

APPEAL BRIEF
FEMA: 1733-DR-OR
FEMA No.: 057-U1ZZV-00
Applicant: Port of Tillamook Bay (POTB)
PW No: 946 (Alternate Project #13 to PW936(1))
Southern Flow Corridor Project

STATEMENT OF THE CASE

This Project, entitled "Southern Flow Corridor Project" is one of several alternate projects to DR-1733-OR's Project Worksheet (PW) 936 for the repair of POTB's historic railroad. By letter on March 16, 2011 Charles Axton, FEMA Region X Recovery Division Director, determined that this project is ineligible for Public Assistance (PA) program grant funding for the following reasons:

1. The project does not appear to be cost-effective and has not sufficiently demonstrated to have a Benefit Cost Analysis (BCA) greater than 1.0. This issue was further clarified by Charles Axton in a letter dated March 24, 2011 that identified two key issues:
 - a. The lack of use of actual historic damages to validate the FEMA HAZUS model depth damage functions
 - b. Failure to adequately document project costs
2. The project does not appear to solve the threat independently or constitute a functional portion of a solution to the threat
3. The project does not appear to have the necessary assurances related to long-term and ongoing maintenance, repairs and operations

For those reasons, FEMA denied POTB's funding request for the Southern Flow Corridor Project. Subsequent discussions with FEMA staff established that FEMA would accept revised documents, including a BCA and Scope of Work, in addition to clarified statements of commitment relating to item 3 above during the appeal period.

POTB files this appeal of FEMA's denial pursuant to 44 CFR 206.440 and has submitted this appeal within the 60-day period required by 44 CFR 206.206.

SUMMARY OF ARGUMENTS

1. This project is demonstrated to be cost effective with a BCA of 1.14.

Per discussions with FEMA staff and the supplementary letter clarifying FEMA's issues with the BCA from Charles Axton dated March 16, 2011 a validation of the modeled damages with actual observed damages was undertaken. The project costs were also reviewed and revised, including construction, real estate and maintenance costs. A revised BCA for the Southern Flow Corridor (Exhibit C) is attached with full details.

2. The Southern Flow Corridor is a standalone, independent project that constitutes the single most cost effective alternative for reducing flooding in the lower Wilson River floodplain. Some confusion may have been introduced on this issue in poorly communicating the difference between Project Exodus and the Southern Flow Corridor, especially as the Project Exodus design report was attached and the Alternate Project Request cover sheet included more than the Southern Flow Corridor.

The issue can best be clarified by using Corps of Engineers definitions from their flood planning guidelines. A “Measure” is a stand-alone, independent project that is economically justified on its own. An “Alternative” is a collection of measures that together seek to maximize meeting the planning goals and objectives.

Using these terms, Project Exodus is the preferred Alternative for meeting the Oregon Solutions goals and objectives for the lower Wilson River. The Southern Flow Corridor is one of three measures that comprise this Alternative.

This Alternate Project Request deals only with the Southern Flow Corridor. However, the Project Exodus Design Report is again submitted as Exhibit B here within this Appeal for the sole purpose of documenting the planning goals, objectives, background information and process used to arrive at the preferred Alternative. Since the Project Exodus Design Report was issued, the Southern Flow Corridor project has been revised to meet the desires and concerns of the private property owners affected by the Project, something that was not done at the initial stage.

Therefore, a new report is included with this brief as Exhibit A – the Southern Flow Corridor – Landowner Preferred Alternative Preliminary Design Report. This report (hereafter referred to as the Southern Flow Corridor Design Report) contains the most up to date information on the Southern Flow Corridor and supersedes any details given in the Project Exodus Design Report. This new report should be used for evaluating the Southern Flow Corridor in terms of scope of work, cost estimates, levee and dike alignments, etc.

3. POTB is committed to providing long-term and ongoing maintenance, repairs and operations of the completed project site. The administrative framework for accomplishing that commitment is described below in Section III General Work Eligibility.

Project maintenance costs previously submitted were also reviewed and compared with current estimated costs incurred by Tillamook County and various private parties in maintenance of nearby dikes and floodgates. The previous maintenance cost used of \$20,000 per year remains unchanged based on this review. Details of how the cost was estimated are contained in the Southern Flow Corridor Design Report.

PROJECT SUMMARY AND ELIGIBILITY

A full description of the Project is contained in the Southern Flow Corridor Design Report attached hereto as Exhibit A. By way of summary, the Southern Flow Corridor Project is described below. These sections also address project eligibility as well as respond to the matters that are at issue in this appeal.

I. PROJECT REQUIREMENTS AND SCOPE OF WORK

DAP9525.13 (VII) (G) The proposal must include a description of the project, including the project location, an estimate of costs, a schedule of work, including a starting date for work and a targeted completion date and the necessary assurances to document compliance with special requirements, including, but not limited to floodplain management, environmental review, hazard mitigation, protection of wetlands and insurance.

44 CFR 206.203(d)(2)(v). Historic and any other legal considerations should also be identified. The applicant should identify the source of funding for projects when the cost estimate for the alternate project is greater than the eligible alternate project funding.

(1) Project Description

The Southern Flow Corridor Project proposes to remove manmade impediments to flood flows to the maximum extent possible in the lower Wilson River floodplain. By doing so, flood level reductions exceeding one point five feet in some locations can be obtained in the area.

The Southern Flow Corridor project would:

- Remove approximately 36,000 lineal feet of existing levee
- Lower an additional 11,100 feet of levee
- Construct 7,000 feet of new setback tidal dike and upgrade an additional 3,100 feet of pre-existing tidal dike
- Replace an existing floodgate structure with a new one
- Provide over 520 acres of restored tidal marsh habitat in a key location of the Tillamook Bay Estuary

The 10,100 feet of new and upgraded tidal dike must be constructed to provide year-round protection to adjacent agricultural lands from twice daily tidal inundation, particularly during the summertime higher tides. It should also be noted that the habitat restoration component of the project is a byproduct of the flood damage reduction benefits. Virtually all the costs related to habitat restoration are either anticipated to be required as permit conditions or benefit the flood damage reduction purpose of the Project. For instance, ditch filling is desired to allow the formation of natural tidal channels, but this allows on-site disposal of organic soils that would otherwise need to be hauled off site and disposed of at much greater cost. Additionally, the excavated tidal channels shown, function as required flood conveyance or agricultural drainage channels, but are given sinuosity in order to provide habitat benefits.

Figure 1 below shows the Project elements. The Project is described in more detail in the attached Southern Flow Corridor Design Report.

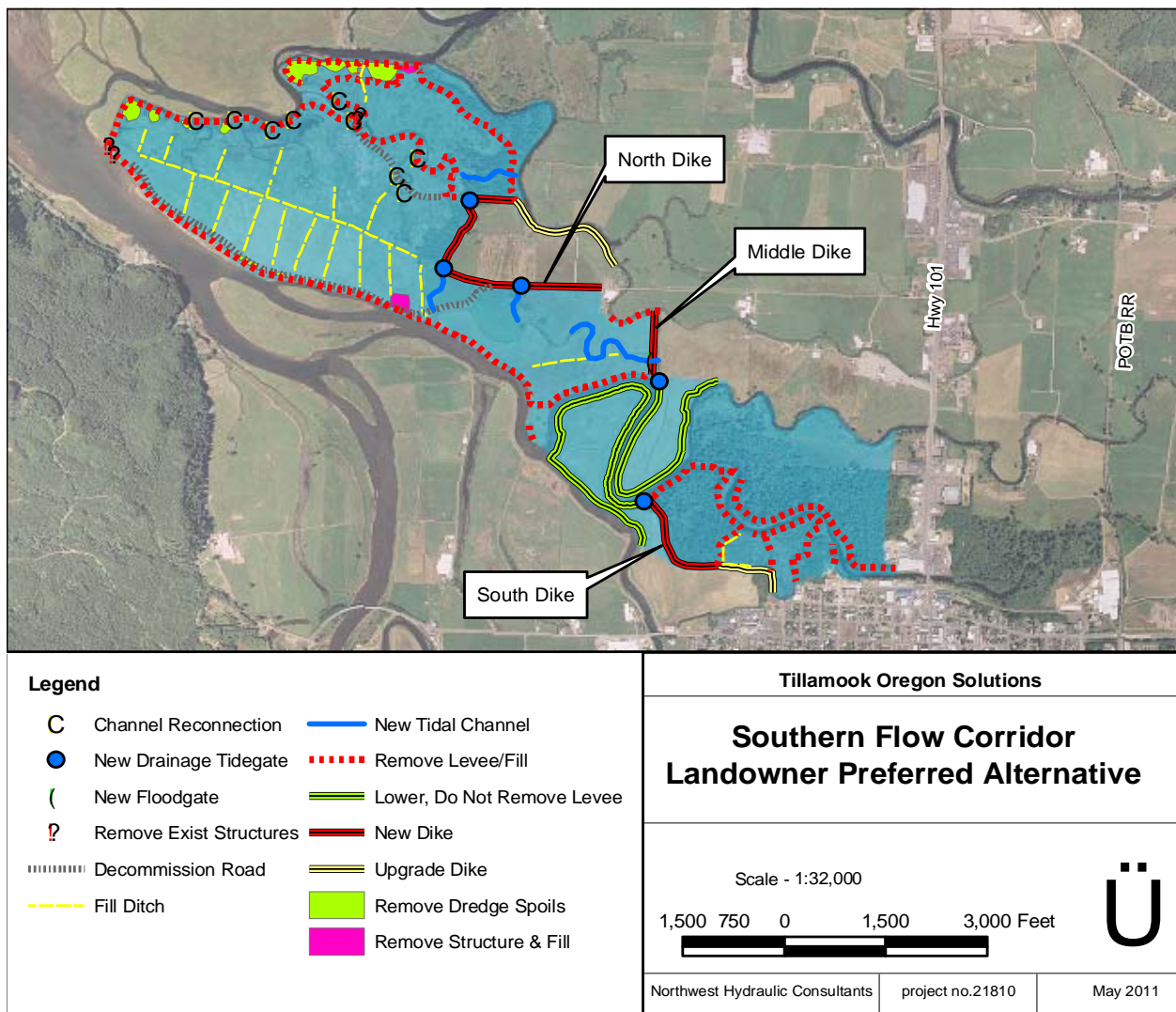


Figure 1: Southern Flow Corridor Project Elements

Also attached is the Project Exodus Design Report, dated February 2010 (Exhibit B). As discussed above, this report is provided here for the sole purpose of providing the background, objectives and methods that were used to investigate possible flood damage reduction measures within the flood plain that lies between Hoquarton Slough, Wilson River and Tillamook Bay. The report also describes various alternatives that were evaluated. Finally, the report presents a preliminary design for a recommended Project, consisting of three independent, standalone project elements, one of which is the Southern Flow Corridor. This report is provided for background and context of the Project, however, all design details, cost estimates and land needs have been refined since the publication of this report. The reader should refer to the Southern Flow Corridor Design Report (Exhibit A) for up-to-date project details.

(2) **Project Location**

The Southern Flow Corridor Project area is located at the confluence of the Wilson, Trask and Tillamook Rivers on the southern end of Tillamook Bay (see Figure 2 below). These three rivers and multiple sloughs connect in a complex delta system around the City of Tillamook. The area of influence of the Project (i.e. area of flood level reduction created by the Project) extends up the Wilson River east of the POTB railroad, west to Tillamook Bay and up the Tillamook and Trask Rivers to the south. Please refer to the Southern Flow Corridor Design Report (Exhibit A) for figures showing the extents of benefit from this project.

GPS Point #1: 45°27'32.76"N 123°50'45.74"W; then Northwesterly to GPS Point #2: 45°28'32.54"N 123°53'32.83"W; then Northeasterly to GPS Point #3: 45°28'26.69"N 123°52'09.36"W; then Southeasterly to GPS Point #4: 45°28'00.40"N 123°51 '23.24"W.

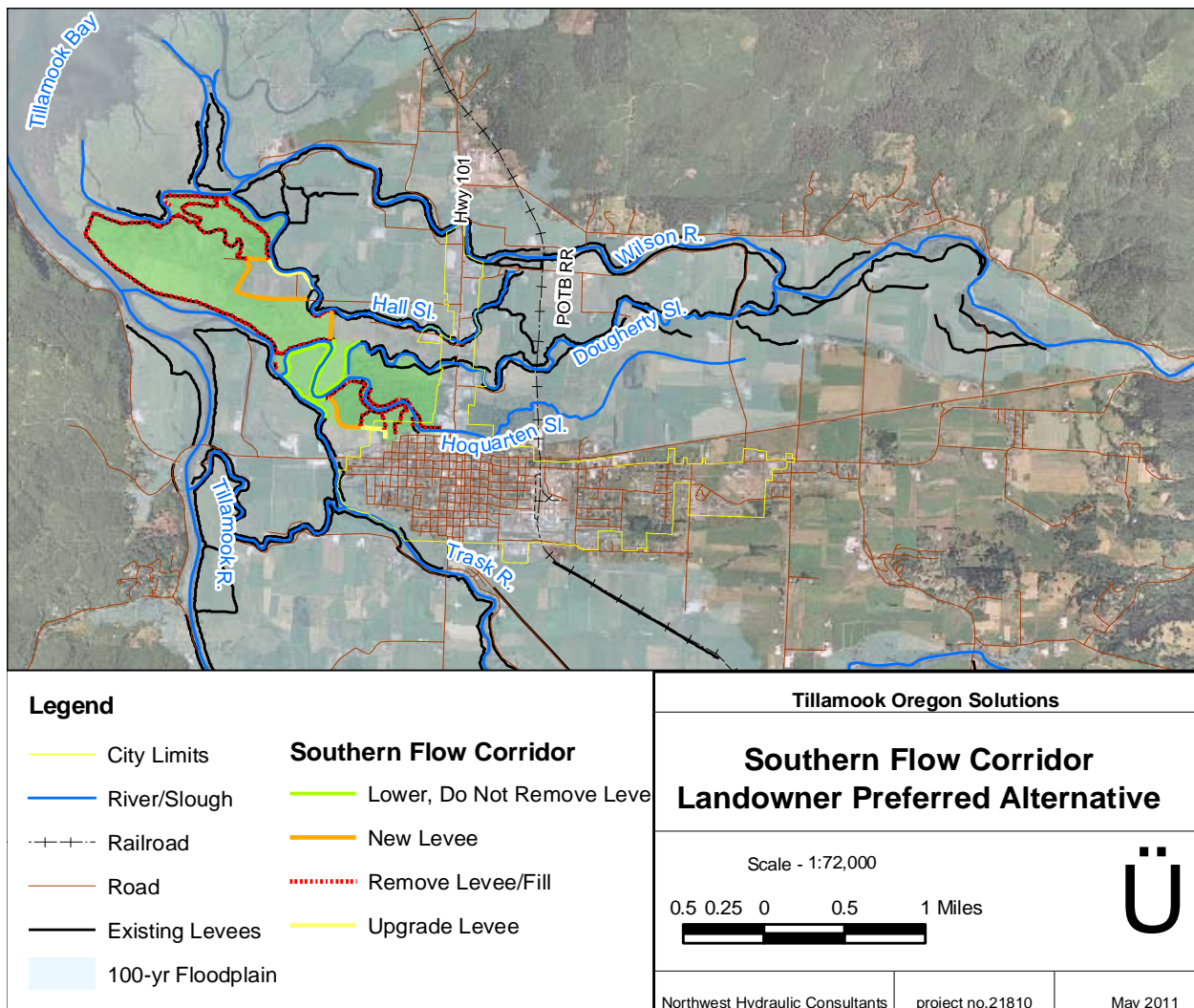


Figure 2: Southern Flow Corridor Project Location

(3) Project Function

The Southern Flow Corridor function is to reduce flood levels to near natural levels by the removal, to the maximum extent possible, of man-made impediments to flow. The Wilson River flows through a steep canyon out of the mountains where it enters the lower valley about six miles above Tillamook Bay. The river channel meanders along the northern side of the floodplain and is perched - it runs in a channel with natural banks that are higher than the flood plains around it, while the southern side of the flood plain contains the lowest elevations. As a consequence, flood flows that spill over the south river banks never return to the channel, but instead flow south and west across the flood plain, across Highway 101 and mix with Trask and Tillamook River floodwaters at the head of the bay. As Figure 2 shows, below Highway 101 there are numerous levees bounding virtually the sloughs and channels in the area, a legacy of over a century of marsh reclamation, diking and draining. When the westerly flood flows hit

these levees, especially those that run north-south, a back water effect occurs, substantially contributing to the flood conditions along the Highway 101 business district and POTB's railroad. The Southern Flow Corridor project would remove these flow impediments to the maximum extent possible, removing or lowering over 47,000 lineal feet of levee in addition to remnant dredge spoils that were deposited between 1900 – 1973.

The 7,000 feet of new tidal dikes must be constructed to provide year-round protection to adjacent agricultural lands from twice daily tidal inundation, particularly during the summertime higher tides. Unless these dikes are constructed, the daily tidal cycle would convert the lands behind the dikes to salt marsh, making the lands no longer suitable for agricultural uses and necessitating the acquisition of entire farm parcels, together with the farm homes and agricultural buildings, thereby substantially increasing the total project costs. Privately held land in the amount of 119.8 acres will be purchased and flood easements will be acquired on three additional properties, thereby leaving the homes and agricultural operations behind the new setback dikes intact.

It is important to note the new dikes do not function as flood control levees or flood control works designed to exclude riverine floodwaters. Due to the floodwaters that arrive from upstream spillover as described above, the new setback dikes and lowered existing dikes are built as low as possible to pass river flood flows out without restriction while still preventing high tides from getting in. The dikes are designed to function as overtopping spillways during floods. The middle dike also includes a high capacity flood gate structure to pass flows and allow rapid post-flood drainage. Flood flows will pass through this structure every second or third year, a sufficient frequency which to keep the channels open and able to convey flood flows out to the main channels and bay along relic channels where the structures will be placed.

The habitat restoration function of the Project will be enabled primarily by the removal of the existing levees, culverts and other fill. Daily tides will then begin the process of rebuilding natural marsh surfaces, conversion of vegetation to salt-tolerant marsh species and formation of tidal channels. Filling of existing linear ditches provides a disposal location for organic soils and also serves to enhance the creation of natural channels.

A summary of the functions and benefits of the Project is as follows:

- Provides significant flood level reduction to near natural levels over a wide area of the lower Wilson River floodplain
- Provides faster post-flood drainage and consequent road re-openings
- Protects adjacent agricultural lands from tidal inundation and provides improved drainage to these lands

- Removes County obligations to maintain over 30,000 feet of sub-standard levee located on riverbanks and prone to erosion and failure. Replaces this with 7,000 feet of new tidal dike, setback from all main river channels and engineered for long term function with minimal maintenance
- Provides very significant habitat restoration value of critical habitat types in a key ecological location

(4) Cost Estimates and Financial Assurances

A summary of estimated costs of the Southern Flow Corridor is presented here. Cost details and methods of development are given in the Southern Flow Corridor Design Report (Exhibit A).

ITEM	COST
Permitting, Design & Construction	\$6,517,000
Property Acquisition	\$1,540,000
Maintenance	\$ 20,000/year

The sources of funding for total project costs, including property acquisition, are described in the table below. These sources include acquisition and development funds from the Oregon Watershed Enhancement Board (OWEB) for which a commitment letter is attached as Exhibit J.

SOURCES OF FUNDING	AMOUNT
FEMA Alternate Project Funds	\$3,225,000
OWEB Restoration Funds	\$1,625,000
State Bond Matching Funds	\$1,075,000
Other grant/loan funding	\$2,132,000
	\$8,057,000

Additionally, a loan commitment dated May 18, 2011 in the amount of up to \$3,000,000 has been provided by TLC Federal Credit Union (Exhibit K). Tillamook County, to whom the commitment is made, has stated that it intends to replace the loan prior to the need for the funds.

More specifically, the Southern Flow Corridor is a flood damage reduction Project. Aside from FEMA, there are few, if any other funding sources available for flood reduction projects. However, the strategic location of the Southern Flow Corridor adjoining the estuary at the confluence of two major coastal salmon rivers, positions this Project to result in one of the largest habitat restoration projects on the Oregon Coast. Initially there was some skepticism that a hazard mitigation project could produce such

results. However, the full range of natural resource agencies at the Oregon Solutions table for this Project have come to embrace this project, to the extent that the May 13, 2011 Oregon Solutions meeting produced a unanimous endorsement.

This project will restore natural hydrologic processes to the site. It will re-establish tidal exchange with the bay and hydrologic connectivity between the Wilson and Trask Rivers and their associated flood plains. This will result in a large number of key priority habitats for fish and wildlife, including intertidal mudflats, tidally influenced freshwater wetlands, flood plain lowland riparian and linear wetlands, lowland non-linear forested wetlands and Sitka spruce forest.

For these reasons the Southern Flow Corridor is eligible for a wide array of habitat restoration funding. As soon as property acquisitions are complete, grant applications will be submitted to the National Oceanic and Atmospheric Administration (NOAA), Office of Ocean and Resource Management and the US Fish and Wildlife Service. These agencies have already provided funds for the acquisition of the original 377 acres presently owned by the County and are committed to seeing this project being completed. Although these agencies are represented on this Oregon Solutions Project and Design Teams, program limitations prevented the representatives from making formal commitments outside the grant application process.

Additionally, other funding sources have expressed strong interests in this project and have invited applications. These include the Oregon Department of Fish and Wildlife, the Nature Conservancy, the Oregon Hunters Association and others.

Oregon Solutions has an uninterrupted string of successful projects across the state. Eleven million dollars was just secured last month to make the Vernonia project funding complete. FEMA is involved in that project as well. The POTB and its Tillamook Oregon Solutions partners are confident that this project will be another Oregon Solutions success.

(5) Work Schedule

Proposed Work Schedule

ITEM	TIMELINE
Property Acquisition	May 2011 - July 2012
Environmental Assessment & Permitting	August 2011 - February 2013
Preliminary Design	August 2011 - February 2012
Final Design	February 2012 - March 2013
Procurement/Bidding	March - April 2013
Construction	May - October 2013
Project Closeout	December 2013

Property Acquisition is ongoing. Two options have been obtained and appraisals on ongoing on other parcels. Options on all properties and easements are anticipated to have been acquired by August 2011. Funding for property acquisition will be submitted to OWEB when completed. OWEB is waiting to fund the Project once all property details have been fixed. Complete acquisition is anticipated for completion by July 2012.

Environmental Assessment and Permitting: Nineteen months are budgeted for environmental assessment and permitting. As mentioned in the design report, the project has been designed for the ability to obtain a Corps of Engineers nationwide permit. Whether or not a nationwide or individual permit is required, it is an indication of the relative ease of permitting the Project is expected to have given the very large ecological benefits that will accrue.

On April 26, 2011 Mark Eberlein, FEMA Region X's Regional Environmental Officer, discussed this project during his visit to the POTB. Mr. Eberlein indicated an Environmental Impact Study (EIS) would most likely be required for the Southern Flow Corridor Project. Given the additional requirements and time an EIS would require, the project schedule includes a 19-month period for this activity. Work will begin in August 2011 with environmental scoping and field data collection and conclude in February 2013 with the issuance of permits for construction.

Preliminary Design: Preliminary Design will begin concurrently with the environmental assessment as they are complementary. The exact Project feature alignments must be designed and laid out so they can be field marked for wetlands and cultural resource assessments to begin. The extensive involvement of resource agencies in the Oregon Solutions process will be utilized to ensure project design details will maximize habitat restoration benefits and not become issues during permit review. Preliminary design will conclude with the submittal of 30% plans for permit review.

Final Design: Final design will complete the preliminary design and incorporate any permit review and other environmental assessment requirements that may occur. The final construction ready plans, specifications and engineering (PSE) package will be prepared.

Procurement/Bidding: A bid package will be prepared with the PSE and other required bid documents and advertised in April 2013. Bid award will follow shortly thereafter.

Construction: A six-month construction window is allotted from May through October 2013. The majority of the work is anticipated to be completed in the middle of this period during the time of lowest high tides.

Project Closeout: After the end of construction, administrative tasks needed for project documentation, accounting and other items will be completed and necessary reports submitted to the requesting agencies.

(6) **Special Requirements, Environmental Reviews and Permitting**

The Southern Flow Corridor Project has benefited from a large amount of information generated by previous studies and other efforts in the area, including the US Army Corps of Engineers Tillamook Feasibility Study and various studies completed by the Tillamook Estuaries Partnership. The flood analysis is based on a detailed hydraulic model calibrated and validated against data from four floods of varying sizes. The process of selecting the Project was completed through the locally driven, stakeholder based Oregon Solutions process, with both key resource agencies and local community participation throughout. For these reasons the Project has been well-vetted, has strong community and resource agency support and a strong technical basis to justify each element.

(7) **Floodplain Management**

The Project is located entirely within the floodplain and floodway of the Wilson River. As such, floodplain management regulations will apply, including zero rise criteria. The Southern Flow Corridor Design Report shows that the Project results in water level reductions across the entire lower Wilson River floodplain in a 100 year flood. During the permitting phase this will be documented using the official FEMA hydraulic model as part of the flood hazard permit.

(8) **Environmental Assessment**

A fairly extensive discussion on permitting and the favorable environmental consequences of the proposed Project is contained in the Southern Flow Corridor Design Report (Exhibit A). As stated therein, "No major hurdles are anticipated". The Southern Flow Corridor has large ecosystem restoration benefits and would likely qualify for a streamlined restoration permit. The Project has been designed to qualify under the Federal Nationwide Permit (NWP-27) and the General Authorization under the State of Oregon Removal-Fill law. It has also been designed to comport with NOAA fisheries restoration programmatic biological opinion (SLOPES IV).

(9) **Hazard Mitigation Plan**

Please refer to Section 13(a) and 13(f) of this brief for documentation of compliance with state and local mitigation plans.

(10) **Protection of Wetlands**

The project will restore or enhance over 520 acres of wetlands through the removal of levees and reconnection of floodplain with the river system.

(11) Insurance Requirement

The project reduces 100 year flood levels throughout its area of influence. Therefore, even though the Project is located within the floodway, no flood hazard permit issues are known at this time. This result is determined with the NHC model, which is related to but different from the official FEMA flood model. The Project will be modeled using the FEMA model during permitting to verify the no-rise finding. No structures are proposed that would be subject to flood insurance requirements.

(12) Property Acquisition

The Southern Flow Corridor will require the acquisition of title to 119.8 acres and flood easements over another 85.3 acres. The County is presently undertaking the acquisitions. The specific parcels and rationale for these acquisitions is described in the Southern Flow Corridor Project Report (Exhibit A) and is summarized in the table below:

ID	Property	Acres	Cost (\$)	Note
A	Fuhrman	1.5	\$ 675,000	Signed Option
B	Allen	4.3	\$ 31,300	Estimate
C	Jones	48.0	\$ 192,000	Scaled Appraisal
D	Sadri	66.0	\$ 485,000	Signed Option
E	Aufdermauer (Flood Easement)	50.5	\$ 27,800	Estimate
F	Beeler (Flood Easement)	34.8	\$ 19,100	Estimate
G	Temp. Construction Easements (2)	--	\$ 20,000	Estimate
		Subtotal	\$ 1,450,200	
	Appraisals/negotiations		\$ 60,500	
	Title Reports		\$ 2,500	
	Surveys for Legal Descriptions		\$ 12,000	
	Environmental Assessment		\$ 12,500	
	Closing costs/Title Insurance		\$ 2,500	
	TOTAL		\$ 1,540,200	

The status of each of these acquisitions is described as follows:

Sadri: A two year purchase option agreement was executed on February 23, 2011 for this 65.98 acre parcel in the amount of \$485,000. The County will exercise its option upon receipt of the OWEB grant funds that have been committed to the Project. This is expected to occur by early 2012. Acquisition will be completed by July 2012.

Fuhrman: This property consists of an approximate 1.48 acre parcel and single family residential structure. A two year purchase option agreement was executed on March 9, 2011 in the amount of \$675,000. The County will exercise its option upon receipt of the OWEB grant funds that have been committed to the Project. This is expected to occur by early 2012, with acquisition completed by July 2012.

Jones: This parcel consists of about 48 acres of marginal farmland. The yellow book appraisal is expected to be completed before the end of July 2011. The cost estimate presented here is based on a recently completed appraisal of the property that assumed the purchase of around 30 acres; the unit price from this appraisal was used for the new amount. The property will be under a purchase option agreement by September 2011. Funds for the purchase of this property are earmarked within the OWEB grant funds that have been committed to this Project. The is expected to occur by early 2012, with acquisition completed by July 2012.

Allen: This 4.25 acre parcel consists primarily of a disconnected slough that, once acquired, can be reconnected to further contribute to the flood discharge capacity of the Project. The yellow book appraisal is expected to be completed before the end of July 2011. The current estimate is based on unit acre costs from the Sadri purchase, as both parcels are primarily wetlands and open water. The property will be under a purchase option agreement by September 2011. Funds for the purchase of this property are included within the OWEB grant funds that have been committed to this Project. Acquisition will be completed by July 2012.

Aufdermauer/Beeler: Flood easements will be required over an 85.31 acre portion from the farmlands of these owners. This is due to the fact that these pastures are protected by levees that are slated to be lowered as part of this Project. The parcels will benefit from flood level reduction and drainage improvements due to the project. The flood easements will be negotiated and executed during final design of the Project, once the detailed requirements for drainage elevations and construction needs are determined.

Construction Easements: Three additional parcels owned by two parties will have work completed on their land as part of the Project. This work consists of either a) fill removal in an undiked area where the property will benefit from flood level reduction and will otherwise be unaffected and b) minor dike improvements necessary to tie into a new dike adjacent where the property will receive substantial flood level reduction benefits. In these cases \$10,000 for each owner is budgeted for obtaining a temporary construction access easement only.

(13) **Guidelines for Mitigation Projects**

Under DAP9525.13 (VII) (J) the types of mitigation projects that may be approved for alternate project funds are very broad. Under that guideline, mitigation measures may be the same type as would be eligible for funding under section 404 of the Stafford Act, the Hazard Mitigation Grant Program (HMGP). As such, a project must meet five minimum project eligibility criteria, 44 CFR 206.434(b), as follows:

(a) The Project conforms with the State Hazard Mitigation Plan (HMP):

HMP Goal 1 - Protect life and reduce injuries resulting from natural hazards

Presently, Highway 101 is closed several times each year due to flooding. When Wilson River Loop Road also closes due to high water, access to Tillamook County General Hospital, the County's only hospital, is cut off to ambulances and other emergency vehicles transporting patients from the north end of Tillamook County, the most populous area of the County outside the City of Tillamook. In such cases, access to Seaside Hospital in Clatsop County is also usually blocked south of Seaside, leaving this population at great risk to injury or death without any hospital care. The proposed project will reduce depths and durations of this highway closure due to flooding.

HMP Goal 2 - Minimize public and private property damages and the disruption of essential services

The stretch of commercial property that will be benefited by this Project consists of a swath of businesses 1,000 feet wide along Highway 101 over one mile long. This area represents the business core of Tillamook City's highway commercial district, containing a number of the County's major employers. Even those properties in this area that are elevated sustain damages due to business disruption. A number of the remaining businesses have sustained repetitive loss from direct flood damage. Moreover, when the highway closes there are major disruptions to businesses outside the flood plain due to employees who cannot get to work. The proposed project will have a dramatic effect in reducing property damage and business disruptions. There are over 500 structures in the overall area that receive some benefit in flood level reduction to the project.

HMP Goal 3 - Increase the resilience of local, regional and statewide economies

When Highway 101 closes, some of the County's largest employers have to either shut down or reduce production. Businesses such as Tillamook Cheese, Fred Meyer, Rosenberg's Builders Supply, to name a few, are either forced to close or sustain major disruptions. Moreover, goods in transit over Highway 6 from the Willamette Valley to points in the flood area, in North Tillamook or in Southern Clatsop County are unable to reach their destinations. The flow of feed to farmers and milk to the Tillamook County Creamery Association or bottlers in the Willamette Valley are interrupted. Milk production often has to be dumped. Once again, this Project will have substantial benefits to the resilience of local, regional and state economies.

HMP Goal 4 - Minimize the impact of natural hazards while protecting and restoring the environment and

HMP Short Term Action #3 - Continue seeking effective hazard mitigation opportunities compatible with habitat and fisheries protection via multi-objective mitigation efforts

Out of the 59 project alternatives considered as part of the US Army Corps of Engineers Feasibility Project and the ten project alternatives analyzed under Project Exodus, the Southern Flow Corridor project was not only the most effective at flood mitigation but it is also the one project that provides the most environmental restoration, with approximately 450 acres of salt marsh creation and many miles of stream restoration. Perhaps more importantly, the Southern Flow Corridor Project has substantial benefits to the federally listed threatened and endangered Coho Salmon, benefits to Chinook and Chum Salmon, as well as to Steelhead Trout.

Long Term Action #6 - Assist local communities in securing funding to implement measures to mitigate damage to buildings exposed to or having experienced repetitive losses

Although Tillamook County has done much to relocate National Flood Insurance Program (NFIP) repetitive loss structures, there are still yet other NFIP repetitive loss structures remaining in the Project area. Moreover, there are other repetitive loss structures in the Project area that are not in the NFIP. All of these would be directly benefited by FEMA funding of the proposed mitigation project.

(b) Provides a beneficial impact upon the designated disaster area

Tillamook County was designated as a disaster area under DR-1733-OR that also included a number of Western Oregon Counties and the state. As noted above, there are substantial benefits from this Project locally, regionally and for the State of Oregon.

(c) Conforms to environmental laws and regulations

In addition to the substantial flood mitigation benefits from this Project, it has very large ecosystem restoration benefits and will likely qualify for a streamlined restoration permit. The project has been designated to qualify under the Federal Nationwide Permit (NWP-27) and the General Authorization under the State of Oregon Removal-Fill law. It has also been designed to comport with NOAA Fisheries restoration programmatic biological opinion (SLOPES IV).

(d) Solves a problem independently or constitutes a functional portion of a solution

The Southern Flow Corridor constitutes a standalone, independent solution to flooding in the lower Wilson River floodplain. It provides substantial flood level reduction over a wide area through the removal of man-made flow impediments to the maximum extent possible. No other projects are needed for these benefits to occur.

Oregon Solutions, the locally driven stakeholder group formed after the flood of 2006 to address flooding issues, identified a suite of flood damage reduction measures for implementation. Many measures were immediately implemented, such as removal of fill in the floodway; but in recognition of the complexity of flood issues on the lower Wilson River, an extensive technical alternatives analysis was undertaken with multiple public meetings and input. As a result of this process, Oregon Solutions voted to select Project Exodus as the preferred alternative for implementation. Project Exodus consists of three geographically separated projects, one of which is the Southern Flow Corridor. The Southern Flow Corridor was selected as the first project to implement, due to its standalone nature, availability of FEMA funding and having the widest and most significant flood damage reduction benefits of the three projects.

The Southern Flow Corridor Design Report (Exhibit A) and Benefit-Cost Analysis (Exhibit C) describe and analyze this project on its own, with benefits and costs compared to existing, present day conditions.

(e) *Is cost effective*

The Stafford Act and its implementing regulations require that HMGP projects be cost effective. 44 CFR 206.434(b). Among the minimum criteria for cost effectiveness is that a project must be "cost effective and substantially reduce the risk of future damage, hardship, loss or suffering resulting from a major disaster".

The cost effectiveness of the Project has been demonstrated by a BCA using FEMA developed software. The Project functions to provide risk reduction over all floods from a two year through 100 year event. The BCA Report (Exhibit C), addresses the concerns raised, including providing validation of the FEMA depth-damage curves with local observed historic damages.

In addition to the five minimum project eligibility criteria addressed above, an HMGP project must also meet three minimum project selection criteria, 44 CFR 206.435(b), as follows:

(f) *The project must provide the best fit within the overall development plan and/or the Hazard Mitigation Plan for the area*

For more than a decade, POTB, Tillamook County and the City of Tillamook have worked with other local, state and federal partners for flood mitigation and ecosystem restoration planning for this area. Initially, with the US Army Corps of Engineers Feasibility Study and later with the Project Exodus study, HEC-RAS computer modeling was used to identify a series of alternatives which were narrowed down to the preferred Alternative identified in the Project Exodus Design Report (Exhibit B), of which the

Southern Flow Corridor is the more important stand-alone component. This Project has the solid support of the local community and local governments as well as state and federal regulators.

Additionally, this Project fulfills the following goals and actions of the current City of Tillamook Hazard Mitigation Plan.

Goal A: Protect Life and Property

Engage in and promote long-term, cost-effective regional planning and property protection activities that will reduce or eliminate adverse impacts from flooding.

Goal B: Preserve Natural Areas Related to Flooding

Preserve and restore natural areas and water conveyance to enhance flood plain function. Protect or enlarge existing wetlands and open areas to maintain or create additional floodwater holding areas. Preserve and enhance public open space along floodways, rivers, sloughs, tributary streams and the bay to insure adequate floodplain function.

Goal D: Modify existing structures to improve hydrologic function

Develop solutions that ensure all non-emergency flood mitigation maintains or enhances natural resource protection. Implement structural flood mitigation solutions to protect critical structures and infrastructure when other alternatives do not exist.

Goal F: Improve and Promote Partnerships, Coordination and Implementation

Foster on-going community partnerships and forge new links with other agencies and organizations within and outside the city when implementing flood mitigation activities.

(g) Selected projects should be those that clearly reduce loss of life, loss of essential services, damage to critical facilities or severe economic hardship

This Project will substantially reduce the risk of future flood damages to the benefitted section of railroad. As noted elsewhere in this application, the POTB railroad will continue to be an important asset to the POTB. In past years when Highway 101 and Wilson River Loop road closed, the railroad was the only transportation link joining the North and South ends of Tillamook County. Additionally, Tillamook County General Hospital, the County's only hospital, is a critical facility. As indicated elsewhere within this brief, the limited hospital access issue for much of the County's population will be reduced by the project.

(h) Have the greatest potential to reduce losses after examining the alternatives available

As indicated in several locations elsewhere within this brief, this Project has the greatest potential to reduce future losses after examining the 59 alternatives identified in the US Army Corps of Engineers Feasibility Study and the ten alternatives explored in Project Exodus. The HEC-RAS modeling demonstrates between a one foot and one point five foot reduction in flood levels along Highway 101 and a six inch reduction along the POTB's railroad during a 100 year flood event. No other project examined or modeled over the last decade has shown as much potential to reduce future losses.

The HMGP manual (at Page 5-3) also lists a number of other considerations the state may add to its evaluation criteria when selecting an HMGP project. Each of the following criteria from that list is justified by elements of the proposed Project:

- Level of protection provided by the Project
- Measures designed to accomplish multi-objectives, including damage reduction, environmental enhancement and economic recovery
- The applicant community's participation in the National Flood Insurance Program, compliance record and Community Rating System level
- Local commitment and public buy-in

II. Project Eligibility

FEMA's Disaster Assistance Policy for Alternate Projects authorizes an eligible applicant to perform hazard mitigation measures unrelated to the original facility. DAP9525.13 (VI). In order to do so, an applicant must first demonstrate project eligibility under the guidelines of DAP9525.13 (VII). The following section lists each of those guidelines and applicant's documentation of eligibility.

- (1) The applicant may request approval of an alternate project from FEMA through the grantee which an applicant determines that the public welfare would not be best served by either restoring a damaged facility or by restoring the function of a damaged facility. Either one of the two conditions must be met. See 44 CFR 206.203(d)(2).**

The POTB has previously received authorization from FEMA to pursue a series of Alternate Projects in lieu of restoring its damaged railroad facilities. This Project application is one in that series of Alternate Projects.

- (2) **The proposed alternate project must be a permanent project that benefits the general public. See 44 CFR 206.203(d)(2).**

The proposed project is permanent and the public benefits are substantial. As shown in the Southern Flow Corridor Design Report (Exhibit A), during the 100 year flood there will be up to a one foot reduction in flood levels at the south end of the Project area along Highway 101 and up to one point five foot flood reduction in flood levels at the north end of the Project area along Highway 101. This portion of the Project area, consisting of 500 feet on each side of Highway 101, contains a major piece of the City of Tillamook's commercial businesses representing millions of dollars in value. This Project will also reduce flooding on POTB's railroad up and downstream of the north-south rail line by about six inches in the 100 year flood. The environmental benefits will also be substantial. Between 500 and 600 acres of salt marsh wetland will be created as a direct consequence of this Project with direct benefit to the federally listed Coho Salmon. Also both Hoquarton and Dougherty Sloughs are currently listed by the Oregon Department of Environmental Quality (DEQ) as water quality impaired streams. According to the Director of DEQ, the beneficial effects on water quality in those streams as a direct result of this Project will be "immediate and dramatic".

- (3) **A damaged facility whose repair costs were used for an approved alternate project may be eligible for future PA funding provided that the applicant funded and performed the repairs to the original damaged facility**

This policy guidance does not appear to be relevant to the issue of eligibility of the proposed Alternate Project.

- (4) **Funds may be used to repair or expand other selected facilities to construct new facilities, purchase equipment or to fund hazard mitigation measures in accordance with other provisions of this policy**

This policy authorizes the proposed Alternate Project to be funded as a hazard mitigation measure.

- (5) **FEMA expects the proposed alternate project to serve the same general area that was being served by the originally funded project**

The proposed Alternate Project is situated entirely within the exterior boundaries of the POTB. The POTB's railroad traverses through the project area.

- (6) **The FEMA Regional Administrator must approve all alternate projects prior to the start of construction. See 44 CFR 206.203(d)(2)(v).**

The appeal is an important step in that process.

III. General Work Eligibility

Under 44 CFR 206.223 (a)(3), to be eligible for financial assistance, an item of work must be the legal responsibility of an eligible applicant

The POTB is a district and political subdivision of the State of Oregon organized under ORS 777.010 and 777.050. The State of Oregon has granted to each port, to the full extent possible "... full control of all bays, rivers and harbors within its limits and the sea." **ORS 777.120**. Under Oregon law, the POTB has legal authority and responsibility to:

- (1) Regulate the placement or removal of obstructions to navigation from the bays, rivers and harbors; and
- (2) Engage in the control and prevention of river and stream bank erosion and the prevention of damage from flood-water and sediment. Id.

The POTB is the owner of the railroad line and has been the owner prior to and since the date of the disaster. According to FEMA policy guidance, an eligible mitigation measure may be distinct from the integral parts of the damaged property. In this instance, the proposed hazard mitigation measure:

- (1) Directly benefits the disaster-damaged railroad line owned by the POTB.
- (2) Will be conducted within the jurisdictional boundaries of the POTB wherein the POTB has authority under Oregon law to take measures for the prevention of flood-related damage to life and property.
- (3) Will be conducted on land to which the POTB has made arrangements to obtain ownership.

Based on a review of Oregon law relating to POTB's, federal law and regulations, hazard mitigation project documentation and FEMA recovery policy guidance documents, including appeal letters construing the requirements for legal responsibility under 44 CFR 206.223(a), both Senior Deputy Legislative Counsel Dexter Johnson and Tillamook County Counsel William Sargent have found that the POTB satisfies the requirement for legal responsibility. Legislative Counsel

Dexter Johnson's August 24, 2010 letter opinion is attached as Exhibit D; and Tillamook County Counsel William Sargent's August 20, 2010 letter opinion is attached as Exhibit E.

As noted above, the POTB has made arrangements to take ownership of the lands and easements upon which the hazard mitigation project will be constructed. More specifically, there are two Intergovernmental Agreements (IGAs) that not only address the process for the POTB's assumption of ownership for the project lands, but that also provide for the necessary assurances related to long-term and ongoing maintenance, repairs and operations for the project site.

Under an IGA effective April 14, 2010 (Exhibit F) between the POTB and Tillamook County, a process is set forth for the transfer of title and easements for the Project Lands upon completion of certain conditions precedent, including approval of the project by FEMA as an eligible FEMA Alternate Project. See Section 1.1, Exhibit F. No transfer of the lands will be made until these conditions precedent have been fully completed. There is also an additional IGA dated July 31, 2002 (Exhibit G) between the County, Soil and Water Conservation District (SWCD) and the Oregon Department of Fish and Wildlife (ODFW) that provides an existing administrative framework for financing ongoing and long-term maintenance, repair and operations of the existing 377 acre County-owned wetland. The April 14, 2010 IGA (Exhibit F) provides at Section 2.3, that upon POTB's acquisition of the Project Lands, POTB will enter into an amended version of the July 31, 2002 IGA. This latter Section 2.3 is important because it provides the framework for ongoing and long term maintenance, repair and operations. For example, under the current version of the 2002 IGA, an annual work plan for maintenance is developed (Section 1.2), the County will coordinate and provide for ongoing maintenance and include within its annual budget such amounts as might be required to perform this work (Section 2.5). The County is responsible for making all Project maintenance expenditures (Section 2.3). A fund within the County budget is established for that purpose (Sections 5.1 and 5.2). The addition of the POTB to this financing structure further reinforces the ability of the POTB to carry out its financial assurance for ongoing and long term maintenance, repairs and operations.

Moreover, the Tillamook Bay Habitat and Estuary Improvement District (TBHEID) is an ORS Chapter 554 corporation for flood control that has been involved for more than a decade on project maintenance within the existing 377 acre tract despite the fact that the County tract is not part of its district by way of County membership in the corporation. Not only is TBHEID a member of the management committee that advises on project maintenance as described in Exhibit G, Section 5.3, but it is not subject to the same limitations of Oregon budget law as are the other parties. TBHEID collects approximately \$30,000

annually in dues from its members. TBHEID has also provided a letter of financial assurance to assist with the expenses of on-going and long term maintenance, repairs and operations (Exhibit H).

Finally, the POTB has been an enrolled participant with the city, county, state and federal partners in the Oregon Solutions program that led to the proposed Project. This Oregon Solutions Project was established by Oregon Governor Ted Kulongoski, who appointed State Senator Betsy Johnson and County Commissioner Mark Labhart as Co-Conveners. The staff of all of Oregon's congressional delegation are also active participants. The POTB and all other members of the Project Team each signed the Declaration of Cooperation and a separate Statement of Assurances. (Exhibit I). The proposed Project is an important part of applicant's commitment to this Oregon Solutions Project.

EXHIBIT LIST

- A. Southern Flow Corridor – Landowner Preferred Alternative Preliminary Design Report, May 2011
- B. Project Exodus Design Report, February 2010
- C. Benefit Cost Analysis Report for Southern Flow Corridor (Revised), May 2011
- D. August 24, 2010 letter opinion by Legislative Counsel Dexter Johnson
- E. August 20, 2010 letter opinion by Tillamook County Counsel William Sargent
- F. April 14, 2010 Intergovernmental Agreement between Port of Tillamook Bay and Tillamook County
- G. July 31, 2002 Intergovernmental Agreement between Tillamook County, Oregon Department of Fish and Wildlife and Tillamook County Soil and Water Conservation District
- H. May 19, 2011 letter from the Tillamook Bay Habitat and Estuary Improvement District
- I. Oregon Solutions Declaration of Cooperation (with the Port of Tillamook Bay's signature page) and Port of Tillamook Bay Statement of Assurances
- J. Letter of Financial Commitment dated May 9, 2011 from the Oregon Watershed Enhancement Board
- K. Loan Commitment dated May 18, 2011 from TLC Federal Credit Union