



**Marion County**  
OREGON

**FLOODPLAIN/GREENWAY  
APPLICATION**

**Do not double-side or spiral bind any documents being submitted**

**RECEIVED**

**Fee: Please check the appropriate box:**

- Floodplain Development - \$940
- Greenway Development - \$940

SEP 21 2022

**Marion County  
Planning**

PROPERTY OWNER(S): Shaloe Putnam Julia A Kraemer	ADDRESS, CITY, STATE, AND ZIP: 23727 1st Street NE, Aurora, OR 97002. 23707 1st Street NE, Aurora, OR 97002
PROPERTY OWNER(S) (if more than one): Marion County (Right-of-Way)	ADDRESS, CITY, STATE, AND ZIP: 5155 Silverton Road NE, Salem, OR 97301
APPLICANT REPRESENTATIVE: Friends of Historic Butteville; Attention Ben Williams	ADDRESS, CITY, STATE, ZIP: PO Box 403, Donald, OR 97020
DAYTIME PHONE (if staff has questions about this application): 503.568.5670	E-MAIL (if any): ben.williams@liturgica.com
ADDRESS AND RIVER MILE OF SUBJECT PROPERTY: BUTTEVILLE LANDING - RIVER MILE 42.9	SIZE OF SUBJECT PROPERTY: 60 FT. X 400 FT.
THE PROPERTY OWNERS OF THE SUBJECT PROPERTY REQUEST TO (summarize here; provide detailed information on the attached "Applicant Statement" page):  _____ Install a gangway and dock. _____	
WILL A RAILROAD HIGHWAY CROSSING PROVIDE THE ONLY ACCESS TO THE SUBJECT PROPERTY? ( ) YES (X) NO IF YES, WHICH RAILROAD:	
IF THE PROPOSED USE OR DEVELOPMENT IS WITHIN THE FLOODPLAIN AE ZONE, AS IDENTIFIED ON THE OFFICIAL ZONING MAPS OF MARION COUNTY, PLEASE PROVIDE THE FEMA BASE FLOOD ELEVATION FROM FIRM MAP OR STREAM STUDY: 95.1 feet	

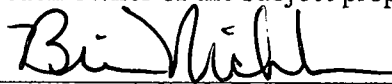
FOR OFFICE USE ONLY:			
Township 3	Range 1W	Section 32CC	Application elements submitted:
Tax lot number(s)			<input type="checkbox"/> Title transfer instrument
Zone: AR			<input checked="" type="checkbox"/> Site plan
Zone map number: 1			<input checked="" type="checkbox"/> Applicant statement
<input checked="" type="checkbox"/> TPA/header: Friends of Historic Butteville			<input type="checkbox"/> GeoHazard Peer Review (if applicable)
Case Number: GW22-011			<input checked="" type="checkbox"/> Filing fee
<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural		(LK)	
Name of watercourse: Willamette River			Application accepted by: JAB
Date determined complete:			Date: 9/1/2022

**THE APPLICANT(S) SHALL CERTIFY THAT:**

- A. If the application is granted the applicant(s) will exercise the rights granted in accordance with the terms and subject to all the conditions and limitations of the approval.
- B. I/We hereby declare under penalties of false swearing (ORS 162.075 and 162.085) that all the above information and statements and the statements in the plot plan, attachments and exhibits transmitted herewith are true; and the applicants so acknowledge that any permit issued on the basis of this application may be revoked if it is found that any such statements are false.
- C. I/We hereby grant permission for and consent to Marion County, its officers, agents, and employees coming upon the above-described property to gather information and inspect the property whenever it is reasonably necessary for the purpose of processing this application.
- D. The applicants have read the entire contents of the application, including the policies and criteria, and understand the requirements for approving or denying the application.

**PRINTED NAME AND SIGNATURE** of each owner of the subject property.

BRIAN NICHOLAS



Print Name

Signature

Print Name

Signature

Print Name

Signature

Print Name

Signature

DATED this 21<sup>st</sup> day of SEPTEMBER, 20 22

# **Applicant Statement (required)**

It is up to the applicant to fully explain your proposal and how it conforms to Marion County land use regulations. This is your opportunity to provide detailed information on the "who, what, where, when and why" that is specific to your proposal.

There are specific criteria and regulations for each zone; these are available from the Planning Division. We strongly encourage you to obtain a copy of this information, review it, and then prepare your "applicant's statement".

These are a few items you should consider including (where applicable):

- Describe the property as it exists now and after implementation of the proposal: topography, existing structures and their use, new or alteration of structures, etc.
- Describe surrounding properties: type of land use, scale of development, etc. and any impact your proposed use might have on these properties such as dust, noise, fumes or odors, traffic, etc. And, if so, what measures will you take to mitigate these impacts?

SEE ATTACHED PROJECT PLANS WITH NO-RISE CERTIFICATION LETTER, ETC.

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(use additional paper if needed)

## APPLICANT STATEMENT

This application for a Floodplain/Greenway permit is to complete the final phase for the restoration of the Butteville Landing (the "Landing"), a Marion County right-of-way. Marion County has jurisdiction over the right-of-way, but the dock and gangway placement will be conducted under a Memo of Understanding by Friends of Historic Butteville. Earlier phases of the restoration project included the removal of invasive species, cut and fill, placement of boulder walls to stabilize the slopes, installation of property line fencing, installation of a road-grade 10 ft. wide concrete trail from Butte Street down to approximately Ordinary High Water (OHW) and installation of native plantings. This final phase will place a two-part gangway and small mixed-use dock, followed by installation of ADA-approved handrails on the trail and a guard rail across the bottom of the Landing at approximately OHW.

Full details including topography, engineering drawings, etc. are included in the application packet. A number of considerations should be stated regarding criteria under MCC 17.179.050.

1. **Significant fish and wildlife habitats shall be protected:** The dock shape and location, as well as stormwater management, were designed with the National Marine Fisheries Service ("NMFS") and were approved by NMFS as part of the applicant's Joint Permit Application ("JPA") with the United States Army Corps of Engineers ("Corps") and the Oregon Department of State Lands ("DSL").
2. **Significant natural and scenic areas, viewpoints and vistas shall be preserved:** The right-of-way improvements, including gangway and dock, are designed to reestablish and improve public access to the Willamette River. This project is consistent with the historic use of the Landing for public access to the River for both transportation and recreational purposes.
3. **Areas of ecological, scientific, historical or archaeological significance shall be protected:** A cultural survey has been conducted and the State Historic Preservation Office ("SHPO") listing has been completed. No cultural artifacts were found.
4. **The quality of the air, water and land resources in and adjacent to the greenway shall be preserved:** The small multi-use dock is primarily designed for paddlecraft, although it has the capacity to accept up to two small powercraft. The right-of-way improvements will not affect the quality of air, water or land resources with the greenway. The improvements have been professionally designed to preserve the integrity of the riverbank and not to disturb the historic concrete footings found at water's edge.
5. **Areas of annual flooding, floodplains and wetlands shall be preserved in their natural state:** Earlier phases of the project stabilized the bank above OHW and did not disturb the natural vegetative fringe below OHW. These actions were taken to manage stormwater runoff and erosion.

6. **The natural vegetative fringe along the river shall be maintained to the maximum extent that is practical:** The natural vegetative fringe below OHW has been preserved, and the bank above OHW was planted with native species to further stabilize the lower landing and prevent stormwater runoff and erosion.
7. **The proposed development, change or intensification of use is compatible with existent uses on the site and the surrounding area:** This development will not change the use of the right-of-way, which is to provide ingress to and egress from the Willamette River for the benefit of the public. The applicant has four years of experience maintaining the right-of-way, which has demonstrated that this right-of-way improvement project is compatible with the existing use of the subject property, which is—and has historically been—ingress and egress. This improvement project is low-impact, as it is simply intended to improve the existing right-of-way to provide more efficient public access to the Willamette River. Adjacent property owners have their own private docks, and the proposed use will not impact adjacent property owners' use and enjoyment of their properties.
8. **Areas considered for development, change or intensification of use which have erosion potential shall be protected:** As described previously, early phases of the project stabilized the bank to prevent erosion, a stormwater management system was designed with NMFS, and the vegetative fringe below OHW was not disturbed. Furthermore, the new bank above OHW was planted with native species to prevent erosion. Achieving a 0.0% no-rise certification (see attached certification letter from Boatwright Engineering) will require removal of some bank above OHW and downstream from the gangway, but the removal area will be replanted with native species for bank stabilization and erosion control in a manner compatible with provisions of the greenway management zone.
9. **Any public recreational use of facility shall not substantially interfere with the established uses on adjoining property:** The established uses on adjoining property in the floodplain are private boat docks and gangways of similar design to the dock and gangway proposed in this application. The uses established on the uplands of adjacent properties are single family residential. This right-of-way improvement project is a transportation link from Butteville to the river. As previously stated, the intent of this project is to *improve the existing public right-of-way* that provides public access from Butteville to the Willamette River. Paddlecraft users will continue to utilize this right-of-way to transport their boats to and from the river on the concrete trail, as well as across the gangway to the dock. Paddlecraft typically need to be readied for launch, and the lower grass area will serve the role of a staging area for this purpose. The Landing has been a public right-of-way to the Willamette River since the Butteville community was first settled, and this project is intended to enhance the public's ability to access the river with material improvements intended to improve the Landing and eliminate environmental degradation.

The public recreational use of the proposed dock will not substantially interfere with the established uses on the adjoining properties because the proposed dock is adequately spaced from the upstream and downstream docks, consistent with the existing development pattern in the neighborhood where adjoining residential properties have similar gangways and boat docks. This dock spacing ensures adequate maneuvering areas for launching boats from the various neighborhood docks, and therefore will not interfere with use of the established docks on adjoining properties. Public use of the dock will not interfere with the residential uses on adjoining properties because those properties are fenced, and because the vehicle access to those properties from the public right-of-way is preserved. The public's continued use of this existing right-of-way will not substantially interfere with existing uses on the adjacent private properties. This project will enhance the public's ability to access the Willamette River, and the clearing and improvement activities planned will facilitate the public's ability to access the River, limiting the amount of time spent staging recreational activities within the right-of-way. This project will improve the ongoing use of the right-of-way for low-impact recreational activities on the Willamette River.

10. **Maintenance of public safety and protection of public and private property, especially from vandalism and trespass, shall be provided to the maximum extent practical:** County-provided parking at the top of the Landing is prominently signed for use between 6 a.m. and 10 p.m. and not for overnight parking. The Marion County Sheriff's Office patrols the right-of-way regularly. Installation of the guardrail across the bottom of the Landing will assure that access to the river occurs within the right-of-way, over the gangway to the dock, and will prevent any access to adjacent properties. Property line fencing and "Private/Public" signage has been installed to maintain public safety and protect public and private property to the maximum extent practical.
11. **The development shall be directed away from the river to the greatest possible extent:** The dock and gangway improvement are water-dependent uses and therefore must be located within the Willamette River. The remainder of the restoration project has been designed to facilitate safe and easy access to and from the community of Butteville and the Willamette River.
12. **The development, change or intensification of use shall provide the maximum possible landscaped area, open space of vegetation between the activity and the river:** County provided parking exists on Butte Street above the Landing and the proposed dock and gangway will be located in the Willamette River. Apart from the lower grass area that may be used by some paddlers for temporary staging and the concrete trail to the gangway, the remaining area of the Landing has been landscaped and planted with native species vegetation.

Complete project plans, engineering drawing and no-rise certification documents are included within this application packet.

December 13, 2021



**Boatwright Engineering Inc.**

2613 12th ST SE, SALEM, OREGON 97302  
civil engineers • land surveyors

503 363-9225 FAX 363-1051

Brandon Reich  
Marion County Planning Dept.  
5155 Silverton Road, NE  
Salem, Oregon 97301

Re: **FLOODPLAIN DEVELOPMENT/GREENWAY PERMIT APPLICATION**  
**Dock & Gangway, Butteville Landing**  
**Butte Street Public Right-of-Way**  
**Willamette River Mile 42.93**

Dear Brandon,

Following, you will find responses to items that I anticipate will be required by conditions applied to a favorable decision on the above referenced permit application. These items pertain to the construction work that would be involved at the site. This work requires certification by a registered professional engineer.

*17.178.050 Conditional use procedures and requirements.*

- D. *Prior to obtaining a building permit, commencing development or placing fill in the floodplain the applicant shall submit a certification from a registered civil engineer demonstrating that a development or fill will not result in an increase in floodplain area on other properties and will not result in an increase in erosive velocity of the stream that may cause channel scouring or reduce slope stability downstream of the development or fill.*

I used HEC-RAS version 6.1.0 to model the comparison between the existing flood elevation and velocity and the resultant flood elevation and velocity that will exist once the proposed improvements are constructed.

This site is located on the right bank of the Willamette River in north Marion County. To evaluate the location, I had to determine the base flood elevation and the river flow velocity at river mile 42.93 which is the most upstream point on the proposed dock installation. I obtained LIDAR bare earth topography from the Oregon Department of Geology and Mineral Industries (DOGAMI) encompassing both banks of the river from river mile 42.66 to 43.30. I also utilized the cross-section provided by Flowing Solutions on Sheet 6 of their Butteville Landing River Access plans, dated 5/8/19. All of this data is on NAVD88 datum which I then converted to NGVD29 to match the standard currently used by Marion County and FEMA.

I did not have any data source for the shape for the Willamette River bottom. I set the bottom elevations at cross-sections C, D and E, per page 108P of the Flood Insurance Study (FIS) for Marion

County (FIS No. 41047CV003B), dated October 18, 2019. I then looked at the floodway data for the Willamette River and used the Floodway Width, Floodway Elevation, Floodway Water Surface, and, the Floodway Cross-Sectional Area from Table 6 in Volume 1 of the FIS study noted above. Using trial and error calculations of the shape of the river bottom, I derived the configuration that matched all of the parameters of the Floodway Data in said Table 6, with the exception of the Floodway Mean Velocity. My velocities at the C, D, and E cross-sections were slightly faster. See my Calculations Chart, attached. The only way to slow the velocity down to meet the FIS numbers would be to enlarge the cross-sectional area, or change the bank coefficient, which would increase the height of the base flood elevation. I chose to leave the velocity at the rate I calculated.

I then checked the 10, 50, and 100-year flood elevations for the associated cross-sections and compared those to the flood profile (page 108P referred to above). When doing this, all elevations matched FEMA's levels. This gave me the 100-year BFE at river mile 42.93.

The ninety-degree angle of the cross sections, relative to the water flow, finds that the pilings are not in alignment. They are slightly off, so that the two tallest pilings, located at the north and south ends of the improvement, and which extend the furthest into the river, are not in line with any other pilings or components. Some of the shorter pilings, located between the tall end pilings, fall in paired alignment with the concrete pad/abutment. Other intermediate pilings do not line up with each other, or anything else, perpendicular to the line of flow. These last two scenarios have a much smaller effect on the water level than that which the end pilings cause. I did not include the flotation components since they will rise with the water level. I also evaluated the six trees that were recently removed at the site, which totaled 8.25 feet of width. I found that they were not in the same cross-section as the piling placements and could not be included in the study area, but would have had some impact on the river flow.

The cross-sectional area impacted by the pilings at the south end of the project produces a 0.02-foot increase in vertical elevation of the floodplain surface. This is below the 0.1-foot threshold that FEMA can monitor. To address the 0.02-foot rise, I looked at FEMA's Conveyance Compensation Analysis which involves removing some material from the same cross section wherein the partial obstruction from the pilings is located. In this case, excavation will compensate for the pilings and related improvements to ensure that there is no net rise in the river level at the base flood stage.

Because the tall pilings have the greater impact, their heights and locations establish the end area of the proposed compensatory excavation. The Conveyance Compensation Analysis calculations demonstrate that excavation of a 20.0 square foot cross sectional area on the upstream end and a 41.5 square foot cross sectional area on the downstream end will ensure no net rise during a flood. The proposed excavation across the entire south-to-north length of the dock improvement area will transition between 20.0 square feet on the south to 41.5 square feet on the north. This will fully compensate for the impact of the pilings and the concrete dock support being placed. The excavation will total 41.1 cubic yards, removed to an off-site location, which will meet the FEMA conveyance calculation requirement for no rise.

The intermediate pilings are shorter in height and the calculations show that no compensating excavation is needed for these.

**I certify that the installation of the proposed pilings and the soil removal based on the Conveyance Compensation Analysis will not produce an increase in floodplain area on other properties.**



Using the US Army Corps of Engineers' *Rule of Thumb for Scour at Vertical Piles for Small Diameter Piles* and the Corps' *Scour at Vertical Piles, Scour by Currents-Small Diameter Piles* formula, the limits of potential scouring for the piles at this site, that are located in the main channel, could be 2.0 to 3.5 feet in depth and could extend out from the piling at a 1:1 slope for a maximum radius about the piling of 2.5 to 4.0 feet. The two piles outside of the main channel, where the flow velocity is less than 2.5 ft/sec, will not produce any scouring.

**I certify that this development may cause localized scouring but will not produce channel scouring and will not reduce slope stability downstream of the development site. The area where the soil has been removed should resist scouring provided the ground cover has been reestablished.**

**17.178.060 Flood protection standards.**

*In all areas of identified floodplain (which includes all areas of special flood hazard), the following requirements apply:*

- J. Floodways. Located within areas of floodplain established in MCC 17.178.030 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential the following provisions shall apply in addition to the requirement in subsection (I) of this section:*
- 1. Prohibit encroachments, including fill, new construction, substantial improvements and other development within the adopted regulatory floodway unless certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge.*
  - 2. If subsection (J)(1) of this section is satisfied all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this section.*
  - 3. The area below the lowest floor shall remain open and unenclosed to allow the unrestricted flow of floodwaters beneath the structure.*

Based on my HEC-RAS 6.1.0 modeling of this reach of the Willamette River for the encroachment of the gangway, dock, and related structures and supports, I can certify that this construction will not result in any increase in flood level during the occurrence of the base flood discharge. If you require additional data from my HEC-RAS analysis, please let me know.

The proposed dock and gangplank will float on the water, and the flow of floodwaters will not be restricted beneath these structures. The proposed concrete abutment at the east end of the gangplank is not within the floodway.

The information provided in response to 17.178.050 D., above, for the cross-sectional area impacted by the pilings, along with the Conveyance Compensation Analysis, demonstrates that no net rise shall

occur due to this construction.

**I certify that the installation of the proposed pilings will not produce an increase in flood levels within the community during the occurrence of the base flood discharge.**

The compensatory removal should be done after the winter rains and when the river level is below the work area. All of the existing riprap in the removal area should be set aside and replaced in the same area from which it came. A silt fence must be installed prior to any work commencing and maintained until grass seed has developed to a fully protective groundcover.

The Cross Section shown on Sheet 3 of 3 is at the south tall pier and does not reflect the cross section where the concrete abutment is located. The concrete abutment shown on this section view is downstream and is only included to portray the location within the typical river cross section.

Any issues that arise from Marion County Code MCC 17.178.060(C), (D)(1), (E), (F) are addressed per the letter dated 29 May 2020 from Kelly D. LaFave, PE.

Please contact me if you have any questions.

Sincerely,



Corbey Boatwright, PE



Renewal Date: December 31, 2021

Attachments: Copy of letter from LaFave to Reich, 29 May 2020  
FEMA FIRMette  
FIS, Marion County, Table 4, Table 6, & Page 108P  
HEC-RAS Butteville Dock cross-sections  
HEC-RAS 5.0.1 Output Results  
HEC-RAS Pre-Dock Output  
HEC-RAS Post-Dock Output  
Engineering Plans (3 sheets)  
Conveyance Calculations

CC: Ben Williams, president, Friends of Historic Butteville