

# **Geologically Hazardous Area and Critical Aquifer Recharge Review**

**Addendum to the Shoreline Report  
including Critical Areas Review, Ordinary  
High Water Determination, and Impact  
Assessment**

◆ **In-Water and Overwater Structures  
Removal Project  
Camas Mill, Camas, WA**

**Prepared for:**



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## 1.0 Introduction

Georgia-Pacific Consumer Operations LLC (GP) is planning to abate, remove, and demolish several structures associated with prior operations at the Camas Mill located in the city of Camas and in unincorporated areas of Clark County, Washington. The structures that GP is proposing to be removed are located in-water and/or overwater on the Columbia River and Camas Slough, and are located within the Shoreline Management Zone of the City of Camas, or are in-water within unincorporated Clark County.

GP submitted the SEPA application on March 30, 2023. Subsequent to the submittal and after initial review, The City of Camas requested that the application address any Geologically Hazardous Areas for completeness, and is the purpose of this addendum.

Although the focus of this addendum is to address Geologically Hazardous Areas as well as review of potential impacts to critical aquifer recharge zones, as discussed in these documents, the Project has been designed to avoid and minimize impacts to critical areas to the extent possible, and measures have been proposed to minimize impacts when complete avoidance is not possible. In addition, the assessments and measures proposed to address the critical areas ordinances for the City of Camas would also address critical areas as defined by Clark County.

Appendix C of the Camas Shoreline Master Program (City of Camas 2021), as adopted by Ordinance No. 21-003, defines critical areas. These include Wetlands; Critical Aquifer Recharge Areas; Frequently Flooded Areas; Fish and Wildlife Habitat Conservation Areas; and Geologically Hazardous Areas. The following provides the description of these critical areas, as defined by the City of Camas (also see Chapter 16.51.070 of the Camas Shoreline Master Program):

- **Wetland critical areas** are defined as important natural resources which provide significant environmental functions including: the control of floodwaters, maintenance of summer stream flows, filtration of pollutants, recharge of ground water, and provision of significant habitat areas for fish and wildlife.
- **Critical aquifer recharge areas (CARA)** are defined as those areas with a critical recharging effect on aquifers used for potable water as defined by WAC 365-190-030(2). CARA have prevailing geologic conditions associated with infiltration rates that create a high potential for contamination of ground water resources or contribute significantly to the replenishment of ground water. These areas include the following:
  - Wellhead Protection Areas;
  - Sole Source Aquifers;
  - Susceptible Ground Water Management Areas;
  - Special Protection Areas (as defined WAC 173-200-090);
  - Moderately or Highly Vulnerable Aquifer Recharge Areas; or

- Moderately or Highly Susceptible Aquifer Recharge Areas.
- **Frequently Flooded Areas** include areas of special flood hazard which are commonly identified as critical areas in local government development regulations.
- **Geologically Hazardous Areas** (Chapter 16.59) include areas susceptible to one or more of the following types of hazards:
  - Erosion hazard;
  - Landslide hazard;
  - Seismic hazard; or
  - Other geological events including, mass wasting, debris flows, rock falls and differential settlement.
- **Fish and wildlife habitat conservation areas** include the following areas:
  - Areas with which state or federally designated endangered, threatened, and sensitive species have a primary association;
  - State priority habitats and areas associated with state priority species;
  - Habitats of local importance as identified by the city's park, recreation and

Open space comprehensive plan as natural open space;

- Naturally occurring ponds under twenty acres;
- Waters of the state;
- Bodies of water planted with game fish by a governmental or tribal entity; or
- State natural area preserves and natural resource conservation areas.

The Project's potential effects on these critical areas, as well as how the Project has been designed and would be implemented in compliance with the city and county's critical areas ordinances is addressed in various Project-related documents. These include:

- The "*Shoreline and Critical Areas Review and Impacts Assessment*<sup>1</sup>" (Appendix 2), which addresses wetlands critical areas as well as fish and wildlife habitat conservation areas.
- The "*Frequently Flooded Areas Report and Flood Hazard Assessment for Demolition of Encroachments*" (Appendix 7), the "*No-Rise Report for Removal of Structures along Camas Slough*" (Appendix 8), which addresses frequently flooded areas, and the "*Certification of No-Rise and Description of Flood Hazard for Demolition of One Dolphin*" (Appendix 9)

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<sup>1</sup> This document has been prepared to meet the requirements of the City of Camas and Clark County Shoreline Master Programs and requirements for critical areas reports (Camas Municipal Code [CMC] 16.51.140 and Clark County Code [CCC] 40.440, 40.450, and 40.460). It has also been developed to provide information relevant to the SEPA process.

- The “*Biological Assessment*” (Appendix 3), which further addresses fish and wildlife habitat conservation areas (in addition to the information provided in the “*Shoreline and Critical Areas Review and Impacts Assessment*”)
- The “*Geologically Hazardous Area and Critical Aquifer Recharge Review - Addendum to the Shoreline and Critical Areas Review and Impacts Assessment,*” (Appendix 2) which addresses geologically hazardous areas, as well as review of critical aquifer recharge areas.

## 2.0 Project Summary

The Project area lies within the City of Camas, Washington, except for one dolphin to be removed on the Columbia River that is located outside the city limits within unincorporated Clark County, Washington. The figures provided at the end of this addendum also displays an overview of the Project location in relation to the various mapped critical areas. Additional information including figures is provided in Appendix 1-Project Description Narrative.

The Project area consists of a portion of the Camas Slough, which runs between Lady Island and the city of Camas, Washington, on the north bank of the main channel of the lower Columbia River. Lady Island lies between the Camas Slough and the Columbia River main channel. The Project lies between river mile (RM) 117 and 121, with much of the proposed activity at approximately RM 119 to 120 located in the Camas Slough.

The Project area lies within Township 1 North, Range 3 East, Sections 8, 9, 10, 11, 15, and 16, Willamette Meridian.

As stated, the structures to be removed are located adjacent to the riverbank are entirely or partly below the OHWM of the Camas Slough and are located within either the City of Camas Shoreline Management Zone or Clark County Shoreline Management Zone.

The Project includes abatement, removal, and demolition of structures associated with former riverfront operations of the pulp and paper mill which are no longer utilized, including structures located on GP property and on State-owned aquatic lands.

The need for the Project is to reduce liability associated with unused structures and remove structures from state lands enabling termination and/or reduction of a State Aquatic Lands lease and termination of several State Aquatic Lands easements.

The structures that GP is proposing to be removed include:

- A warehouse,
- Five docks/piers,
- Conveyor housings,
- An aboveground oil storage tank,
- Crane foundation, and

- Approximately 3,000 pilings that are associated with the above structures, serve as mooring dolphins, or are abandoned.

### 3.0 Published Information Used in the Assessment

The attached figures utilized publicly available information from Clark County Severe Erosion, Steep Slope/Landslide, and Critical Aquifer Recharge Areas. All data is available as GIS served data via: <https://gis.clark.wa.gov/arcgisfed/rest/services>. There are no Wellhead Protection Areas in the vicinity of the Project.

### 4.0 Conclusion

**Geologically Hazardous Areas:** Within the proposed Project footprint, there are slopes mapped at > 15 percent along the shoreline portion and a small area mapped as severe erosion hazard potential. The areas mapped as severe erosion hazard within the Project footprint likely included previous wood chip piles that have since been removed and will be regraded to ensure natural flow upon Project completion. The upland portion containing overwater structures would not increase the potential for instability along the shoreline. A preliminary Stormwater Management Plan, including established best management practices that would be implemented, has been submitted for review which includes the uplands containing the old wood chip areas (See Appendix 12, Figure 5).

As noted above, the planned activities does not include development or other activities, including construction of temporary roads or access, that will have a direct impact on the identified geologically hazardous areas as the project consists of demolishing existing buildings and removal of support structures (overwater and in-water). The Preliminary Stormwater Plan developed for this project addresses planned erosion and sediment control, slope protection, and soil stabilization best management practices.

No other mapped potential Geologically Hazardous Areas are noted within Project site boundary (Figures 1 and 2) or would meet erosion hazard definitions in CMC 16.59.020. In-water work (e.g., piling and dolphin removals) will not affect any mapped geologically hazard areas.

**Critical Aquifer Recharge Areas:** Chapter 16.55 describes Critical Aquifer Recharge Areas. There are no mapped Critical Aquifer Recharge Areas mapped within the upland portion of the Project; however, portions of the Camas Slough are mapped as Category 2 Recharge Areas (Figure 3). Dredging will also occur where the Camas Slough riverbank is to be reshaped following the removal of overwater structures. Note that because this project would remove older infrastructure, dredging will only be implemented to the extent needed to safely remove the features. Unlike most dredging projects, a specific deepening is not a requirement for most of the dredging.

With the exception of some limited dredging anticipated to access some of the overwater supporting structures, this project primarily involves the removal of existing pilings and dolphins within the portion of the project that overlaps the mapped recharge areas of Camas Slough, and will

not have an adverse impact on ground water or otherwise reduce the recharging of the aquifer, and may provide long-term beneficial effects. Dredging will be required to enable barge access to remove piles in one location.

## 5.0 References

City of Camas. 2015. Camas Shoreline Master Program. Effective July 27, 2015. Available online: <https://www.clark.wa.gov/community-planning/shoreline-master-program>. Accessed 8/15/2020.

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Clark County. 2019. Maps Online—Shoreline Designations. Available online: <https://www.charts.noaa.gov/ChartCatalog/MapSelect.html>. Accessed 8/23/2020.

## **Figures**



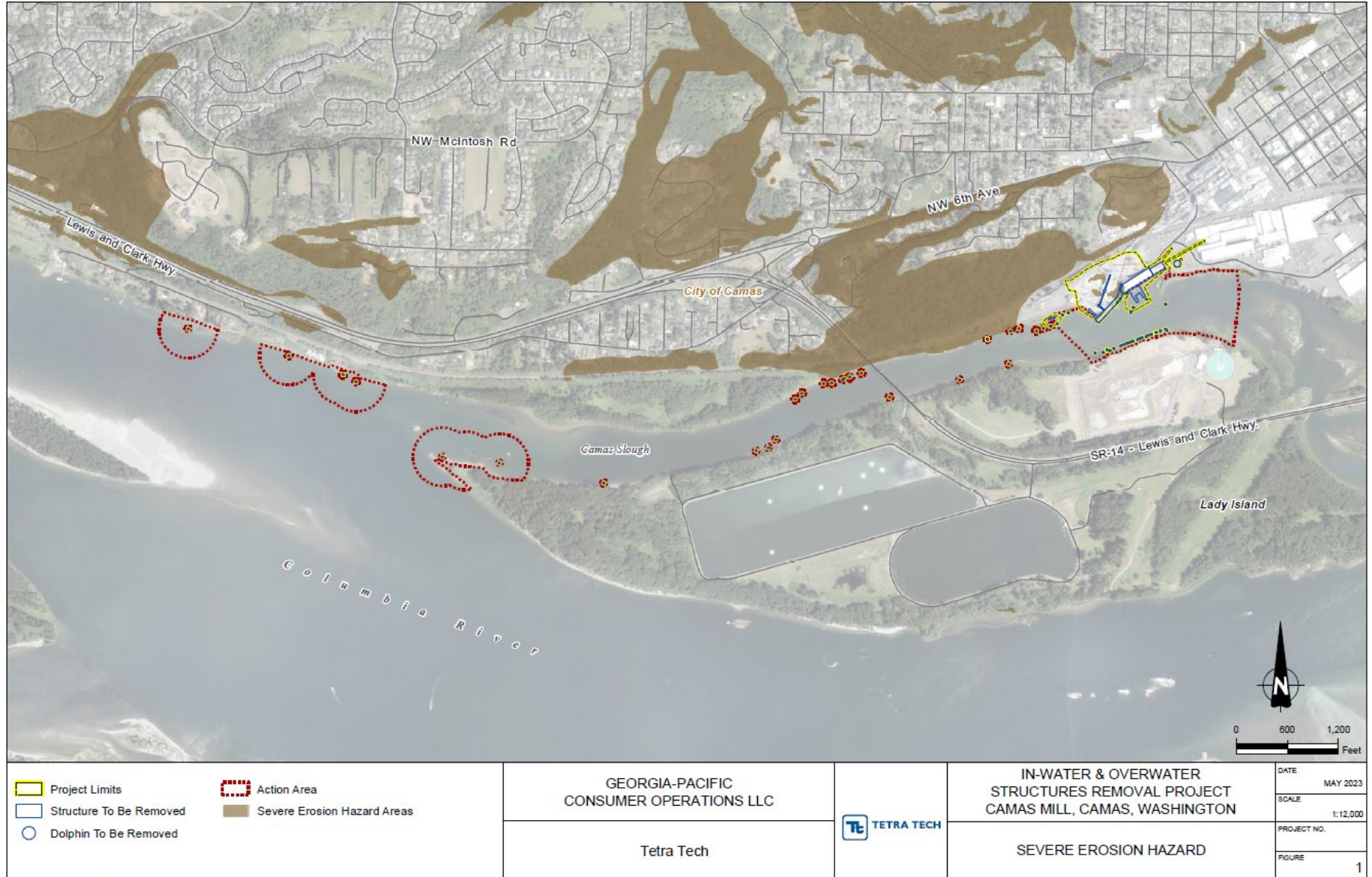


Figure 1. Severe Erosion Hazard Map





Figure 2. Steep Slope and Landslide Hazard Map



