deficiencies should also be attached.

US Army Corps of Engineers®

Bank Protection Project
Public Sponsor Pre-Inspection Report

The following information is to be provided by the levee district sponsor prior to an inspection. This information will be used to help evaluate the organizational capability of the levee district to manage the levee system maintenance program.

1. Bank Protection Project: (name)

Wilson River Highway 101 Location, Tillamook County

2. Reporting period: (month/day/year to month/day/year)

10/20/2016 to 10/30/2018

3. Summary of maintenance required by last inspection report:

Annual vegetation control (cutting of grass and blackberries) including cutting of willows flush with the ground surface.

4. Summary of maintenance performed this reporting period:

No maintenance conducted in 2017. Grass cut in early Fall 2018 prior to the inspection. Did not include abundant larger trees and brush along lower portion of the project or in select areas along the project length.

5. Summary of maintenance planned next reporting period:

Annual vegetation control (cutting of grass and blackberries) including cutting of willows flush with the ground surface. A large section of trees is present in the downstream portion of the project that has not been cut in many years. Question arose about benefit as fish habitat and if they should be removed at all. Representative from ODFW to attend next inspection to discuss what can be done. Recommend that for now at least the back side limbs of the closest willows to the river could be trimmed to reduce the drag on the trees during high water events, allowing the river side to provide shade, etc. Trees further up the slope could still be cut and removed as close to the ground surface as possible.

6. Summary of changes to system since last inspection:

Some erosion of the thick silt layer in the middle portion of the project has taken place exposing the underlying ripraped slope of the revetment..

7. Problems/ issues requiring the assistance of the US Army Corps of Engineers:

Continued assistance with inspections and advice on possible corrective measures. County recommends next inspection in 2020 to include a representative of ODFW to discuss the willows along the lower portion of the project. Recommend the Levee Safety Manager for USACE, Portland District attend.

Public Sponsor Pre-Inspection Report

The following information is to be provided by the bank protection owner or sponsor prior to an inspection

8. Owner or Sponsor: (officials or key employees)				
Name	Position	Mailing Address	Phone Number	Email Address
Chris Laity	Director of Public Works, Tillamook County	503 Marolf Loop Tillamook, Oregon 77141	503-842-3419	claity@co.tillamook.or.us
Bill Harmon	Tillamook County Road Department	503 Marolf Loop Tillamook, Oregon 77141	503-842-3419	bharmon@co.tillamook.or.us
Rachel Hagerty	Chief of Staff, Tillamook County Commissioners	201 Laurel Ave. Tillamook, Oregon 77141	503-842-3404	rhagerty@co.tillamook.or.us
Gordon McCraw	Emergency Management Director, Tillamook County	5995 Long Prairie Rd. Tillamook, Oregon 77141	503-815-3309 (Cell)	gmmcraw@co.tillamook.or.us

General Instructions for the Inspection of Bank Protection Projects

A. Purpose of USACE Inspections:

The primary purpose of these inspections is to check for damages; encourage non-Federal sponsors to bear responsibility for the maintenance necessary to keep the structure intact; and to preserve the value of Federal investments.

B. Types of Inspections:

The Corps only conducts routine inspections of Bank Protection Projects. Routine Inspections are intended to verify proper maintenance, owner preparedness, and component operation.

C. Use of the Inspection Report Template:

The report template is intended for use in Army Corps of Engineers inspections of bank protection projects. The section labeled "Public Sponsor Pre-Inspection Report" is intended for completion before the inspection, if possible.

D. Individual Item / Component Ratings:

Assessment of the project as rated during the inspection should be based on the criteria provided in the inspection report template, though inspectors may incorporate additional items into the report based on the characteristics of the project. The assessment of the project should be based on the following definitions.

Acceptable Item	Minimally Acceptable Item	Unacceptable Item
The project is in satisfactory condition, with no deficiencies, and will function as intended during the next water year.	The inspected project has one or more minor deficiencies that need to be corrected. The minor deficiency or deficiencies will not seriously impair the functioning of the project as intended during the next water year.	The inspected project has one or more serious deficiencies that need to be corrected. The serious deficiency or deficiencies will seriously impair the functioning of the project as intended during the next flood event.

E. Overall Project Ratings:

Determination of the overall project rating is based on the definitions below. Note that an Unacceptable Project Rating may be either based on an engineering determination that concluded that noted deficiencies would prevent the system from functioning as intended during the next flood event, or based on the sponsor's demonstrated lack of commitment or inability to correct serious deficiencies in a timely manner.

Acceptable Project	Minimally Acceptable Project	Unacceptable Project
All items or components are rated as Acceptable.	One or more items are rated as Minimally Acceptable or one or more items are rated as Unacceptable and an engineering determination concludes that the Unacceptable items would not prevent the project from performing as intended during the next water year.	One or more items are rated as Unacceptable and would prevent the project from performing as intended, or a serious deficiency noted in past inspections (which had previously resulted in a minimally acceptable system rating) has not been corrected within the established timeframe, not to exceed two years.

F. Reporting:

After the inspection, the Corps is responsible for assembling an inspection report which includes the following information:

a. All sections of the report template used during the inspection, including the cover and pre-inspection materials. (Supplemental data collected, and any sections of the template that weren't used during the inspection do not need to be included with the report.)
b. Photos of the general system condition and noted deficiencies.
c. A plan view drawing of the proejct, with stationing, to reference locations of items rated less than acceptable.
d. The relative importance of the identified maintenance issues should be specified in the transmittal letter.
e. If the Overall Project Rating is Minimally Acceptable, the report needs to establish a timeframe for correction of serious deficiencies noted (not to exceed two years) and indicate that if these items are not corrected within the required timeframe, the system will be rated as Unacceptable and made Inactive in the Inspection Program.

General Items for All Bank Protection Projects

Rated Item	Rating	Rating Guidelines		Location/ Remarks/ Recommendations
1. Operations and Maintenance Manuals	U	A	O&M Manuals, and/or manufacturer's operating instructions are present.	No operations and maintenance manual. You are encouraged to adopt the following "levee owner's manual" and customize it for the features specific to your project. http://media.swf.usace.army.mil/pubdata/ppmd/emermgt/pdf/leveeownersmanual.pdf
		M	Sponsor manuals are lost or missing or out of date; however, sponsor will obtain manuals prior to next scheduled inspection.	
		U	Sponsor has not obtained lost or missing manuals identified during previous inspection.	
2. Emergency Supplies and Equipment (A or M only)	A	A	The sponsor maintains a stockpile of sandbags, shovels, and other flood fight supplies which will adequately supply all needs for the initial days of a flood fight. Sponsor determines required quantity of supplies after consulting with inspector.	County maintains sufficient stockpile of supplies and equipment.
		M	The sponsor does not maintain an adequate supply of flood fighting materials as part of their preparedness activities.	
3. Flood Preparedness and Training (A or M only)	A	A	Sponsor has a written system-specific flood response plan and a solid understanding of how to operate, maintain, and staff the FDR system during a flood. Sponsor maintains a list of emergency contact information for appropriate personnel and other emergency response agencies.	Copy of Emergency Response Plan dated 2016 on file.
		M	The sponsor maintains a good working knowledge of flood response activities, but documentation of system-specific emergency procedures and emergency contact personnel is insufficient or out of date.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

Bank Protection

For use during Continuing Eligibility Inspections of bank protection projects

Rated Item	Rating	Rating Guidelines		Location/ Remarks/ Recommendations
1. Unwanted Vegetation Growth[1]	**M**	**A**	The project has little or no unwanted vegetation (trees, bush, or undesirable weeds). The project has been recently mowed	Grass mowed in early Fall 2018. Trees and brush along toe of revetment causes increased slope erosion at each location. Brush needs to be cut flush with the ground to prevent trapping debris. Large trees on lower portion of the project need to be assessed for removal. Trimming of land side branches and cutting of upper trees on slope can occur without impacting potential fish benefit.
		M	Minimal vegetation growth (brush, weeds, or trees 2 inches in diameter or smaller) is present. This vegetation must be removed but does not currently threaten the operation or integrity of the levee.	
		U	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present and must to be removed to reestablish or ascertain project integrity.	
2. Encroachments	**A**	**A**	No trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the levee.	
		M	Trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	
		U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the revetment.	
3. Slope Stability	**M**	**A**	No slides, sloughs, tension cracking, slope depressions, or bulges are present.	L0+78 to L12+50, numerous slumps in riverward slope. Identified in 2007, worse since 2010. Occurs in heavy silt and sod cover overlying riprap slope.
		M	Minor slope stability problems that do not pose an immediate threat to the revetment.	
		U	Major slope stability problems (ex. deep seated sliding) identified that must be repaired to reestablish the integrity of the revetment.	
4. Erosion/Bank Caving	**M**	**A**	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no significant woody vegetation present.	Stations L6+50 to L8+50 observed toe of revetment may be gone, leaving 12" to 18" vertical bank. Need to assess at low water. Accelerated erosion observed both U/S and D/S of brush at the toe. Identified in 2007. Willow bunches including root wads should be removed.
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the project. Unwanted vegetation must be cleared or sprayed in order to fully assess settlement issues.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
5. Settlement[2]	**M**	**A**	Existing revetment protection is properly maintained, undamaged, and clearly visible.	L11+00 to L12+50, approximately 5' of the riverward shoulder appears to be 1/2-foot low. Identified in 2007.
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the project. Unwanted vegetation must be cleared or sprayed in order to fully assess settlement issues.	
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.	
6. Depressions/ Rutting	**A**	**A**	There are no noticeable depressions along the revetment.	
		M	There are some infrequent minor depressions less than 6 inches deep along the revetment that will pond water.	
		U	There are depressions greater than 6 inches deep that will pond water.	

Bank Protection

For use during Continuing Eligibility Inspections of bank protection projects

Rated Item	Rating	Rating Guidelines		Location/ Remarks/ Recommendations
7. Cracking	**M**	**A**	Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the ground surface.	Near Station L10+00 cracks in overlying silt layer run parallel to top of bank, 0.5 to 1.5' deep and 0.5 to 1.0' wide due to riverward soil sloughing. Identified in 2007.
		M	Longitudinal and/or transverse cracks up to 6 inches in depth with no vertical movement along the crack. No cracks extend continuously through the ground surface. Longitudinal cracks are no longer then the height of the cross section.	
		U	Cracks exceed 6 inches in depth. Longitudinal cracks are longer than the height of the cross section and/or exhibit vertical movement along the crack. Transverse cracks extend through the entire project top.	
8. Animal Control	**A**	**A**	Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.	
		M	The existing animal burrow control program needs to be improved. Several burrows are present which may lead to seepage or slope stability problems, and they require immediate attention.	
		U	Animal burrow control program is not effective or is nonexistent. Significant maintenance is required to fill existing burrows, and the levee will not provide reliable flood protection until this maintenance is complete.	
9. Riprap Revetments & Bank Protection	**M**	**A**	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	Stations L6+50 to L8+50 toe of revetment may be gone, leaving 12" to 18" vertical bank. Lower slope near Sta. 10+00 and downstream has potential slumpage and riprap displacement. Sponsor to check these areas during low water to determine extent of damage and if any repairs are warranted.
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
10. Revetments other than Riprap	**N/A**	**A**	Existing revetment protection is properly maintained, undamaged, and clearly visible.	
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the project. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.	
		N/A	There are no such revetments protecting this feature of the system.	
11. Seepage	**A**	**A**	No evidence or history of unrepaired seepage, saturated areas, or boils.	
		M	Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside toe but not on the landward slope of the project. No evidence of soil transport.	
		U	Evidence or history of active seepage, extensive saturated areas, or boils.	
		N/A	There is no potential for seepage along this revetment.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable.

[1] If there is significant growth on the levee that inhibits the inspection of animal burrows or other items, the inspection should be ended until this item is corrected.

[2] Detailed survey elevations are normally required during Periodic Inspections, and whenever there are obvious visual settlements.

Bank Protection Project
Supplemental Data Sheet

This form is intended for the Corps' internal use and may not need to be updated with every inspection.

Name of Project:	Wilson River Revetment
Sponsor:	Tillamook County Department of Emergency Services
Location:	Vicinity of Hwy 101
River Basin:	Tillamook; Tillamook; Oregon Coastal
Project Description:	Wilson River Revetment: 1213 LF of Riprap bank protection
Authority that Project was Constructed Under:	Section 14
Date of Construction:	1952
Approximate Annual Maintenance Costs:	
Construction:	☑ Federally Constructed ☐ Non-Federally Constructed
Maintenance:	☐ Federally Maintained ☑ Non-Federally Maintained

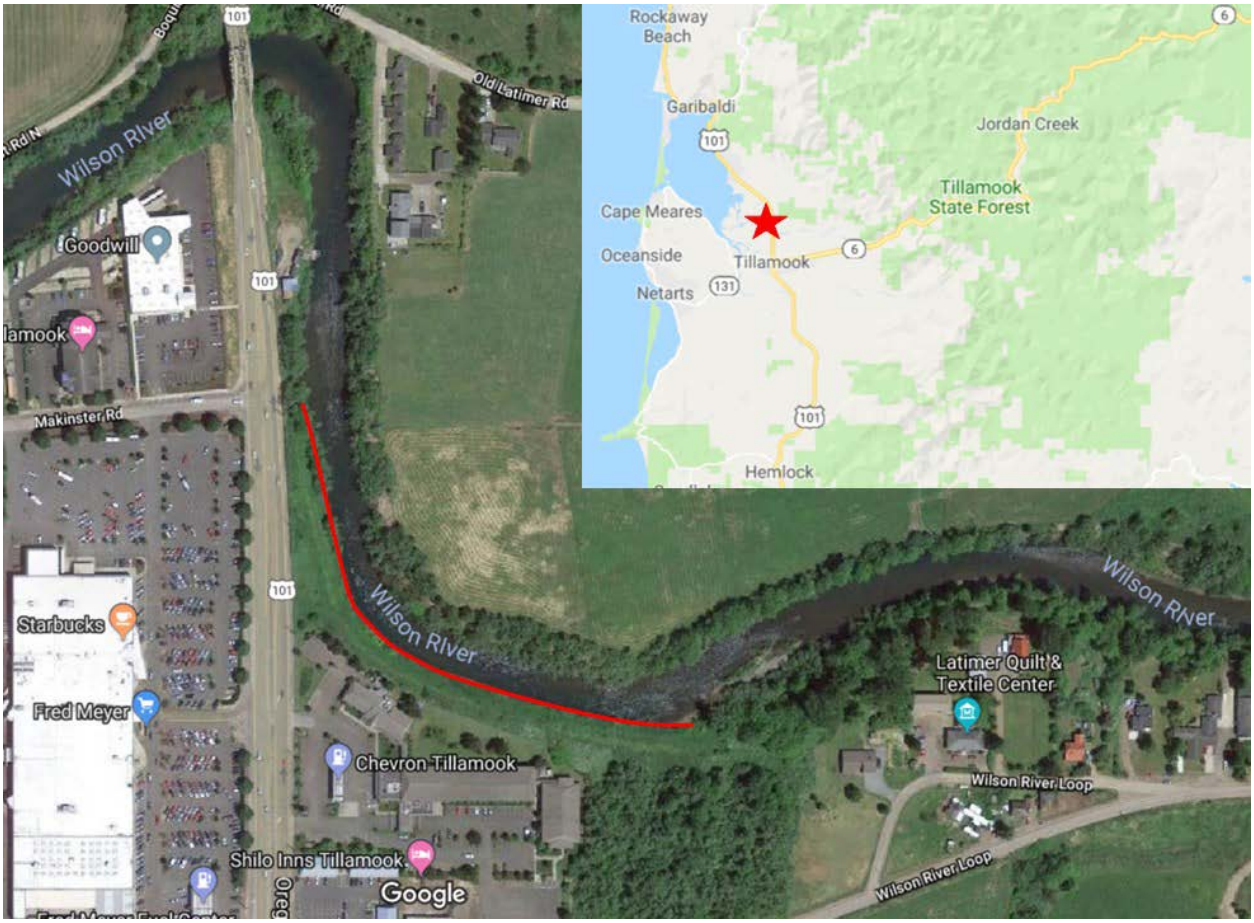
Datum Information:

a. Datum used for the design and construction of this project is: MSL, 1947 Adj.

b. Current recommended datum for this project is:

c. Has the project been converted to the current recommended datum? ☐ Yes ☐ No

Project Embankment Data:	Protected Features (For use in preparing estimates and PIRs):
a. Project Designed Gage Function Reading/Station:	a. Total acres protected:
b. Level of Protection Provided:	b. Total agricultural production acres protected:
c. Average Height of Protection:	c. Towns:
d. Average top Width:	d. Businesses:
e. Average Side Slope:	e. Residences:
	f. Roads:
	g. Utilities:
	h. Barns:
	i. Machine Sheds:
	j. Outbuildings:
	k: Irrigation Systems:
	l: Grain Bins:
	m. Other Facilities:



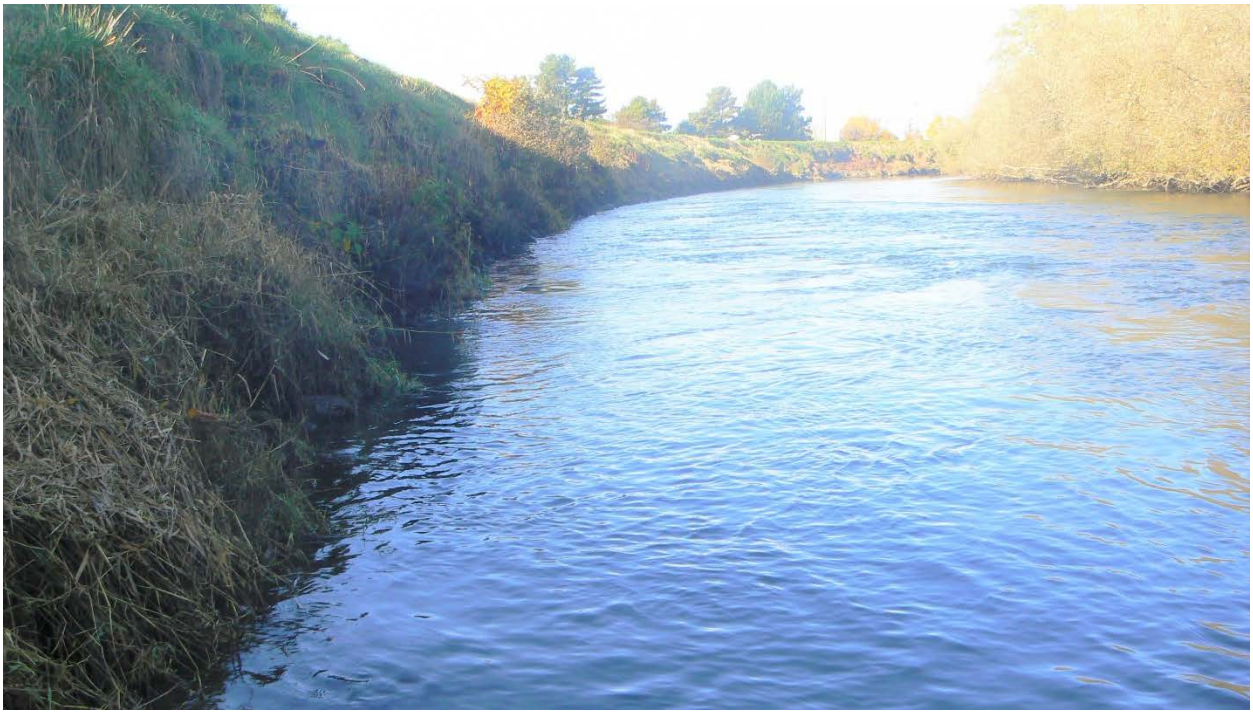
Wilson River Bank Protection Location. Located in Tillamook, OR, adjacent to Hwy 101.

Middle and upper portion of revetment looking upstream. Note small willow needing to be cut.

View D/S of middle and lower portion of revetment. Older cracks in overlying silt running parallel to the river are visible on the slope.

Upstream end of revetment looking U/S. Project had vegetation cutting in early Fall.

View downstream from upstream end of revetment. Riprap not visible from top of slope.



View downstream of riprap exposed at waterline taken from U/S end of revetment. Note the thick layer of silt creating an oversteepened slope that is overlying the 1V:2H riprap slope.

Woody debris caught between slumped blocks of silt on lower slope of revetment. Should be removed to prevent additional debris from getting caught and exacerbating erosion.

View D/S of overlying silt erosion on lower slope exposing riprap between Sta. 7+00 to 8+00.

Close-up of area just before bend where river has eroded the overlying thick silt layer present on the 1V:2H riprap slope. Any lost riprap needs to be replaced to restore slope integrity.

View downstream from near Sta. 8+00. Some riprap exposed at waterline. Trees need to be removed from slope or at least have back sides cut to reduce drag during high water events.

Areas of large willows growing through lower end of revetment slope. Numerous slumped silt areas present in this area. D/S end of project is located just beyond the blackberries on crest.

View upstream from near end of cleared lower portion of revetment.

View upstream from near downstream end of project. Numerous slumped blocks of silt overlying the riprapped slope and abundant willows growing through the revetment requiring removal or trimming of back side.

21 NPPRO NPP 601.1 (Bank Protection, Wilson River near Tillamook, Ore.)

Chief, Engineering Division, Portland District. 19 August 1952.

Chief, Real Estate Division, Portland District.

Construction Permit for Bank Protection Work, Wilson River near Tillamook.

1. Reference is made to memorandum, your Division, above subject, dated 17 June 1952.

2. Attention is invited to the inclosed copies of a permit from the County of Tillamook dated the 2nd day of July 1952, which grants all the right-of-way requested. Most of the right-of-way is owned by Bertha Hanson Finley and Alva Finley, wife and husband, however, a small portion encroaches on Highway 101. O. E. Effenberger, Tillamook County Judge, should be contacted personally concerning the agreement between the State Highway Commission and Tillamook County authorizing the use of highway right-of-way for the proposed bank protection project.

B. L. Price,
Chief, Real Estate Division.

1 Incl. (dup)
Cy, permit, map not atchd.

cc: Chief, Construction Division,
w/cy, in dup, of permit w/print
atchd.

Dictated	
Typed	
Dist. Engr.	
Exec. Off.	
Exec.Asst.Mil.	
Ex. Asst. Civ.	
Mgmt.	
Legal	
Safety	
Personnel	
Real Estate	2
Procurement	
Mech. Equip.	
Property	
Office Ser.	
Gen. Service	
Fiscal	
Operations	
Engineering	
acy	1

STATE OF OREGON)
) ss.
COUNTY OF TILLAMOOK)

WHEREAS, the District Engineer, Portland District, Corps of Engineers, U. S. Army, under the supervision of the Chief of Engineers, U. S. Army, proposes to perform certain emergency flood control improvements and levee repair on the left bank of the Wilson River upstream from the bridge on Highway No. 101 near the city of Tillamook, Tillamook County, State of Oregon, on land subject to easements in favor of said Tillamook County, and whereas such improvements will be of material benefit and value to the said County, the public generally, as well as to the lands on which the work is to be performed and to the lands lying adjacent thereto,

NOW, THEREFORE, for and in consideration of the benefits and advantages accruing to said County, the public, and to certain lands located therein, by virtue of such contemplated improvements and repair, the undersigned does hereby consent, permit and grant to the United States of America, and/or its contractors, the right to enter upon the land hereinafter described and to perform the necessary emergency flood control improvements and levee repair, as indicated on the attached print identified as follows:

Wilson River, Oregon
Emergency Bank Protection
Vicinity of Highway 101, Tillamook, Ore.
Plan and Details
No. WS-2-1, Dated 27 June 1952.

Tillamook County, State of Oregon, agrees as consideration for the performance of the improvements contemplated by this permit to provide without cost to the United States all lands, easements and rights-of-way necessary for the construction of the project; to maintain and operate all the works after completion of the project in accordance with regulations prescribed by the Secretary of the Army; to hold and save the United States of America and/or its contractors free from damages due to construction of the project; and to contribute funds in the amount of $10,000.00 toward the initial cost of the project.

Dated this 2nd day of July, 1952.

TILLAMOOK COUNTY, Acting by and through the County Court, Tillamook, Oregon.

By: O. E. Effenberger
O. E. Effenberger
Title: County Judge

By: Walter Schumacher
Title: County Commissioner

By: August Schlosser
Title: County Commissioner

(SEAL)

ATTEST: ESTHER LOCKE, COUNTY CLERK

By: Leona M. Anderson

Title: Deputy

27 NPPRO
NPP 601.1 (Wilson River, Oregon, Vicinity of Highway 101, Tillamook, Oregon, Emergency Bank Protection)

MEMORANDUM FOR FILE 25 August 1955

1. NAME OF PROJECT: Wilson River, Oregon, Emergency Bank Protection Near Tillamook, Oregon.

2. SPONSORING AGENCY: County Court, Tillamook County, Oregon.

3. GENERAL DESCRIPTION OF SITE AND TOTAL ACREAGE: A parcel of land located along and adjacent to the left bank of the Wilson River in Section 19, Township 1 South, Range 9 West of the Willamette River, Tillamook County, Oregon, containing 2.536 acres, more or less.

4. RIGHT-OF-WAY DRAWING, Unnumbered, DATED 12 JUNE 1952.

5. POSSESSION MADE AVAILABLE TO THE UNITED STATES OF AMERICA: By Tillamook County, acting by and through the County Court, Tillamook, Oregon, on 2 July 1952.

6. TRACT REGISTER

Number of Tracts	Names of Owners	Approx. Acreage	Estate Acquired	Recording Data
1	Bertha Hansen Finley and Alva Finley	2.536	Easement	Not available as to volume & page. Filed under County Clerk's No. 124613 on 17 July 1952, Tillamook County, Oregon Deed Records.

E. M. GROGAN
Realty Assistant

BOOK U PAGE 554

FILED
APR 28 1952
ESTHER LOCKE
COUNTY CLERK
BY _____ DEPUTY

RESOLUTION

To the Secretary of the Army, United States of America.

BE IT KNOWN, THAT WE, the undersigned members of the Tillamook County Court, hereinafter called the "Court", organized and existing under the laws of the State of Oregon and acting for and on behalf of Tillamook County, Oregon, at a special meeting convened on the 28th day of April, 1952, at Tillamook, Oregon, do hereby affirm that:

WHEREAS, Section 14 of the Flood Control Act of 1946, provides, among other things, that the Secretary of the Army is authorized to expend public funds for the construction of emergency bank protection works to prevent flood damage to public works when in the opinion of the Chief of Engineers such work is advisable, and

WHEREAS, the existing levee along the left bank of the Wilson River, a short distance upstream from the bridge on U.S. Highway No. 101, near Tillamook, Oregon, which has provided flood protection to the immediate community and U.S. Highway No. 101, is deemed a public work within the meaning of the above-referenced statute, and

WHEREAS, said levee has been eroded seriously by past floods and is in danger of being completely destroyed unless it is strengthened and restored, and

WHEREAS, it is deemed in the public interest to provide flood protection for the above-mentioned vicinity, and

WHEREAS, the Court is willing to guarantee continued maintenance and operation of said flood protection works and comply with other required assurances, and

WHEREAS, the Court wishes to express its unqualified approval of the above,

NOW, THEREFORE, Be it resolved that the Court shall:

a. Provide without cost to the United States all lands, easements and rights-of-way necessary for the construction of the project;

b. Hold and save the United States free from damages due to the construction works;

c. Maintain and operate all the works after completion in accordance with regulations prescribed by the Secretary of the Army, and

d. Contribute funds in the amount of $10,000.00 toward the initial cost of the work.

BE IT FURTHER RESOLVED, that this resolution shall be incorporated in the minutes of this meeting and a copy thereof be sent to the Department of the Army.

COUNTY COURT, TILLAMOOK COUNTY, STATE OF OREGON

Attest:

County Clerk

TILLAMOOK COUNTY, Acting by and through the County Court, Tillamook, Oregon.

By
O. V. Effenberger,
County Judge.

By
August Schollmeyer,
County Commissioner.

By
Wesley Shulmerich,
County Commissioner.

State of Oregon)
) ss.
County of Tillamook)

I, , Secretary, in and for the above-named Court, do hereby certify that the above is a true and correct copy of a resolution passed by the Court at a meeting held on _____.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this ____ day of _____.

By
Secretary, County Court.

(SEAL)