Request for Clean Water Act
Section 401 Water Quality Certification
Washington State Department of Ecology
Phone: (360) 407-6076 or E-mail: ecyrefedpermits@ecy.wa.gov

AGENCY USE ONLY

Date Received: 10/30/2024
Aquatics ID No.: 143807
County: Grays Harbor
Complete Request: 10/30/2024

This Section 401 Water Quality Certification (WQC) request form must be submitted as part of a WQC request and identifies information needed for review. Please see Department of Ecology's (Ecology) webpage[1] for more information about the WQC request process and additional information regarding the request requirements.

Submit this WQC Request form along with the supporting information[2] to ecyrefedpermits@ecy.wa.gov.

Request packages should be sent in by email, mail submissions will not be accepted. Supporting information should not be consolidated into one large file, if your documents are consolidated into one file, please separate them before submitting.

Per the 2023 EPA Water Quality Certification rule, the certifying authority may identify the contents of a request for certification relevant to water quality related impacts from the activity. Items listed in Section D are always required for a complete application. If notified by Ecology prior to submittal of this request, items listed in Section E are also required. If this information has been provided to Ecology as part of your federal permit application, you do not need to submit them again. However, please indicate in Section D how they were provided. Ecology will provide acknowledgement of receipt of a complete WQC request to the project proponent. Once Ecology confirms we have received all the required information, our review time will begin.

A. Project Information

Project Name: North Shore Levee West

Ecology Aquatics ID Number: 143807

Project Location (Please attach a project location map when submitting this form):

Project Address: The project spans 5.5 miles in City of Hoquiam County: Grays Harbor

B. Federal Permit or License Reference Number, if known: NWS-2022-144

Federal Agency: ☑ U.S. Army Corps of Engineers (Corps) ☐ U.S. Coast Guard
☐ Federal Energy Regulatory Commission ☐ Environmental Protection Agency (EPA)
☐ Other:

Identify the U.S. Army Corps permit, if applicable: ☐ Nationwide Permit ☑ Individual ☐ Other: _____
If Nationwide Permit which one(s)? NWP(s) # _____

[1] https://ecology.wa.gov/Regulations-Permits/Permits-certifications/401-Water-quality-certification
[2] To submit documents over 25MB, e-mail ecyrefedpermits@ecy.wa.gov to request a secure link. Ecology does not accept outside links. Please include the Aquatics ID and project name when requesting a link.

To request an ADA accommodation, contact Ecology by phone at (360) 407-6076 or email at ecyrefedpermits@ecy.wa.gov, or visit https://ecology.wa.gov/accessibility.
For Relay Service or TTY call 711 or 877-833-6341.

Si necesita este formulario en español, por favor, llámenos a (360) 407-6076
o envíenos un correo electrónico a: ecyrefedpermits@ecy.wa.gov

C. Was a Pre-Filing Meeting Request submitted to Ecology prior to submitting this WQC request?

☑ Yes, a pre-filing meeting request was submitted on date: 4/25/2024

D. Required for all projects requesting an individual WQC. Please check the boxes below indicating where the following documents can be found within this WQC request.

	Within WQC request	Within federal permit application	Previously submitted to Ecology and is still up to date	Notes to find information within the submission
Copy of the federal permit application package for the federal permit or license	☑			
Complete up to date JARPA or other accepted application form	☐	☑	☐ Date:	JARPA (Attch 1)
Status of State Environmental Policy Act (SEPA) determination and/or exemption	☑	☐	☐ Date:	MDNS (Attch 2)
Project location map and drawings	☐	☑	☐ Date:	JARPA
Best management practices (BMPs)	☐	☑	☐ Date:	JARPA, 6e; BA (Attch 3); TESC
Construction methodologies	☐	☑	☐ Date:	BA, Section 1.
Requirements for In-Water Work				
Water quality monitoring plan	☑	☐	☐ Date:	
Aquatic resource avoidance and minimization identified (e.g. eelgrass)	☐	☑	☐ Date:	JARPA, Part 7a
Riparian revegetation, restoration, and management measures	☐	☑	☐ Date:	Critical Areas Report (CAR, Attch
Requirements for Work in Wetlands				
Wetland delineation report with data sheets	☑	☐	☐ Date:	Appendix B in CAR
Wetland ratings	☑	☐	☐ Date:	Appendix C in CAR
Wetland mitigation plan, including avoidance and minimization measures, for wetland, stream, and/or other aquatic resources	☑	☐	☐ Date:	Section 6 in CAR. Additional mit
Riparian planting and monitoring and measures	☑	☐	☐ Date:	Planting plan in Section 4 of CAR

E. Required by project type or when identified by Ecology. Please check the boxes below indicating where the following documents can be found within this WQC request.

	Within WQC request	Within federal permit application	Previously submitted to Ecology and is still up to date	Notes to find information within the submission
Mitigation				
Wetland mitigation bank use plan	☐	☐	☐ Date:	
In-lieu (ILF) use plan	☐	☐	☐ Date:	
Water Quality Monitoring				
Water quality monitoring and protection plan	☑	☐	☐ Date:	Attached as NSLW WQMP
Spill prevention control and countermeasures plan	☑	☐	☐ Date:	SWPPP
Upland Work				
Erosion and sediment control plan	☑	☐	☐ Date:	TESC Plan
Stormwater pollution prevention plan	☑	☐	☐ Date:	SWPPP
De-Watering				
Flow diversion, cofferdam, and dewatering system plan	☐	☐	☐ Date:	
Stream bypass plan	☐	☐	☐ Date:	
Water dispersion/ infiltration plan	☐	☐	☐ Date:	
Culverts and Bridges				
Bridge demolition and construction plan	☐	☐	☐ Date:	
Culvert removal and replacement plan	☐	☐	☐ Date:	
Dredging				
Dredging and excavation plans	☐	☐	☐ Date:	
Suitability determination	☐	☐	☐ Date:	
Soils testing and characterization reports	☐	☐	☐ Date:	
Other				
Stone column installation plan	☐	☐	☐ Date:	
Horizontal direction drill (HDD) inadvertent return plan	☐	☐	☐ Date:	
Levee repair and bank stabilization plan	☐	☐	☐ Date:	
Piling removal and installation plan	☐	☐	☐ Date:	
Wastewater servicing for marina operations	☐	☐	☐ Date:	

Aquatic invasive species management plan	☐	☐	☐ Date:	

F. Project Proponent Information

Project Proponent

First/Last Name: Brian Shay

Organization: City of Hoquiam

Phone #: 360-538-3983 E-mail: BShay@cityofhoquiam.com

Agent/Consultant

First/Last Name: Lisa Danielski

Organization: HDR

Phone #: 206-288-1821 E-mail: lisa.danielski@hdrinc.com

G. Required Certification Statements:

The project proponent hereby certifies that all information contained herein is true, accurate, and complete, to the best of my knowledge and belief.

The project proponent hereby requests that the certifying authority review and take action on this WQC request within the applicable reasonable period of time.

Signature: Brian Shay Digitally signed by Brian Shay Date: 2024.10.30 09:24:40 -07'00' Date:_____

Print Name:_____

WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) Form[1,2] [help]

US Army Corps of Engineers ®
Seattle District

USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.

AGENCY USE ONLY

Date received: 10/30/2024 MFT
Rec'd WQC Req Form

Agency reference #: _____

Tax Parcel #(s): _____

_____

Part 1–Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [help]
North Shore Levee West

Part 2–Applicant

The person and/or organization responsible for the project. [help]

2a. Name (Last, First, Middle)			
Shay, Brian (City Administrator)			
2b. Organization (If applicable)			
City of Hoquiam			
2c. Mailing Address (Street or PO Box)			
609 8th Street			
2d. City, State, Zip			
Hoquiam, WA 98550			
2e. Phone (1)	**2f.** Phone (2)	**2g.** Fax	**2h.** E-mail
360-538-3983	N/A	N/A	BShay@cityofhoquiam.com

[1]Additional forms may be required for the following permits:
- If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

[2]To access an online JARPA form with [help] screens, go to http://www.epermitting.wa.gov/site/alias__resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx.

For other help, contact the Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.

Part 3–Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b of this application.) [help]

3a. Name (Last, First, Middle)			
Danielski, Lisa			
3b. Organization (If applicable)			
HDR			
3c. Mailing Address (Street or PO Box)			
600 University Street, Suite 500			
3d. City, State, Zip			
Seattle, WA 98101			
3e. Phone (1)	**3f.** Phone (2)	**3g.** Fax	**3h.** E-mail
206-288-1821	N/A	N/A	lisa.danielski@hdrinc.com

Part 4–Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. Consider both **upland and aquatic** ownership because the upland owners may not own the adjacent aquatic land. [help]

☐ Same as applicant. (Skip to Part 5.)

☐ Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)

☒ There are multiple upland property owners. Complete the section below and fill out JARPA Attachment A for each additional property owner.

☒ Your project is on Department of Natural Resources (DNR)-managed aquatic lands. If you don't know, contact the DNR at (360) 902-1100 to determine aquatic land ownership. If yes, complete JARPA Attachment E to apply for the Aquatic Use Authorization.

4a. Name (Last, First, Middle)			
Shay, Brian			
4b. Organization (If applicable)			
City of Hoquiam			
4c. Mailing Address (Street or PO Box)			
609 8th Street			
4d. City, State, Zip			
Hoquiam, WA 98550			
4e. Phone (1)	**4f.** Phone (2)	**4g.** Fax	**4h.** E-mail
360-538-3983	N/A	N/A	BShay@cityofhoquiam.com

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [help]

☒ There are multiple project locations (e.g. linear projects). Complete the section below and use JARPA Attachment B for each additional project location.

5a. Indicate the type of ownership of the property. (Check all that apply.) [help]

☒ Private

☐ Federal

☒ Publicly owned (state, county, city, special districts like schools, ports, etc.)

☐ Tribal

☒ Department of Natural Resources (DNR) – managed aquatic lands (Complete JARPA Attachment E)

5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [help]

The northern terminus of the North Shore Levee West Project (project) begins at the south corner of the intersection of Perry Avenue and Endresen Road, extends northwest along Perry Avenue, and generally continues south along the right bank of the Hoquiam River through multiple parcels. The levee footprint extends west from the right bank of the Hoquiam River at the K Street Pump Station and continues west through Port of Grays Harbor parcels. Existing high ground is incorporated in the flood protection design along Earley Industrial Way and 5th Street; the levee footprint picks up along 5th Street and south of 5th Street on a privately owned parcel and extends west along 5th Street, Airport Way, and Moon Island Road. The western terminus of the levee footprint is located at the intersection of Paulson Road and SR-109.

The offsite mitigation area detailed in Attachment B is located at 1000 Alameda St, Hoquiam WA 98550.

5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]

Hoquiam, WA 98550

5d. County [help]

Grays Harbor

5e. Provide the section, township, and range for the project location. [help]

¼ Section	Section	Township	Range
-	Sections 1	Township 17N	Range 10W
-	Section 2	Township 17N	Range 10W
-	Section 3	Township 17N	Range 10W
-	Section 10	Township 17N	Range 10W
-	Section 11	Township 17N	Range 10W
-	Section 12	Township 17N	Range 10W
-	Section 35	Township 18N	Range 10W

5f. Provide the latitude and longitude of the project location. [help]

- Example: 47.03922 N lat. / -122.89142 W long. (Use decimal degrees - NAD 83)

Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus:46.981925 N lat. / -123.917947 W long.
Offsite Mitigation Site: 46.997200 N lat. / -123.883738 W long.

5g. List the tax parcel number(s) for the project location. [help]

- The local county assessor's office can provide this information.

Multiple – see *JARPA Attachment A*

5h. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [help]

Name	Mailing Address	Tax Parcel # (if known)
Multiple – see *JARPA Attachment C*		

5i. List all wetlands on or adjacent to the project location. [help]

HDR biologists identified and delineated 40 wetlands within the study area, which encompasses an area of 50 feet on each side of the levee footprint where feasible, depending on the built environment and the Hoquiam River, but excluding areas of existing high ground where construction activities are not proposed. The study area also includes designated staging areas (Figure 1). Additional wetlands located on the offsite wetland mitigation site are noted in Attachment B. These wetlands are summarized in Attachment 2, W*etland and Stream Delineation Report, City of Hoquiam North Shore Levee Wes*t, April 2024. The delineation report provides details on wetland type, function, and habitat conditions of the following wetlands:

1. Wetland 1
2. Wetland 2
3. Wetland 3
4. Wetland 4
5. Wetland 5
6. Wetland 6
7. Wetland 7
8. Wetland 8
9. Wetland 9
10. Wetland 10
11. Wetland 11
12. Wetland 12
13. Wetland 13
14. Wetland 14
15. Wetland 15
16. Wetland 16
17. Wetland 17
18. Wetland 18
19. Wetland 19
20. Wetland 20
21. Wetland 21
22. Wetland 22
23. Wetland 23
24. Wetland 24
25. Wetland 25
26. Wetland 26
27. Wetland 27
28. Wetland 29
29. Wetland 30
30. Wetland 31
31. Wetland E1
32. Wetland E2
33. Wetland E3
34. Wetland E4
35. Wetland E5
36. Wetland E6
37. Wetland E7
38. Wetland B
39. Wetland I
40. Wetland M

5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [help]

HDR biologists identified and delineated 8 waterbodies within the study area, which are summarized in Attachment 2, W*etland and Stream Delineation Report, City of Hoquiam North Shore Levee West*, April 2024. The delineation report provides details on waterbody delineations, water types, and descriptions of the following waterbodies:

1. Hoquiam River
2. Grays Harbor
3. Hoquiam Tidal Channel
4. Paulson Road Tidal Channel
5. Ditch 1
6. Ditch 2
7. Ditch 3

8. Ditch 4

The Hoquiam River, Grays Harbor, Hoquiam Tidal Channel, and Paulson Road Tidal Channel are Type S waterbodies and provide fish habitat. Ditch 3 is a Type F water based on physical characteristics. There is currently no downstream connection to other Type F waters, but it could potentially provide fish habitat. The other remaining ditches are Type Ns waterbodies and do not provide fish habitat.

5k. Is any part of the project area within a 100-year floodplain? [help]

☒ Yes ☐ No ☐ Don't know

5l. Briefly describe the vegetation and habitat conditions on the property. [help]

Vegetation and habitat conditions within the project corridor are varied, with the majority of the project located in a highly urbanized environment.

In urbanized areas, vegetation consists of maintained grasses and other low-growing, disturbance tolerant species. Typical species in developed areas include tall fescue (*Schedonorus arundinaceus*), Poa species, velvet grass (*Holcus lanatus*), creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), hairy cats ear (*Hypochaeris radicata*) and common dandelion (*Taraxacum officinale*). Wetland habitats within urbanized areas are typically vegetated with emergent species including soft rush (*Juncus effusus*), slough sedge (*Carex obnupta*), small-fruited bulrush (*Scirpus microcarpus*) and reed canarygrass (*Phalaris arundinacea)*. Developed areas are often fringed by fast-growing, disturbance tolerant woody species including Himalayan blackberry (*Rubus armeniacus*) and red alder (*Alnus rubra*).

For road raise segments of the project, adjacent vegetation located in roadside ditches consists of reed canarygrass, broad-leaf cattail (*Typha latifolia*), and Himalayan blackberry.

The project crosses two large, contiguous blocks of forest. One forested wetland (Wetland 8) is located from approximately Stationing 401+00 to 417+00, and is vegetated with red alder, black cottonwood (*Populus balsamifera*), Sitka willow (*Salix sitchensis*) and Pacific willow (*Salix lasiandra*) with an understory of salmonberry (*Rubus spectabilis*) and red-osier dogwood (*Cornus alba*). A second forested wetland (Wetland 1) is located from approximately Stationing 465+00 to 475+00 and is vegetated with red alder and Sitka spruce (*Picea sitchensis*).

The project also intersects or abuts multiple small, estuarine emergent wetlands below the high tide line of the Hoquiam River or Grays Harbor. These estuarine wetlands are vegetated with Lyngbye's sedge (*Carex lyngbyei*), Pacific silverweed (*Potentilla anserina*), and saltgrass (*Distichlis spicata*).

Wildlife habitats in the project corridor range in quality from low in residential, commercial, and industrial areas to relatively high in the forested wetland habitats and estuarine habitats associated with the Hoquiam River and Grays Harbor. The majority of the habitat in the project corridor is developed and therefore provides habitat for disturbance-tolerant species typical of urban areas.

Aquatic habitat in the vicinity of the project includes Grays Harbor and the Hoquiam River, plus two tidal channels (Hoquiam Tidal Channel and Paulson Road Tidal Channel), and four ditches.

Grays Harbor is a large coastal estuary that receives inputs from the Hoquiam River, The Chehalis River, and other small rivers and discharges to the Pacific Ocean. The harbor is considered a shoreline of statewide significance, the area within the project area is designated as a high-intensity use area. Habitat conditions within the lower reaches of the basin, including the project location, are generally described as degraded because of industrial pollution and loss of riparian vegetation; however, nearshore portions of Grays Harbor provide suitable migratory and foraging habitat for fish species, including bull trout, green sturgeon, Eulachon Chinook salmon, chum salmon, coho salmon, steelhead, and resident coastal cutthroat. The substrate of Grays Harbor consists of intertidal mud and sand flats. Vegetation in Grays Harbor within estuarine wetlands consists of coastal saltgrass, creeping bent grass (*Agrostis stolonifera*), and tufted hair grass (*Deschampsia cespitosa*). The palustrine portions that border the estuarine portions include silverweed, reed canary grass, soft rush, and water parsley (*Oenanthe sarmentosa*). The estuarine wetlands along the nearshore of Grays Harbor consist of vegetated mudflats with dendritic channels. These features support fish habitat.

The Hoquiam River is a large coastal, tidally influenced river that flows along the northern and eastern extents of the project area. Flow along the Hoquiam River is generally slow and highly turbid in the reaches within the project area. The Hoquiam River is classified as a shoreline of the state. Estuarine wetlands are present along the banks of the Hoquiam River. Vegetation within the estuarine wetlands consists of coastal saltgrass, Pacific saltwort (*Salicornia pacifica*), Lyngbye sedge, tufted hair grass, and silverweed. The banks above the HTL are steep and are vegetated with tufted hair grass, reed canary grass, Lyngby Sedge, slough sedge (*Carex obnupta*), and Himalayan blackberry. The substrate generally consists of silt, and the riverbed gradually slopes outwards from the foot of the steep banks. Riparian vegetation along the river includes red alder, willow species, western hemlock (*Tsuga heterophylla*), and western red cedar. The majority of the right bank of the Hoquiam River, within the project area, is heavily disturbed and dominated by reed canary grass and Himalayan blackberry. The portion of the Hoquiam River within the project area is primarily used as migratory corridor by salmonids.

The Hoquiam Tidal Channel is a narrow tidal channel located along side of the BNSF Railway embankment. The channel is tidally influenced and is inundated during high tides. The banks consist of shrub scrub vegetation dominated by Himalayan blackberry, and the bed consists of silt and fine sediment. The slow-moving backwater flow from the Hoquiam River and presence of vegetation may provide limited rearing habitat for salmon juveniles. However, in general, suitable fish habitat in the channel is poor; the waterbody is incised and channelized and lacks habitat complexity and pools that are preferred by rearing salmon. Accessibility is limited to high tides due to a 5-foot drop-off near the outlet of the metal culvert that poses a fish barrier to passage during low tides; the culvert is fish-passable during high tides.

The Paulson Road tidal channel is a fairly uniform grassy channel, approximately 10 to 15 feet wide. It flows east to west and through a 5-foot-diameter concrete culvert passing under Paulson Road where it continues westward through the Grays Harbor National Wildlife Refuge to empty into Grays Harbor. Substrate in the channel consists of fine material and organics, with some embedded gravels in a few locations. The majority of the riparian vegetation along the channel is non-native upland vegetation including Himalayan blackberry, reed canary grass, and Japanese knotweed (*Reynoutria japonica*). The channel is tidally influenced and is classified as a Type S waterbody and is a fish-bearing stream. During investigations by HDR in 2014, juvenile Chinook Salmon and Coho Salmon were observed in the drainage upstream of Paulson Road, which confirmed that the channel is fish-bearing.

Ditch 3 was classified as a Type F water due to physical characteristics, however it lacks a downstream surface water connection to fish-bearing waters, and there is no longer a surface water outlet to this ditch. Under current conditions, Ditch 3 does not provide fish habitat.

Remaining ditches (Ditch 1, 2, and 4) are drainage ditches that convey runoff from uplands or wetlands to the Hoquiam River. These ditches do not provide fish habitat.

5m. Describe how the property is currently used. [help]

Land uses within the project footprint vary. Along road raise segments, the existing land use is transportation. For other segments, existing land uses include residential, commercial, industrial, and open space.

5n. Describe how the adjacent properties are currently used. [help]

Land uses adjacent to the project are in the City of Hoquiam (city) and are currently used for commercial, residential, transportation, industrial, and open space activities. The industrial areas include the Bowerman Field Airport and Hoquiam wastewater treatment plant, which are adjacent to the western end of the project alignment.

5o. Describe the structures (above and below ground) on the property, including their purpose(s) and current condition. [help]

Structures that exist within the project footprint include common elements of major and minor roadways including Hwy 101, roadway embankments, stormwater drainage structures, retaining walls, street signs, and illumination systems.

Approximately 1 mile of discontinuous existing earthen levees are located throughout the project corridor. These levees are not FEMA-accredited and do not currently meet the requirements for flood protection. The city operates seven existing stormwater pump stations in the vicinity of the project: Cottage Avenue, Queen Avenue, Ramer Avenue, Emerson Avenue, 10th Street, K Street, and Adams Street pump stations. None of these existing pump stations would be affected by the proposed project. Multiple pump station outfalls for the previously mentioned pump stations are located within the project footprint. The project action includes improvements to the 10th Street, Queen Avenue, and K Street pump station outfalls, and decommissioning of the 8th Street outfall.

The project footprint also includes various existing underground utilities including stormwater outfalls, sanitary sewers, water lines, gas lines, petroleum pipelines, and telecommunication lines.

5p. Provide driving directions from the closest highway to the project location, and attach a map. [help]

See Attachment 1, Sheet 1 for a map of the northern project terminus and western project terminus.

From I5, take Exit 104 and head right on the ramp for US-101 North toward Aberdeen / Port Angeles. Continue straight, heading toward Aberdeen / Montesano. Keep straight to get onto US-12 W / Olympic Highway and proceed for approximately 20 miles. Turn left onto East Wishkah Steet, then right on North Alder Street. Continue onto Sumner Avenue and then Riverside Avenue until it becomes Levee Street. For the northern project terminus, continue north on Levee Street as it turns to Lincoln Street, then turn left onto Perry Avenue in 0.8 mile. The northern terminus of the project footprint begins at the south corner of the intersection of Perry Avenue and Endresen Road.

For the western project terminus, from Levee Street, turn left on Emerson Avenue. Proceed west on Emerson Avenue for 1.4 miles. The western project terminus is located at the intersection of Emerson Avenue and Paulson Road.

Part 6–Project Description

6a. Briefly summarize the overall project. You can provide more detail in 6b. [help]

The North Shore Levee West project includes the following elements:

- New/upgraded Levee Structure: Approximately 5.3 miles of new levee structure, 0.7 mile of which would replace existing levee structures. Approximately 0.6 mile of the existing alignment consists of degraded levee structure, which would be reconstructed as part of the project. Along its alignment, the new/upgraded levee structure would consist of earthen berms, floodwalls, raised roads, closure structures, and existing areas of high ground.
- Stormwater Facilities: Three pump station outfalls would be upgraded along the levee alignment. New outfalls along the exterior of the levee would facilitate improved pump station flow capacity and reduce interior flooding. The pump station outfalls would perform similarly to tide gates in that they would prevent backwater flow.
- Stormwater Runoff and Treatment: The Proposed Action includes areas of new and replaced pollution-generating impervious surface (PGIS) consisting of a gravel-paved earthen berm, gravel-paved areas used for public parking, and repaved asphalt roadway. Levee floodwalls would result in areas of new non-PGIS.
- Waterbody Crossings: Four ditches and one tidal channel intersect the levee alignment. Waterbody crossing designs consider the protection of existing flows within the limits of construction disturbance.
- Bank Stabilization and Erosion Protection: Based on geotechnical studies, two portions of the levee would require bank stabilization or erosion protection. Bank stabilization and erosion protection would be improved through the installation of piles at the shoulder of slope.
- Scour Protection: Sections of the levee alignment along Grays Harbor require protection from erosion and scour. WSDOT Class C riprap would be installed below the high tide line (HTL) to reduce wave-action energy imposed on the levee structure. Bioengineered riprap was determined to be unfeasible for these locations due to storm and wave action.
- Construction Equipment, Staging, and Laydown Areas: Several staging and laydown areas would be used to construct the elements of the Proposed Action. Construction equipment would include, but is not limited to, pile drivers (vibratory and impact), jackhammers, air hose power tools, excavators, and dump trucks.
- Habitat Mitigation: An off-site mitigation site (Parcel 518103544001; Attachment 1, Sheet 31) along the Hoquiam River would provide compensatory mitigation for permanent and temporary impacts to wetlands and waterbodies and compensation for lost floodplain habitat. The site currently contains approximately 13.6 acres of developed, modified floodplain that does not provide functional habitat. Approximately 7.17 acres of floodplain and wetland habitat is proposed to be re-established.

6b. Describe the purpose of the project and why you want or need to perform it. [help]

The City proposes to construct the project in the city of Hoquiam, Washington.

The project is securing FEMA Building Resilient Infrastructure and Communities (BRIC) grant funding, which provides technical and financial assistance to state, local, and tribal governments to assist in the implementation of cost-effective hazard mitigation measures that are designed to reduce injuries, loss of life, and damage and destruction of property, including damage to critical services and facilities resulting from natural disasters. The objective of the BRIC program is to shift the federal focus away from reactive disaster spending and toward research-supported, proactive investment in community resilience to reduce overall risk to the population and structures from future hazard events. This has the added benefit of reducing reliance on federal funding during future disasters. The City has been subject to frequent loss claims for flood damage, including more than 200 claims totally $3.6 million in 2017 alone. Additional recent flooding occurred in January 2022 as a result of a king tide combined with rapid snowmelt and heavy rains. The City is a hardship community, with a high percentage of the population disadvantaged by economic, health, and environmental burdens, and many residents find it difficult to afford flood insurance. Mandatory flood insurance requirements

within the floodplain for new mortgages or construction limits the ability of residents and businesses to establish themselves in the community, thus reducing the community's vitality and resilience.

A community-wide solution is needed to protect critical infrastructure as well as the viability of the local economy. The purpose of the project is to reduce flooding and flood damage throughout west Hoquiam, including the business district, critical infrastructure, and residences. The City has an additional objective to reduce flood insurance costs for the community.

Rising sea level, increased flood frequency, and climate change are factors that support the need for flood protection in this community. Protected parcels landward of the new levee system would be removed from the Special Flood Hazard Area Zone AE and placed in a Zone X.

In order to achieve FEMA accreditation and satisfy the BRIC grant requirements, the levee must be designed to an elevation of 16 feet (NAVD88).

6c. Indicate the project category. (Check all that apply) [help]

☐ Commercial ☐ Residential ☒ Institutional ☐ Transportation ☐ Recreational

☐ Maintenance ☒ Environmental Enhancement

6d. Indicate the major elements of your project. (Check all that apply) [help]

☐ Aquaculture	☐ Culvert	☐ Float	☐ Retaining Wall (upland)
☒ Bank Stabilization	☐ Dam / Weir	☐ Floating Home	☒ Road
☐ Boat House	☒ Dike / Levee / Jetty	☐ Geotechnical Survey	☐ Scientific Measurement Device
☐ Boat Launch	☐ Ditch	☐ Land Clearing	☐ Stairs
☐ Boat Lift	☐ Dock / Pier	☐ Marina / Moorage	☒ Stormwater facility
☐ Bridge	☐ Dredging	☐ Mining	☐ Swimming Pool
☐ Bulkhead	☐ Fence	☒ Outfall Structure	☐ Utility Line
☐ Buoy	☐ Ferry Terminal	☐ Piling/Dolphin	
☒ Channel Modification	☐ Fishway	☐ Raft	

☐ Other:

6e. Describe how you plan to construct each project element checked in 6d. Include specific construction methods and equipment to be used. [help]

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year floodplain.

The following provides a general description of the construction methods for each project element checked in section 6d, as well as the proximity of each type of construction to applicable waterbodies.

All project activities are in the 100-year floodplain. The proposed facility lies within the FEMA 100-year floodplain between the following locations:

Zone AE (Elevation 12)

- Station 11+00 to 15+00
- Station 106+50 to 130+00
- Station 163+00 to 199+20

Zone AE (Elevation 13)

- Station 225+00 to 240+00

Zone AE (Elevation 14)

- Station 240+00 to 341+00
- Station 344+00 to 418+00
- Station 424+00 to 442+00
- Station 446+00 to 448+00
- Station 453+70 to 516+00

New/Upgraded Levee Structure

The new/upgraded levee includes three types of levee designs: floodwall, earthen berm, and raised road. Other elements associated with the levee include closure structures, pump station outfall upgrades, bank stabilization measures, scour protection, and aquatic habitat structures. Each type of levee is discussed in the respective sections below. The new levee would be constructed to an elevation of 16 feet per North American Vertical Datum of 1988 (NAVD88), with the height of the structure above ground depending on the existing grade. Criteria applied to develop levee elevations are detailed in the Design Documentation Report (HDR 2023a), available upon request.

Levee types (floodwall, earthen berm, and raised roads) were selected based on geotechnical studies of the condition and stability of the substrate, space constraints to construction, and aesthetics. In consideration of anticipated rising sea level due to climate change, the levee has been designed with foundations capable of supporting an additional 2-foot increase in height over the lifespan of the levee.

To comply with USACE design standards, all levee types would require a 15-foot-wide clear zone on either side to accommodate future maintenance of the structure, inspection, and flood-fighting vehicle access (USACE 2019). The 15-foot-wide clear zone is measured from the face of a levee floodwall on either side, with the exception of the segments from 508+31 to 510+18 and 511+08 to 516+22, where the landward side of the floodwall would have a 24-foot-wide, clear zone; for an earthen berm and road raise segments, 15 feet is measured from the toe of slope. This clear zone would require clearing and grubbing to remove existing woody vegetation prior to construction and would require ongoing mowing to maintain low, grassy vegetation and prevent the encroachment of woody vegetation that could limit access to the structure or compromise the structure's integrity. No trees or landscaping would be allowed within this area.

Floodwalls

Two levee floodwall types are proposed along the levee structure alignment: sheet pile I-walls and pile founded T-walls. I-walls consist of sheet piles that are driven into the soil, which provides support for the structure through lateral soil pressure. T-walls consist of a reinforced concrete wall with an inverted "T" footing. When needed, T-walls are founded with a series of pipe piles to provide additional stability. Construction of an I-wall generally consists of stripping and stockpiling organic soil, excavating soft or unsuitable soils in the subgrade, compacting the subgrade, driving the sheetpile cutoff wall, constructing the concrete cap on the top of sheetpile, and backfilling and seeding areas of over-excavation near the I-wall.

Construction of a T-wall generally consists of stripping and stockpiling organic topsoil, excavating soft or unsuitable soils in the subgrade, compacting the subgrade, placing and compacting structural fill, constructing the pile-supported concrete T-wall, backfilling and seeding areas of over-excavation, and/or repaving paved areas. Vibratory pile-driving methods would be used unless dense substrate that requires impact driving is encountered. Typical cross sections of floodwall types are included in Profile views, Attachment 1, Sheets 32 through 41.

Earthen Berm

Construction of the earthen berm levee structure type would include removing and stockpiling topsoil and granular base materials at established staging/laydown areas, excavating soft or unsuitable soils in the subgrade, compacting the subgrade, and constructing the levee berm. Existing road surfacing would be removed and transported to an off-site disposal or reuse facility. If conditions allow, granular base material would be stockpiled in staging areas for reuse on the levee structure. Excavation depth ranges from 2 to 4 feet deep depending on conditions. Topsoil would be salvaged from the levee footprint and placed on the side slopes of the new levee as topsoil for hydroseeding. All exposed surfaces would be stabilized through hydroseeding, and the top would be paved with permeable gravel surfacing. Additional earth substrate needed for levee construction would be sourced from approved borrow pits, and materials would be disposed of in approved upland disposal sites.

Raised Road

Construction would include removal of existing pavements, earth fill to establish raised grades, placement of new pavements meeting Washington State Department of Transportation (WSDOT) standards, and seeding of disturbed areas.

Erosion control measures and other construction best management practices (BMPs) would be implemented along all road-raise sections to provide sediment control along areas disturbed by removals, excavations, grading, and site access.

Stormwater Facilities

Pump Station Outfall Upgrades

The City operates seven existing stormwater pump stations in the project vicinity: Cottage Avenue, Queen Avenue, Ramer Avenue, Emerson Avenue, 10th Street, K Street, and Adams Street pump stations. None of the existing pump stations would be upgraded by the project; however, the 10th Street, Queen Avenue, and K Street pump station outfalls would be improved. These improvements are part of the project. Piping and outfalls would be upsized to accommodate stormwater capacities and velocities informed by the hydraulic analyses of this project.

The new 10th Street Pump Station outfall would consist of a vault outfall constructed at the bank of the Hoquiam River. The outfall pipe would discharge into a concrete vault with an energy dissipator and then discharge to the Hoquiam River. The vault outfall would be pile-founded in the river bank below the HTL, and sheet piles would be installed to provide erosion protection. Pile driving would use vibratory methods unless dense materials are encountered that require impact pile driving. A screen would be installed to prevent debris from entering the outfall; the screen would consist of ¼-inch by 2-inch flat bars with 1 inch of clearance between the bars. The vault outfall footprint would be approximately 10 feet by 6 feet wide.

The area for the new outfall vault would be isolated and dewatered using a sheet-pile cofferdam, approximately 20 feet by 20 feet wide. Sheet piles would be driven into the substrate using vibratory methods unless impact pile driving is needed if dense substrate is encountered. Fish exclusion would follow WSDOT (2023a) and NMFS (2000) protocols. Water pumps would be stationed along the bank and would discharge downstream of the work area. Sheet pile for the cofferdams would be driven below the HTL during the IWWW.

Currently, the outfall from the K Street Pump Station discharges to Hoquiam River via an existing vegetated channel (Hoquiam Tidal Channel). The Hoquiam Tidal Channel flows approximately 120 feet before flowing through an existing culvert along the proposed levee alignment. This section of the Hoquiam Tidal Channel cannot accommodate the increased flow from the pump station upgrade, which would likely flood over the top of banks during high stormwater flow events. To prevent interior flooding, the portion of the Hoquiam Tidal Channel between the exterior of the levee structure and the pump station would be piped to the new outfall connection on the exterior side of the levee structure. This would require backfilling 120 feet of existing

(stormwater outfall) channel and crossing through an existing embankment. The new outfall would consist of a vault structure where the outfall would discharge to an energy dissipator before discharging to the Hoquiam Tidal Channel. Construction would follow the sequence listed above for the Queen Avenue Pump Station.

Waterbody Crossings

The levee alignment would intersect four ditches and two tidal channels: Ditches 1 through 4, the Hoquiam Tidal Channel, and the Paulson Road Tidal Channel. The tidal channels are Type S waterbodies and provide fish habitat. Ditch 3 is a Type F water based on physical characteristics. There is currently no downstream connection to other Type F waters, but it could potentially provide fish habitat. The other remaining ditches are Type Ns waterbodies and do not provide fish habitat.

Waterbody crossings would include the following:

- Ditch 1 would be conveyed through the levee structure via a new 24 to 48 inch culvert with a tide flap installed to prevent backwater flooding. Construction would include isolation of work areas using steel sheet cofferdams and dewatering with the use of pumps. Once constructed, Ditch 1 would be reconnected to the new culvert.
- Ditch 2 would be conveyed through the levee structure via a culvert with a tide flap. Construction of these elements would include isolation of the work area with the use of steel sheet cofferdams and dewatering with the use of pumps. Once constructed, the waterbody would be reconnected to the new culvert.
- Ditch 3 was found to have a non-functional, buried culvert at the intersection of the levee structure. This culvert would not be improved and would be abandoned in place with no construction actions.
- Ditch 4 is located waterward from the levee structure and intersects the impact limits of the levee structure. This ditch is within the temporary construction limits of the earthen berm levee structure in this location. Any temporary impacts to the ditch would be rectified after construction is completed.
- The Hoquiam Tidal Channel intersects the levee structure downstream of the K Street Pump Station. The separate K Street Pump Station upgrade would require a new outfall located on the exterior side of the levee structure. A tide flap would not be necessary at this outfall, as the pump station would prevent backwatering during flood events. Piping the section of the Hoquiam Tidal Channel from the pump station to the levee would remove approximately 120 feet of fish-bearing channel habitat. The section of the Hoquiam Tidal Channel from the new outfall to the discharge point to Grays Harbor would be excavated to increase capacity from the pump station discharge. Approximately 25 square feet (5 feet by 5 feet) of quarry spall would be installed at the foot of the outfall to prevent erosion, resulting in a loss of 5 linear feet of fish-bearing habitat in the channel.
- New pipelines/culverts would range in diameter from 24 to 48 inches. Areas of work below the ordinary high water mark (OHWM)/HTL and within wetted areas would use isolation structures (sheet piles cofferdams).
- Isolation structures would include temporary erosion and sediment control (TESC) BMPs to meet construction and quality requirements. Isolation areas would undergo fish removal and relocation per WSDOT and NMFS fish exclusion standards prior to cofferdam installation.
- Dewatering pumps in fish-bearing isolation areas would use screened sump pumps/wells and would discharge to nearby infiltration areas or stormwater pipes. Flow diversions would include pumps to bypass flows around pipe outfalls in ditches.
- Pipeline and associated vault outfall excavations, installation, backfill, and compaction would occur inside the dewatered isolation area.

Bank Stabilization and Erosion Protection

Piles for bank stabilization would be installed both above and below the HTL, depending on the distance of the levee floodwall from the HTL; the area of pile driving below the HTL is estimated to be approximately 2,000 square feet. Piles would be either HP14x89 steel piles or 18-inch-diameter timber piles, and they would be installed from shore where feasible. In areas where existing development constrains construction

equipment, piles may be installed from a barge stationed in the Hoquiam River. Piles would be installed using vibratory pile driving.

Scour Protection

Due to wave action along Grays Harbor, scour protection is necessary along the segments of the levee structure on Airport Way and 5th Street. Scour protection construction would include the installment of I-wall floodwalls (sheet piles). The walls would be installed above the HTL in the dry and would tie into the road sections of Airport Way and 5th Street on the landward sides. On the waterward sides, riprap would be installed to reduce wave-action energy imposed on the levee structure and reduce the potential for erosion. Construction would be limited to low tide when the work areas are dry. Riprap would be placed using an excavator with a machine bucket. Riprap would consist of WSDOT Class C rock that is less than 42 inches and on average 28 inches in diameter. This in accordance with the WSDOT grading requirements of rock for erosion and scour protection.

Construction Equipment, Staging, and Lay Down Area

The construction area includes several staging and laydown areas. The parcels selected for staging and laydown areas consist of mostly developed areas adjacent to or near the project alignment. Wetlands are present within some of the laydown areas and would be temporarily impacted to accommodate the staging of construction materials and equipment. Materials used in wetlands would include matting, geotextile, and clean granular fill. Following construction completion, temporary fill would be removed using conventional earth moving equipment to preconstruction grades and conditions, and areas would be replanted with native vegetation per restoration sheets in Attachment 1, Sheets 42 to 58. No estuarine wetlands are proposed for construction staging. Staging areas were selected based on the following criteria: contiguous land parcels, previously disturbed, areas of greater than approximately 0.5 acre, located in proximity to the levee alignment, located to reduce construction impacts (traffic and wear) on adjacent roadways, owned by the City, and owned by parties amenable to temporary use of their lands. It is anticipated that more than enough land area has been identified to accommodate construction of the Proposed Action. Areas of wetlands were avoided where possible for selection of the staging/laydown areas.

Habitat Mitigation, Including Compensatory Mitigation

An off-site (reach based) wetland mitigation site has been identified for the project: Parcel 518103544001, located along the left bank of the confluence of the Hoquiam River and the East Fork Hoquiam River, opposite the northernmost portion of the project. The mitigation site is the former location of a lumber facility and currently has filled/paved surfaces and relict foundations from demolished buildings. It contains approximately 13.6 acres of developed, modified floodplain that does not provide functional floodplain habitat.

Currently, a tidal channel flows along the southern portion of the site and connects to the East Fork Hoquiam River near the confluence. The proposed grading and excavation work would extend and connect tidal channels, marsh wetlands, shrub-scrub/forested wetlands, and riparian areas into the property by excavating and removing approximately 10 to 12 feet of fill. The excavations would remove fill from building foundations and paved areas, as well as excavate areas to specific grades to form channels and elevations to support wetland vegetation at varying levels of inundations. The excavations and native plantings would create a system of tidal channels, wetlands, and riparian shorelines directly connected to the East Fork Hoquiam River. Construction would consist of the use of jackhammers, excavators, and dump trucks to remove fill. The existing grade along the outer edge of the parcel, along the river banks, would be maintained while the interior portions of the parcel are excavated. This would keep the work area dry during excavations and avoid in-water work. After the interior portions of the parcel are excavated, excavators would remove the outer berm during low tide. This step would be completed during the IWWW to minimize impacts to aquatic species as turbidity settles out during the first few tide cycles.

The wetlands re-established at the mitigation site would be a Category I estuarine wetland system, which would require a 200-foot buffer. The western boundary to the parcel borders the Hoquiam River, which would serve as a buffer. The eastern boundary to the parcel borders residential development; the area 200 feet from the east parcel boundary would serve as a buffer to the wetland system. Excavated materials that are free of contamination may be used to create an upland berm within the 200-foot buffer along the east side of the parcel; reuse or disposal of the excavated materials would be refined based on state and federal permits.

The mitigation site would be planted with a native seed mix and native saplings, corresponding to the areas of marsh wetland and scrub/shrub/forested wetland. Large woody material may be placed at either the HTL or below depending on agency requirements for mitigation.

6f. What are the anticipated start and end dates for project construction? (Month/Year) [help]

- If the project will be constructed in phases or stages, use JARPA Attachment D to list the start and end dates of each phase or stage.

Start Date: 4/1/2025 End Date: 12/31/2026 ☐ See JARPA Attachment D

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [help]

Approximately: $48.1 million

6h. Will any portion of the project receive federal funding? [help]

- **If yes**, list each agency providing funds.

☒ Yes ☐ No ☐ Don't know

The City is pursuing a BRIC Grant from FEMA. FEMA would be the lead federal action agency on the project for ESA Section 7 and NHPA Section 106.

Part 7–Wetlands: Impacts and Mitigation

☒ Check here if there are wetlands or wetland buffers on or adjacent to the project area. (If there are none, skip to Part 8.) [help]

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [help]

☐ Not applicable

The levee alignment has been designed to avoid and minimize impact to wetlands and other waters. These efforts are demonstrated by the proposed alignments between 500+00 and 465+00, between 416+00 and 400+00, between 192+00 and 199+00, and between 165+00 and 173+00.

The levee alignment between 500+00 and 465+00 is adjacent to a Category II palustrine emergent and palustrine forested wetland (Wetland 1; Attachment 1, Sheet 4). While there were considerations to design this portion of the levee alignment to follow the existing earthen berm footprint along the right bank of the Hoquiam River, HDR designed the levee alignment to avoid impacts to the wetland as much as possible by shifting the alignment to run along the southern edge of the wetland while also offering protection to residents south of the alignment.

The alignment between 416+00 and 400+00 originally was designed to follow the existing earthen berm along the right bank of the Hoquiam River. The design included impacts to a palustrine forested wetland (Wetland 8; Attachment 1, Sheet 11) to the west and was adjacent to an estuarine wetland in the Hoquiam River to the east and south (Wetland E7; Attachment 1, Sheet 12). After discussions with the landowners and the City, the alignment was revised to be set back farther from the bank of the Hoquiam River. This greatly reduced the

area of impact to the wetland and also greatly reduced the area of floodplain habitat loss. The redesign offers the same level of protection to existing infrastructure and development.

The alignment between 192+00 and 199+00 was originally designed to build up existing high ground between a palustrine scrub/shrub wetland (Wetland 26; Attachment 1, Sheet 21) and a Category I palustrine forested/estuarine wetland (Wetland 25; Attachment 1, Sheet 21), which would have resulted in significant impacts to the Category I wetland. The alignment was revised to the north, where it had minor impacts to the lower-quality scrub-shrub wetland but avoided any permanent impacts to the Category I wetland. The revised design offers the same level of protection to areas landward of the levee.

The road raise section between 165+00 and 173+00 was originally designed to raise the road on the existing centerline, which would have resulted in permanent impacts to a Category I estuarine wetland (Wetland 19; Attachment 1, Sheet 22 to23). After a site visit and discussion with USACE and Ecology staff, the road raise was shifted to the north, where it resulted in minor impacts to a Category II wetland (Wetland 20, Attachment 1, Sheet 23) but minimized impacts to the Category I estuarine wetland.

A potential staging site that would have resulted in temporary impacts to wetlands was relocated following a site visit and discussion with USACE and Ecology staff to a nearby upland site that avoids impacts to wetlands.

Potential impacts to the Paulson Road Tidal Channel were avoided by modifying the levee design in that area to a road raise with no changes to the existing culvert or tidal channel.

In addition to the above, the project has been designed with the following avoidance and minimization measures in mind:

- The project has been designed to be constructed in the smallest feasible footprint.
- Clearing and land-disturbing activities would be limited to the minimum area needed to construct the project.
- Staging areas have been sited in uplands or existing disturbed locations to avoid and minimize impacts to wetlands.
- BMPS and other measures will be incorporated into the contract specification for the project. BMPs will be implemented during construction and operation of the project to minimize erosion and sediment transportation into wetlands and stormwater infrastructure.
- The project has been designed to minimize the amount of wetland fill to only that required for project construction. Future access for maintenance generally did not require wetland fill.
- The vegetation clear zone was minimized to only the width required by FEMA, minimizing clear zone impacts to wetlands and buffers.

7b. Will the project impact wetlands? [help]

☒ Yes ☐ No ☐ Don’t know

7c. Will the project impact wetland buffers? [help]

☒ Yes ☐ No ☐ Don’t know

7d. Has a wetland delineation report been prepared? [help]

- **If Yes**, submit the report, including data sheets, with the JARPA package.

☒ Yes ☐ No

The report is included as Attachment 2, W*etland and Stream Delineation Report, City of Hoquiam North Shore Levee Wes*t, April 2024

7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [help]

- **If Yes**, submit the wetland rating forms and figures with the JARPA package.

☒ Yes ☐ No ☐ Don't know

Wetland rating forms are included as Appendix C of Attachment 2, W*etland and Stream Delineation Report, City of Hoquiam North Shore Levee Wes*t, April 2024

7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [help]

- **If Yes**, submit the plan with the JARPA package and answer 7g.
- **If No, or Not applicable**, explain below why a mitigation plan should not be required.

☒ Yes ☐ No ☐ Don't know

Compensatory wetland and aquatic habitat mitigation is being proposed at Parcel 518103544001, located along the left bank of the confluence of the Hoquiam River and the East Fork Hoquiam River, opposite the northeast portion of the project.

The City of Hoquiam is in the process of preparing a detailed Compensatory Mitigation Plan per USACE and Ecology guidance. A conceptual layout of proposed mitigation is shown in Attachment 1, Sheet 31.

7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [help]

The 2008 Federal Mitigation Rule (33 Code of Federal Regulations [CFR] 332.3[b] and 40 CFR 230.93[b]) establishes a hierarchy of compensatory mitigation with mitigation banks as the preferred method, followed by in-lieu fee programs, followed by permittee-responsible mitigation. Ecology follows the same hierarchy, as documented in the Interagency Joint Mitigation Guidance (Ecology and USACE 2021). No wetland mitigation banks or in-lieu fee reserve program sites exist in service areas that cover the areas affected by the project. Therefore, permittee-responsible mitigation would be required. No on-site mitigation options are feasible. The mitigation site has been selected to serve as an off-site mitigation location for the impacts to wetlands, streams, and floodplain habitat, and has been identified in the Chehalis Basin Strategy as a priority area for restoration. The mitigation site is the former location of a lumber facility and currently has filled/paved surfaces and relict foundations from demolished buildings. It contains approximately 13.6 acres of developed, modified floodplain that does not provide functional floodplain habitat.

The selected off-site mitigation site would provide compensatory mitigation for permanent and temporary wetland impacts and compensation for lost floodplain habitat. Habitats would be re-established through the removal of fill materials, excavation of new stream channels, removal of embankments/dikes along the shoreline of the rivers, and reestablishment of tidal wetlands. These actions would restore high quality habitat for aquatic and terrestrial species by reengaging river-floodplain connectivity. Details are described below.

Currently, a tidal channel flows along the southern portion of the site and connects to the East Fork Hoquiam River near the confluence. The proposed grading and excavation work would extend and connect tidal channels, marsh wetlands, shrub-scrub/forested wetlands, and riparian areas into the property by excavating and removing approximately 10 to 12 feet of fill. The excavations would remove fill from building foundations and paved areas, as well as excavate areas to specific grades to form channels and elevations to support wetland vegetation at varying levels of inundations. The excavations and native plantings would create a system of tidal channels, wetlands, and riparian shorelines directly connected to the river providing beneficial wetland and stream functions for aquatic species. The types of habitats expected to be re-established include mudflat, low-elevation estuarine marsh with sedges and rushes, and mid-elevation shrub-scrub/forested riverine wetlands, providing a range of tidal, river, flood hydrology, and functions for aquatic species.

The mitigation site would re-establish approximately 0.18 acre of tidal channel/mudflat wetland, ranging from 2 to 4 feet elevation (NAVD88); approximately 4.11 acres of marsh/scrub/shrub wetland, ranging from 4 to 8 feet elevation (NAVD88); and approximately 3.63 acres of scrub/shrub/forested wetland, ranging from 8 to 10.78 feet elevation (NAVD88).

7h. Use the table below to list the type and rating of each wetland impacted, the extent and duration of the impact, and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan. [help]

Activity (fill, drain, excavate, flood, etc.)	Wetland Name[1]	Wetland type and rating category[2]	Impact area (Acres)	Duration of impact[3]	Proposed mitigation type[4]	Wetland mitigation area (acres)
Permanent Impacts						
Levee Construction – Earthen Berm (excavate and fill)	Wetland 1	PEM/PFO, II	0.44	Permanent	R	1.32
	Wetland 2	PEM, III	0.09	Permanent	R	0.18
	Wetland 8	PFO, II	0.29	Permanent	R	0.87
	Wetland 11	PEM, III	0.17	Permanent	R	0.34
	Wetland 12	PEM, III	0.05	Permanent	R	0.10
	Wetland 13	PEM, III	0.03	Permanent	R	0.06
	Wetland 14	PEM, III	0.52	Permanent	R	1.04
	Wetland 15	PEM, III	0.20	Permanent	R	0.40
	Wetland 16	PEM, III	0.47	Permanent	R	0.94
	Wetland 21	PEM, III	0.11	Permanent	R	0.22
	Wetland 26	PSS, III	0.01	Permanent	R	0.02
Levee Construction – Floodwall (excavate and fill)	Wetland 4	PEM/PFO, III	<0.01	Permanent	R	<0.01
	Wetland 5	PEM, III	0.01	Permanent	R	0.02
	Wetland 7	PEM, III	<0.01	Permanent	R	0.01
	Wetland 23	PSS, IV	0.03	Permanent	R	0.05
	Wetland 24	PEM, III	0.10	Permanent	R	0.20
	Wetland E5	EEM, II	<0.01	Permanent	R	<0.01
Levee Construction – Road Raise (excavate and fill)	Wetland 10	PEM/PSS/PFO, II	0.18	Permanent	R	0.54
	Wetland 17	PEM, III	0.04	Permanent	R	0.08
	Wetland 19	EEM/PFO, I	<0.01	Permanent	R	0.01
	Wetland 20	PEM/PSS/PFO, II	0.24	Permanent	R	0.72
	Wetland 29	PEM, III	0.03	Permanent	R	0.06
	Wetland 30	PEM/PFO, III	0.05	Permanent	R	0.10
	Wetland B	PEM/PSS/PFO, II	<0.01	Permanent	R	<0.01
Total			**3.08**			**7.28**
Mitigation Site (Excavate)	Wetland M1	PEM/PSS, II	0.03	Permanent	N/A	N/A
	Wetland M3	EEM, II	0.04	Permanent	N/A	N/A
	Wetland M4	EEM, II	0.12	Permanent	N/A	N/A
	Wetland M5	EEM, II	0.23	Permanent	N/A	N/A
	Wetland M6	PFO/PSS, III	0.85	Permanent	N/A	N/A
	Wetland M7	PSS, III	0.13	Permanent	N/A	N/A

Total			**1.41**			**N/A**
Indirect Impacts[6]						
Indirect – Sun Exposure	Wetland 1	PEM/PFO, II	0.29	Permanent	R	TBD
	Wetland 4	PEM/PFO, III	0.01	Permanent	R	TBD
	Wetland 6	PEM, III	<0.01	Permanent	R	TBD
	Wetland 7	PEM, III	<0.01	Permanent	R	TBD
	Wetland 23	PSS, IV	0.01	Permanent	R	TBD
	Wetland E7	EEM, II	0.05	Permanent	R	TBD
Indirect – Loss of Functional Buffer	Wetland 1	PEM/PFO, II	0.60	Permanent	R	TBD
	Wetland 4	PEM/PFO, III	0.08	Permanent	R	TBD
	Wetland 6	PEM, III	0.03	Permanent	R	TBD
	Wetland 7	PEM, III	<0.01	Permanent	R	TBD
	Wetland 8	PFO, II	1.39	Permanent	R	TBD
	Wetland 9	PEM, III	0.03	Permanent	R	TBD
	Wetland 10	PEM/PSS/PFO, II	0.31	Permanent	R	TBD
	Wetland 11	PEM, III	0.17	Permanent	R	TBD
	Wetland 13	PEM, III	0.05	Permanent	R	TBD
	Wetland 14	PEM, III	1.81	Permanent	R	TBD
	Wetland 15[a]	PEM, III	0.37	Permanent	R	TBD
	Wetland 16	PEM, III	0.44	Permanent	R	TBD
	Wetland 19	EEM/PFO, I	0.06	Permanent	R	TBD
	Wetland 20	PEM/PSS/PFO, II	0.30	Permanent	R	TBD
	Wetland 23	PSS, IV	<0.01	Permanent	R	TBD
	Wetland 25	EEM/PFO, I	0.27	Permanent	R	TBD
	Wetland 26	PSS, III	0.3	Permanent	R	TBD
	Wetland 29	PEM, III	0.03	Permanent	R	TBD
	Wetland 30	PEM/PFO, III	0.01	Permanent	R	TBD
	Wetland E1	EEM, II	0.09	Permanent	R	TBD
	Wetland E2	EEM, II	0.29	Permanent	R	TBD
	Wetland E3	EEM, II	0.09	Permanent	R	TBD
	Wetland E5	EEM, II	<0.01	Permanent	R	TBD
	Wetland E7	EEM, II	0.56	Permanent	R	TBD
	Wetland B	PEM/PSS/PFO, II	0.03	Permanent	R	TBD
	Wetland M	EEM, II	0.02	Permanent	R	TBD
Total			**7.49**			**TBD**
Vegetation Conversion Impacts						
Clear Zone – Vegetation	Wetland 1	PFO, II	0.46	Permanent	C	0.69
	Wetland 8	PFO, II	0.43	Permanent	C	0.65

Conversion from PFO/PSS to PEM	Wetland 23	PSS, IV	0.02	Permanent	C	0.01
	Wetland 25	PFO, I	<0.01	Permanent	C	<0.01
	Wetland 26	PSS, III	0.01	Permanent	C	0.01
Total			**0.91**			**1.36**
Temporary Impacts[6]						
Long-term temporary – tree clearing	Wetland 10	PEM/PSS/PFO, II	0.24	2 years for construction, additional time to replace functions	C	TBD
	Wetland 18	PFO, II	0.07	2 years for construction, additional time to replace functions	C	TBD
	Wetland 19	EEM/PFO, I	0.06	2 years for construction, additional time to replace functions	C	TBD
	Wetland 20	PEM/PSS/PFO, II	0.01	2 years for construction, additional time to replace functions	C	TBD
Total			**0.38**			**TBD**
Temporary Impacts - Construction Limits, Staging	Wetland 3	PEM, III	0.01	2 years	N/A	Restored on-site
	Wetland 4	PEM, III	<0.01	2 years	N/A	Restored on-site
	Wetland 9	PEM, III	0.03	2 years	N/A	Restored on-site
	Wetland 10	PEM, II	0.02	2 years	N/A	Restored on-site
	Wetland 11	PEM, III	<0.01	2 years	N/A	Restored on-site
	Wetland 14	PEM, III	1.15	2 years	N/A	Restored on-site
	Wetland 15[5]	PEM, III	0.10	2 years	N/A	Restored on-site
	Wetland 16	PEM, III	0.05	2 years	N/A	Restored on-site
	Wetland 19	EEM, I	0.10	2 years	N/A	Restored on-site
	Wetland 20	PEM, II	<0.01	2 years	N/A	Restored on-site
	Wetland 21	PEM, III	0.02	2 years	N/A	Restored on-site

	Wetland 29	PEM, III	0.01	2 years	N/A	Restored on-site
	Wetland 30	PEM, III	<0.01	2 years	N/A	Restored on-site
	Wetland E2	EEM, II	<0.01	2 years	N/A	Restored on-site
	Wetland E4	EEM, II	<0.01	2 years	N/A	Restored on-site
	Wetland B	PEM/PSS, II	0.01	2 years	N/A	Restored on-site
	Wetland M	EEM, II	<0.01	2 years	N/A	Restored on-site
Total			**1.51**			

[1] If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report.
[2] Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.
[3] Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.
[4] Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)
[5] Includes assumed impacts for Wetland 15 and 15a, which have been combined as one impact.
[6] Mitigation requirements for indirect impacts to wetlands and long-term temporary impacts will be coordinated with USACE and Ecology

Page number(s) for similar information in the mitigation plan, if available: See Attachment 1, Sheets 42 to 58 for temporary impact restoration plans. A conceptual layout of proposed mitigation is shown on Sheet 31 and a compensatory mitigation plan is being prepared.

7i. For all filling activities identified in 7h, describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [help]

Fill material would be brought in from an offsite, approved, and noxious weed free source.

Wetland	Source/Nature of Fill	Fill Quantity (CY)	Placement of Fill
Wetland 1 (Levee Construction; Earthen Berm)	Off-site from approved source – earthen material, structural fill	760	By heavy machinery for construction of earthen levee.
Wetland 2 (Levee Construction; Earthen Berm)	Off-site from approved source – earthen material, structural fill	94	By heavy machinery for construction of earthen levee.
Wetland 4 (Levee construction; Floodwall)	Sheet Pile with concrete cap	13.7	Driven sheet pile with poured concrete cap. for construction of floodwall.
Wetland 5 (Levee construction; Floodwall)	Concrete wall	28	Sub-grade concrete anchor and T-wall.
Wetland 5 (Levee construction; Floodwall)	Concrete wall, other fill off-site from approved source, backfill from excavation	10	Sub-grade concrete anchor and T-wall. Subgrade base and backfill by heavy machinery.
Wetland 7 (Levee construction; Floodwall and grading)	Concrete wall, other fill off-site from approved source, backfill from excavation	10	Sub-grade concrete anchor and T-wall. Subgrade base and backfill by heavy machinery.
Wetland 8 (Levee Construction; Earthen Berm)	Off-site from approved source – structural fill	524	By heavy machinery for construction of earthen levee.
Wetland 10 (Levee Construction, Road Raise)	Off-site from approved source – structural fill, road bed, asphalt	873	By heavy machinery for construction of road-raise.
Wetland 11 (Levee Construction; Earthen Berm)	Off-site from approved source – bentonite clay, structural fill	860	By heavy machinery for construction of earthen levee.
Wetland 12 (Levee Construction; Earthen Berm)	Off-site from approved source – bentonite clay, structural fill	132	By heavy machinery for construction of earthen levee.
Wetland 13 (Levee Construction; Earthen Berm)	Off-site from approved source – bentonite clay, structural fill	77	By heavy machinery for construction of earthen levee.
Wetland 14 (Levee Construction; Earthen Berm)	Off-site from approved source – bentonite clay, structural fill	3,742	By heavy machinery for construction of earthen levee.
Wetland 15 (Levee Construction; Earthen Berm)	Off-site from approved source – bentonite clay, structural fill	856	By heavy machinery for construction of earthen levee.
Wetland 16 (Levee Construction; Earthen Berm)	Off-site from approved source – structural fill	850	By heavy machinery for construction of earthen levee.

Wetland 17 (Levee Construction, Road Raise)	Off-site from approved source – structural fill, road bed, asphalt	175	By heavy machinery for construction of road-raise.
Wetland 19 (Levee Construction, Road Raise)	Off-site from approved source – structural fill, road bed, asphalt	14	By heavy machinery for construction of road-raise.
Wetland 20 (Levee Construction, Road Raise)	Off-site from approved source – structural fill, road bed, asphalt	1,180	By heavy machinery for construction of road-raise.
Wetland 21 (Levee Construction; Earthen Berm)	Off-site from approved source – structural fill	362	By heavy machinery for construction of earthen levee.
Wetland 23 (Levee construction; Floodwall)	Concrete wall	61	Sub-grade concrete anchor and T-wall.
Wetland 23 (Levee construction; Floodwall)	Off-site from approved source, backfill from excavation	128	By heavy machinery as subgrade base and backfill.
Wetland 24 (Levee construction; Floodwall)	Concrete wall	92	Sub-grade concrete anchor and T-wall.
Wetland 24 (Levee construction; Floodwall)	Off-site from approved source, backfill from excavation	562	By heavy machinery as subgrade base and backfill.
Wetland 26 (Levee Construction; Earthen Berm)	Off-site from approved source – structural fill	38	By heavy machinery for construction of earthen levee.
Wetland 29 (Levee Construction, Road Raise)	Off-site from approved source – structural fill, road bed, asphalt	165	By heavy machinery for construction of road-raise.
Wetland 30 (Levee Construction, Road Raise)	Off-site from approved source – structural fill, road bed, asphalt	265	By heavy machinery for construction of road-raise.
Wetland B (Levee Construction, Road Raise)	Off-site from approved source – structural fill, road bed, asphalt	8	By heavy machinery for construction of road-raise.

7j. For all excavating activities identified in 7h, describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [help]

Excavation Location	Method	Type Materials	Estimated Amount of Excavated Material (CY)	How and Where Disposed
Wetland 1 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	760	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 2 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	94	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of

				earthen levee for hydroseeding.
Wetland 5 (Levee Construction; Floodwall)	Heavy machinery	Wetland soils	38	Disposed offsite in approved upland location. Topsoil stockpiled and used for upper layers of backfill.
Wetland 8 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	524	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 10 (Levee Construction; Road Raise)	Heavy machinery	Wetland soils	873	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 11 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	860	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 12 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	132	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 13 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	77	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 14 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	3742	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 15 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	856	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 16 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	578	Disposed offsite in approved upland location. Topsoil stockpiled and

				placed on side slopes of earthen levee for hydroseeding.
Wetland 17 (Levee Construction; Road Raise)	Heavy machinery	Wetland soils	175	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 19 (Levee Construction; Road Raise)	Heavy machinery	Wetland soils	14	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 20 (Levee Construction; Road Raise)	Heavy machinery	Wetland soils	1,180	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 21 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	362	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 23 (Levee Construction; Floodwall)	Heavy machinery	Wetland soils	189	Disposed offsite in approved upland location. Topsoil stockpiled and used for upper layers of backfill.
Wetland 24 (Levee Construction; Floodwall)	Heavy machinery	Wetland soils	654	Disposed offsite in approved upland location. Topsoil stockpiled and used for upper layers of backfill.
Wetland 26 (Levee Construction; Earthen Berm)	Heavy machinery	Wetland soils	38	Disposed offsite in approved upland location. Topsoil stockpiled and used for upper layers of backfill.
Wetland 29 (Levee Construction; Road Raise)	Heavy machinery	Wetland soils	165	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.
Wetland 30 (Levee Construction; Road Raise)	Heavy machinery	Wetland soils	265	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of

				earthen levee for hydroseeding.
Wetland B (Levee Construction; Road Raise)	Heavy machinery	Wetland soils	8	Disposed offsite in approved upland location. Topsoil stockpiled and placed on side slopes of earthen levee for hydroseeding.

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, "waterbodies" refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [help]

☒ Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [help]

☐ Not applicable

The project has been designed to avoid and minimize impacts to non-wetland waterbodies. Project routing prioritized avoiding work below HTL to the maximum extent possible, resulting in the only impacts below HTL being located at areas with a need for bank armoring or stabilization, outfall replacement, or no other feasible option for levee placement. In addition, the following avoidance and minimization measures will be implemented:

- All work below the OHWM/HTL of ditches and waterbodies would take place during the IWWW (July 15 to December 31).
- Any work conducted in the wet would include work area isolation and fish salvage.
- Isolation would be accomplished by cofferdam and dewatering systems, which would be in place prior to any excavation below the OHWM or HTL in waterbodies. Cofferdams would be constructed and installed within the channel by an excavator or other suitable lifting equipment operated from the bank.
- Work areas at stormwater outfalls would be isolated using steel sheets. Screened pumped water would be discharged into the adjacent areas downstream, or to adjacent infiltration areas. Screens on pump intakes would be compliant with NOAA Fisheries requirements. Pumps would be stationed on the bank adjacent to the dewatering area.
- The work areas for the scour protection riprap installation would use floating silt curtains along excavations at low tide. Gravel-filled supersacks would be on standby if needed to further isolate the areas of excavation. If low tide cycles do not provide sufficient construction windows, sheet pile cofferdams would be installed at low tide to extend "in the dry" work windows.
- The work area for the pile-anchored large woody material installation would not be dewatered. Fish isolation methods have not yet been determined; methods would comply with WDFW requirements and handling would follow WSDOT standards (2023a) or NMFS standards (2000) if electro-fishing methods are used.
- Anchored silt curtains would be used along excavations at low tide for areas of riprap installation below the HTL in Grays Harbor to prevent turbidity at high tide.

- Heavy equipment would not be operated in water. Equipment for in-water work would be staged landward of the HTL. An exception would be made if a barge is determined necessary for pile driving where space is limited for construction equipment along the levee alignment.
- Cofferdam materials and design would maximize the potential for clean removal and would be removed incrementally to reduce sedimentation pulses downstream.
- Water intake pumps would be screened to prevent pumping out fish. Fish salvage would adhere to the WSDOT specifications (WSDOT 2023a). Any electro-fishing would follow the NMFS protocols (NMFS 2000). If salinity precludes electro-fishing, fish salvage biologists would use three-pass seining methods to remove and relocate fish from the isolation area.
- TESC measures would be implemented to address erosion control during and after construction (including directing runoff away from unstabilized soils, slowing runoff with structures, and installing silt fence to catch particulates). Sediment fences would be placed on the exterior portion of the levee structure.
- Soils would be stabilized with TESC methods approved by Ecology in the SWMMWW (Ecology 2019) (e.g., seeding, mulching, plastic covering) when they are exposed for more than 7 days during the dry season.
    - Noxious weeds would be disposed of separately from other organic materials at approved disposal sites. If seed heads are formed, noxious weeds would be bagged to prevent inadvertent dispersal of seeds.
    - Pile driving for the construction of the floodwall I-wall along Airport Way and 5th Street would occur at low tide to reduce sound transmission to the water column in Grays Harbor.
    - Pile driving would employ vibratory methods where feasible, depending on substrate. In cases where impact pile driving is necessary, construction methods would include 2 to 3 minutes of ramp-up procedures to generate and increase noise profile in the Action Area.
    - Excavation and installation of riprap for scour protection along Airport Way and 5th Street would occur at low tide when the work area is naturally dewatered and aquatic species are naturally excluded.
    - A Stormwater Pollution Prevention Plan would be developed and implemented during construction to minimize erosion and sediments from rainfall runoff and to reduce, eliminate, and prevent the pollution of stormwater.
    - A Stormwater Site Plan (SSP) would be developed and implemented to permanently address stormwater runoff created by new pollution-generating hard surfaces that are proposed by the project. BMPs provided within the SSP include filter strips for the portion of the levee along Moon Island Road. The final SSP would be submitted with the 90 percent design.
    - A Spill Prevention Control Countermeasures (SPCC) Plan would be developed to manage toxic materials associated with construction activities (e.g., equipment leaks, disposal of oily wastes, cleanup of any spills, and storing petroleum products/chemicals in contained areas away from streams and wetlands). The final SPCC plan would be submitted with the 90 percent design.
    - Nearshore piles along the shoreline of Grays Harbor would be installed in the dry during low tide to reduce the transmission of sound from the substrate to the water column from pile driving.

- Installation of riprap along the shoreline of Grays Harbor would be completed in the dry during low tide when the work area is naturally excluded from use by fish, mitigating direct impacts. Furthermore, this would reduce turbidity plumes resulting from disturbance to the substrate.
- Soil bentonite mixing would occur either in the immediately adjacent construction limits when located in uplands or in staging/laydown areas that are located in uplands. If mixing areas are sloped toward water bodies, erosion protection would be installed.

8b. Will your project impact a waterbody or the area around a waterbody? [help]

☒ Yes ☐ No

8c. Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [help]

- **If Yes**, submit the plan with the JARPA package and answer 8d.
- **If No, or Not applicable,** explain below why a mitigation plan should not be required.

☒ Yes ☐ No ☐ Don't know

See Section 7g.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g you do not need to restate your answer here. [help]

The off-site mitigation site along the Hoquiam River will provide compensatory mitigation for impacts to non-wetland waterbodies, including impacted estuarine, nearshore, and floodplain habitat. The wetland mitigation site and watershed approach used to selected the site are detailed in 7g above.

The site has been identified in the Chehalis Basin Strategy as a priority area for restoration. The site presents the opportunity to re-establish wetland, tidal, and floodplain habitat to offset the impacts of the project. This site has been selected to serve as an offsite mitigation location for the impacts to wetland, streams, and floodplain habitat.

8e. Summarize impact(s) to each waterbody in the table below. [help]

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name[1]	Impact location[2]	Project Location / Attachment 1 Sheet Number	Duration of impact[3]	Amount of material (cubic yards) to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
Permanent Impacts						
Bank stabilization and scour protection	Grays Harbor	Within	Sta. 129+00 to 131+00 / Sheet 25	Permanent	3 cy	20 sf (26 lf)
Bank stabilization,	Grays Harbor	Within	Sta. 183+00 to 192+20 / Sheet 21, 22	Permanent	13 cy	3580 sf (30 lf)

scour protection						
Bank stabilization, scour protection	Hoquiam River	Within	Sta. 506+00 to 509+00 / Sheet 3	Permanent	104	951 sf (272 lf)
Fill for earthen levee construction, Queen Ave Outfall Replacement	Hoquiam River	Within	Sta 457+00 to 458+00 / Sheet 6	Permanent	13 cy	123 sf (23 lf)
Hoquiam Tidal Channel/K Street Pump Station Outfall upgrade	Hoquiam Tidal Channel	Within	Sta. 224+00 / Sheet 18	Permanent	2,216 cy	7800 sf (640 lf)
H-pile installation and bank stabilization	Hoquiam River	Within	Sta. 324+00 to 335+00 / Sheet 13, 14	Permanent	41.5 cy	140 sf (110 lf)
Excavation – Mitigation Site Construction	East Fork Hoquiam River	Within	Offsite Mitigation Location / Sheet 31	Permanent	TBD – mitigation plan in development	1,023 sf (1,478 lf)
Temporary Impacts						
Temporary work area for levee construction	Grays Harbor	Within	Sta. 129+00 to 131+00 / Sheet 25	Temporary	N/A	5,170 sf (187 lf)
Temporary work area for riprap placement	Grays Harbor	Within	Sta. 183+00 to 192+20 / Sheet 21, 22	Temporary	N/A	2,890 sf (337 lf)
Temporary work area for levee construction	Grays Harbor	Within	Sta. 209+00 / Sheet 20	2 months	N/A	2,428 sf (204 lf)
Temporary work area for bank stabilization	Hoquiam River	Within	Sta. 501+00 to 510+00 / Sheet 3	3 months	N/A	18,818 sf (723 lf)
Temporary work area for levee construction, Queen Ave Outfall Replacement	Hoquiam River	Within	Sta 457+00 to 458+00 / Sheet 6	1 month	N/A	2,929 sf (293 lf)
H-pile installation	Hoquiam River	Within	Sta. 324+00 to 335+00 / Sheet 13, 14	5 months	N/A	9,057 sf (796 lf)

and bank stabilization						
Hoquiam Tidal Channel/K Street Pump Station Outfall upgrade	Hoquiam Tidal Channel	Within	Sta. 224+00 / Sheet 18	Temporary	N/A	13 sf (2 lf)
Temporary work area for levee construction	Hoquiam River	Within	Sta. 436+00 to 437+00 / Sheet 8	Temporary	N/A	141 sf (46 lf)

[1] If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.
[2] Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.
[3] Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

8f. For all activities identified in 8e, describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [help]

Fill material would be brought in from an offsite, approved, and noxious weed free source.

Fill Location	Fill Use	Source of Fill Material	Type of Fill Material	Amount of Fill Material	How and Where Placed
Grays Harbor – Sta. 129+00 to 131+00	Scour protection	Offsite	Riprap	3 cy	Placed above and below HTL, by equipment working above HTL
Grays Harbor – Sta. 183+00 to 192+20	Scour protection	Offsite	Riprap	13 cy	Placed above and below HTL, by equipment working above HTL
Hoquiam River – Sta. 506+00 to 508+00	Scour Protection	Offsite	Riprap	104 cy	Placed above and below HTL, by equipment working above HTL
Hoquiam River – Sta. 457+00 to 458+00	Levee footprint	Offsite	Gravel/structural fill	13 cy	Below HTL, by grader/excavator
Hoquiam River – Sta. 324+00 to 335+00	Bank stabilization	Offsite	H-piles, riprap	41.5 cy	Placed above and below HTL, either by equipment on bank or located on an anchored barge
Hoquiam River – Sta. 455+00	Outfall replacement	Offsite	48” diameter culvert, backfill material	TBD based on culvert size in final design	Placed above and below HTL by equipment located above HTL.
Hoquiam Tidal Channel – Sta. 224+00	Scour protection/ energy dissipation	Offsite	Quarry Spall	4 cy	Placed below HTL by heavy equipment

8g. For all excavating or dredging activities identified in 8e, describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [help]

For all activities described in 8e, any required excavation would be conducted by equipment working from on the bank, above HTL, or during low tide. No equipment would be operated in water. Excavated material will be disposed of at appropriate off-site locations, unless it is suitable for use as fill material, in which case it will be re-used and disposed of onsite.

Excavation Location	Method	Type Materials	Estimated Amount of Excavated Material (CY)	How and Where Disposed

Grays Harbor – Sta. 129+00 to 131+00	Heavy Equipment	Existing Riprap/rubble	2 cy	In approved, offsite location, unless suitable as fill material, then incorporated into levee onsite
Grays Harbor – Sta. 183+00 to 192+20	Heavy Equipment	Existing Riprap/rubble	8 cy	In approved, offsite location, unless suitable as fill material, then incorporated into levee onsite
Hoquiam River – Sta. 506+00 to 508+00	Heavy Equipment	Upland soils	104 cy	In approved, offsite location, unless suitable as fill material, then incorporated into levee onsite
Hoquiam River – Sta. 457+00 to 458+00	Heavy Equipment	Existing boat ramp, concrete, gravel	11 cy	In approved, offsite location, unless suitable as fill material, then incorporated into levee onsite
Hoquiam Tidal Channel – Sta. 224+00	Heavy Equipment	Silt substrate	2,216 cy	In approved, offsite location, unless suitable as fill material, then incorporated into levee onsite
East Fork Hoquiam River	Heavy Equipment	Fill material	TBD – Mitigation plan in development	In approved offsite location, possibly in wetland buffer berm

8h. Have you prepared a Water Quality Monitoring Plan (WQMP) for all in-water work (below ordinary high water), over water work or discharges to waters of the state?

☐ Yes ☐ No

If NO describe the monitoring that you will be conducting including parameters, equipment and locations, or explain why monitoring will not be necessary. [help]

A Water Quality Monitoring Plan will be prepared as part of the 401 Water Quality Certification application submittal.

Part 9–Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [help]

Agency Name	Contact Name	Phone	Most Recent Date of Contact
WDFW	Megan Tuttle	360-249-1216	July 28, 2023
WDFW	Brandon Carman	564-669-0975	July 28, 2023
WDFW	Portia Leigh	360-249-4628	November 21, 2022
USACE	Evan Carnes	206-316-3049	November 29, 2021
USACE	Brad Johnson	503-278-1845	March 6, 2024
Washington Department of Ecology	Zachary Meyer	360-481-9885	August 2, 2023
FEMA	Galeeb Kachra	202-679-0347	April 3, 2024
Quinault Indian Nation	Caprice Fasano	360-276-8215	July 28, 2023

9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 of this JARPA on the Washington Department of Ecology's 303(d) List? [help]

- **If Yes,** list the parameter(s) below.
- If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d.

☒ Yes ☐ No

The Hoquiam River, adjacent to the project site, is listed as a Category 5 for bacteria and fecal coliform.

9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [help]

- Go to http://cfpub.epa.gov/surf/locate/index.cfm to help identify the HUC.

Hoquiam River (171001050203)

9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [help]

- Go to https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-availability/Watershed-look-up to find the WRIA #.

Washington Water Resource Inventory Area (WRIA) 22 (Lower Chehalis)

9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [help]

- Go to https://ecology.wa.gov/Water-Shorelines/Water-quality/Freshwater/Surface-water-quality-standards/Criteria for the standards.

☒ Yes ☐ No ☐ Not applicable

9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [help]

- If you don't know, contact the local planning department.
- For more information, go to: https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Shoreline-laws-rules-and-cases.

☐ Urban ☐ Natural ☐ Aquatic ☐ Conservancy ☒ Other: High Intensity; Residential

9g. What is the Washington Department of Natural Resources Water Type? [help]

- Go to http://www.dnr.wa.gov/forest-practices-water-typing for the Forest Practices Water Typing System.

☒ Shoreline ☐ Fish ☐ Non-Fish Perennial ☒ Non-Fish Seasonal

9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [help]

- **If No**, provide the name of the manual your project is designed to meet.

☒ Yes ☐ No

Name of manual: 2019 Stormwater Management Manual for Western Washington

9i. Does the project site have known contaminated sediment? [help]

- **If Yes**, please describe below.

☒ Yes ☐ No

The *West Segment of the North Shore Levee Phase I Environmental Site Assessment* identifies the following sites along the project corridor for which the project is at high risk of encountering site-specific contamination during construction.

300 feet north of project corridor – No address, Parcel 051806700001. BNSF Hoquiam Site. Reported releases of petroleum products and metals to soil and groundwater bordering the project alignment.

No address, Parcels 056400300100, 056401500300, 056401500300, 051807000003. Northwestern Lumber Company Saw and Planning Mill. Likely presence of petroleum hydrocarbons, solvents, metals, and dioxins/furans from past lumber processing operations.

No address, Parcels 517100214004, 517100214002. Hoquiam Lumber and Shingle Company Saw Mill. Likely presence of petroleum hydrocarbons, solvents, metals and dioxins/furans from past lumber processing operations.

No address, US 101 Overcrossings. Likely presence of aerially deposited lead in the project alignment.

No address, Railroad Corridors. Potential presence of arsenic and lead in soil from historic rail operations.

220 Lincoln Street, Parcel 053400200700. Wesley's Gull & Mini-mart/Hoquiam Express Lane 226/Shell 401. Likely presence of petroleum hydrocarbons from adjacent fueling operations.

400 Airport Way, Parcel 056401000400. Rayonier Grays Harbor Lumber. Soil exceedances of dioxins/furans adjacent to Paulson Road.

611 Emerson Avenue, Parcel 053400800001. Former Hoquiam Highschool. Approximately 500 feet west of project alignment. Lead, chromium, arsenic and PAHs detected in soils and groundwater. This site is not located along the project alignment, but is designated as construction laydown area.

726 Simpson Avenue, Parcel 051804901102. Chevron Station 1125. Likely presence of petroleum hydrocarbons in groundwater from fueling operations.

825 Queen Avenue. Little Hoquiam River Boat. Presence of contaminants in soil and potentially groundwater bordering the project.

905 Simpson Avenue, Parcel 051806100001. Ken Harrison Texaco. Likely presence of petroleum hydrocarbons in groundwater.

1313 Western Avenue, Parcel 05300010180, 053000101902. Butcher's Scrap Metal. Entire site likely to have been impacted by used oil. Likely presence of petroleum hydrocarbons in groundwater.

9j. If you know what the property was used for in the past, describe below. [help]

The project spans a large portion of the City of Hoquiam and consequently has highly varied past property uses. Detailed information on site history and historic use is available in the *West Segment of the North Shore Levee Phase I Environmental Site Assessment* and the *North Shore Levee West Cultural Resources Investigation Report* prepared for the project.

In general, properties along the project alignment have been used for residential, commercial, and industrial activities, with a heavy focus on logging and logging-related industries, including multiple log landing and storage yards, sawmills, and shingle mills. Additional industrial activity centered around the railroad.

9k. Is the project located in or adjacent to a designated state or federal contaminated site or clean-up site. (e.g. MTCA or CERCLA)?

- **If Yes**, provide any additional details below.

☐ Yes ☒ No

9l. Has a cultural resource (archaeological) survey been performed on the project area? [help]

- **If Yes**, attach it to your JARPA package.

☒ Yes ☐ No

FEMA is the lead agency for coordination for NHPA Section 106 consultation and anticipates that USACE will act as cooperating agency. A cultural resources study has been completed for the project and FEMA will provide the cultural resources survey report to the USACE as part of the NHPA Section 106 consultation process.

9m. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [help]

A Biological Assessment was prepared for the project. The assessment addresses impacts to ESA-listed species that may occur in the Project Action Area. These include: marbled murrelet (*Brachyramphus marmoratus*), northern spotted owl (*Strix occidentalis caurina*), western snowy plover (*Charadrius nivosus nivosus*), yellow-billed cuckoo (*Coccyzus americanus*), monarch butterfly (*Danaus plexippus*), bull trout (*Salvelinus confluentus*), Chinook salmon (*Oncorhynchus tshawytscha*), chum salmon (*O. keta*), steelhead (*O. mykiss*), green sturgeon (*Acipenser medirostris*), Eulachon (*Thaleichthys pacificus*), and killer whale (*Orcinus orca*).

The Biological Assessment concluded that the NSLW project will have no effect on western snowy plover, yellow-billed cuckoo, and monarch butterfly; may affect but is not likely to adversely affect marbled murrelet, northern spotted owl, Eulachon, Chinook salmon, chum salmon, steelhead, southern resident killer whale; and may affect and is likely to adversely affect bull trout and green sturgeon. The project is not likely to adversely affect critical habitat for killer whale. The project is likely to adversely affect critical habitat for bull trout and green sturgeon.

9n. Name each species or habitat on the Washington Department of Fish and Wildlife's Priority Habitats and Species List that might be affected by the proposed work. [help]

Mapped PHS species and habitats in the project vicinity include the following:

- Waterfowl concentrations
- Shorebird Concentrations
- Purple martin (*Progne subis*) breeding area
- Chinook salmon (*O. tshawytscha*)
- Steelhead (*O. mykiss*)
- Coho salmon (*O. kisutch*)
- Chum salmon (*O. keta*)
- Cutthroat trout (*O. clarki*)

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at http://apps.oria.wa.gov/opas/.
- Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.
- For a list of addresses to send your JARPA to, click on agency addresses for completed JARPA.

10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [help]

- For more information about SEPA, go to https://ecology.wa.gov/regulations-permits/SEPA-environmental-review.

☐ A copy of the SEPA determination or letter of exemption is included with this application.

☒ A SEPA determination is pending with the City of Hoquiam (lead agency). The expected decision date is TBD.

☐ I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [help]

☐ This project is exempt (choose type of exemption below).

☐ Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?

_____

☐ Other: _____

☐ SEPA is pre-empted by federal law.

10b. Indicate the permits you are applying for. (Check all that apply.) [help]

LOCAL GOVERNMENT

Local Government Shoreline permits:

☒ Substantial Development ☒ Conditional Use ☐ Variance

☐ Shoreline Exemption Type (explain): _____

Other City/County permits:

☒ Floodplain Development Permit ☒ Critical Areas Ordinance

STATE GOVERNMENT

Washington Department of Fish and Wildlife:

☒ Hydraulic Project Approval (HPA) ☐ Fish Habitat Enhancement Exemption – Attach Exemption Form

Washington Department of Natural Resources:

☒ Aquatic Use Authorization

Complete JARPA Attachment E and submit a check for $25 payable to the Washington Department of Natural Resources. **Do not send cash.**

Washington Department of Ecology:

☒ Section 401 Water Quality Certification

☐ Authorization to impact waters of the state, including wetlands (Check this box if the proposed impacts are to waters not subject to the federal Clean Water Act)

FEDERAL AND TRIBAL GOVERNMENT

United States Department of the Army (U.S. Army Corps of Engineers):

☒ Section 404 (discharges into waters of the U.S.) ☒ Section 10 (work in navigable waters)

United States Coast Guard:

For projects or bridges over waters of the United States, contact the U.S. Coast Guard at:

☐ Bridge Permit: D13-SMB-D13-BRIDGES@uscg.mil

☐ Private Aids to Navigation (or other non-bridge permits): D13-SMB-D13-PATON@uscg.mil

United States Environmental Protection Agency:

☐ Section 401 Water Quality Certification (discharges into waters of the U.S.) on tribal lands where tribes do not have treatment as a state (TAS)

Tribal Permits: (Check with the tribe to see if there are other tribal permits, e.g., Tribal Environmental Protection Act, Shoreline Permits, Hydraulic Project Permits, or other in addition to CWA Section 401 WQC)

☐ Section 401 Water Quality Certification (discharges into waters of the U.S.) where the tribe has treatment as a state (TAS).

Part 11–Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [help]

11a. Applicant Signature (required) [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize ~~the~~ agent named in Part 3 of this application to act on my behalf in matters related to this application. BJS (initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. BJS (initial)

Brian J. Shay	Brian J Shay	4/1/2024
Applicant Printed Name	Applicant Signature	Date

11b. Authorized Agent Signature [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Lisa Danielski	Lisa Danielski	04/09/24
Authorized Agent Printed Name	Authorized Agent Signature	Date

11c. Property Owner Signature (if not applicant) [help]

Not required if project is on existing rights-of-way or easements (provide copy of easement with JARPA).

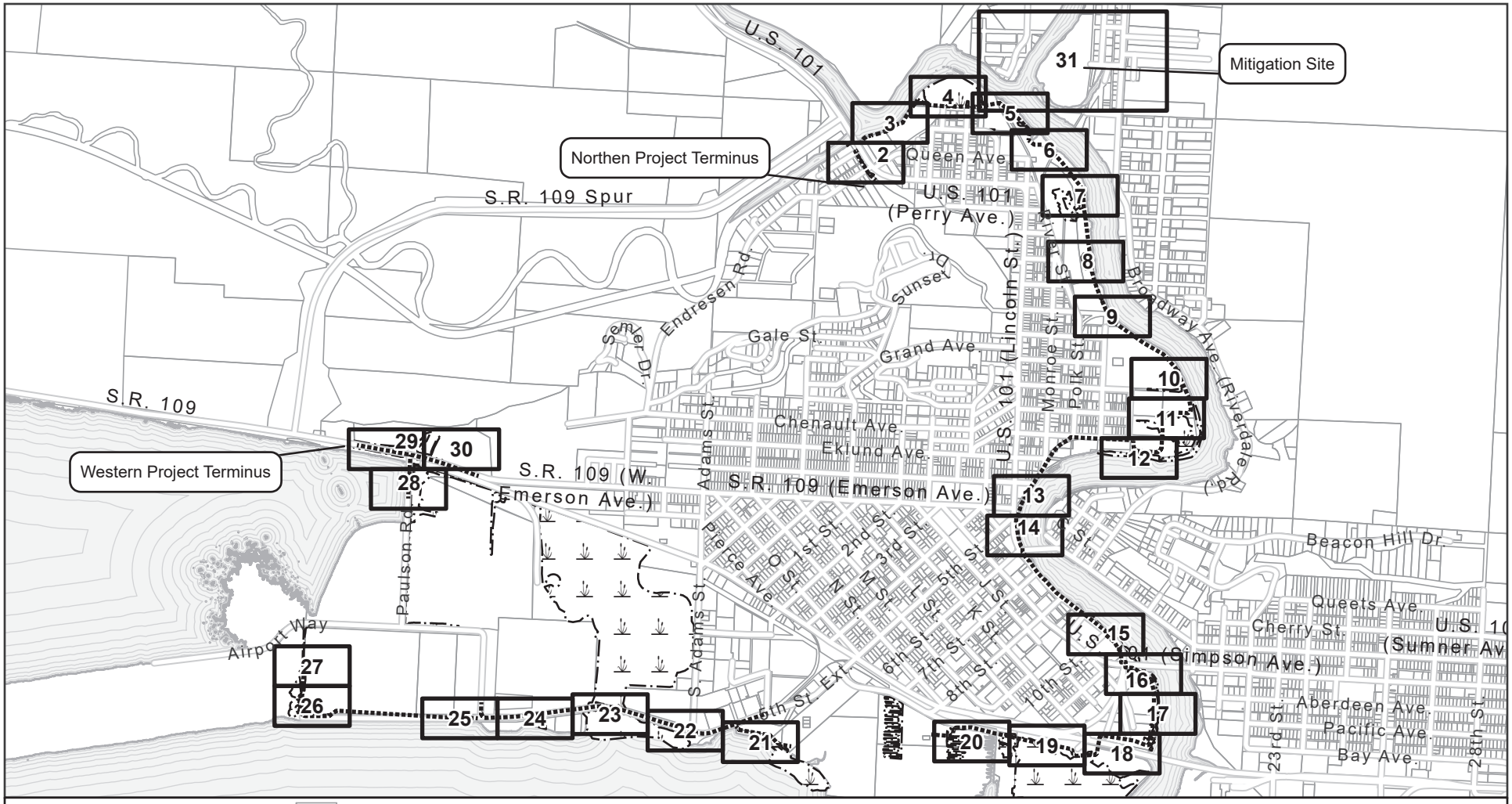
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

Property Owner Printed Name	Property Owner Signature	Date

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-011 rev. 09/2018

Attachment 1: JARPA Exhibits



WETLAND AND WATERBODY IMPACT AREAS OVERVIEW

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.
Offsite Mitigation Site: 46.997200 N lat. / -123.883738 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 1 of 60

DATE: 4/5/2024

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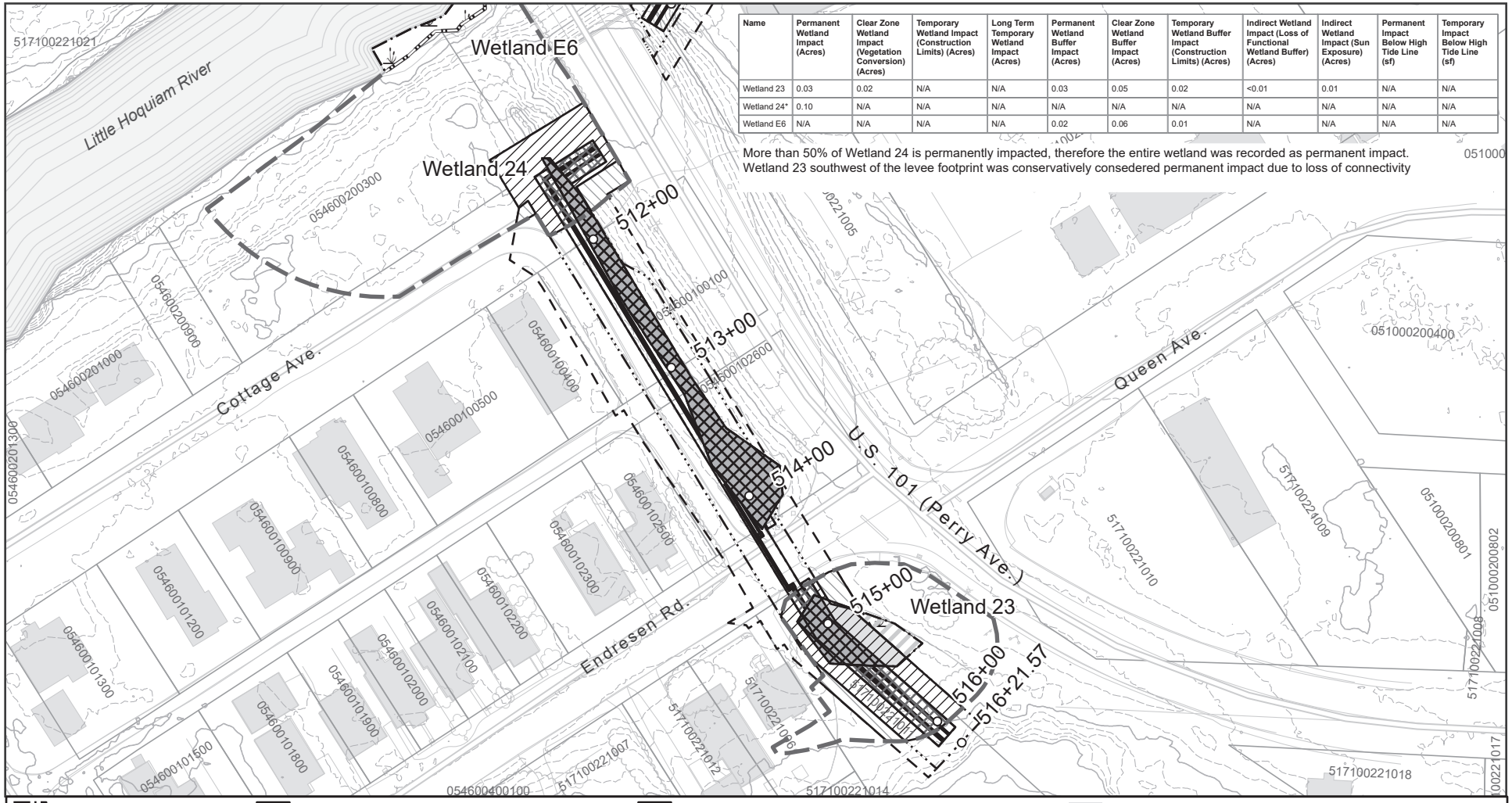

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 23	0.03	0.02	N/A	N/A	0.03	0.05	0.02	<0.01	0.01	N/A	N/A
Wetland 24*	0.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetland E6	N/A	N/A	N/A	N/A	0.02	0.06	0.01	N/A	N/A	N/A	N/A

More than 50% of Wetland 24 is permanently impacted, therefore the entire wetland was recorded as permanent impact.
Wetland 23 southwest of the levee footprint was conservatively consedered permanent impact due to loss of connectivity

051000

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Clear Zone Wetland Impact (Vegetation Conversion)
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Indirect Wetland Impact (Sun Exposure)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 2 of 60

DATE: 4/5/2024

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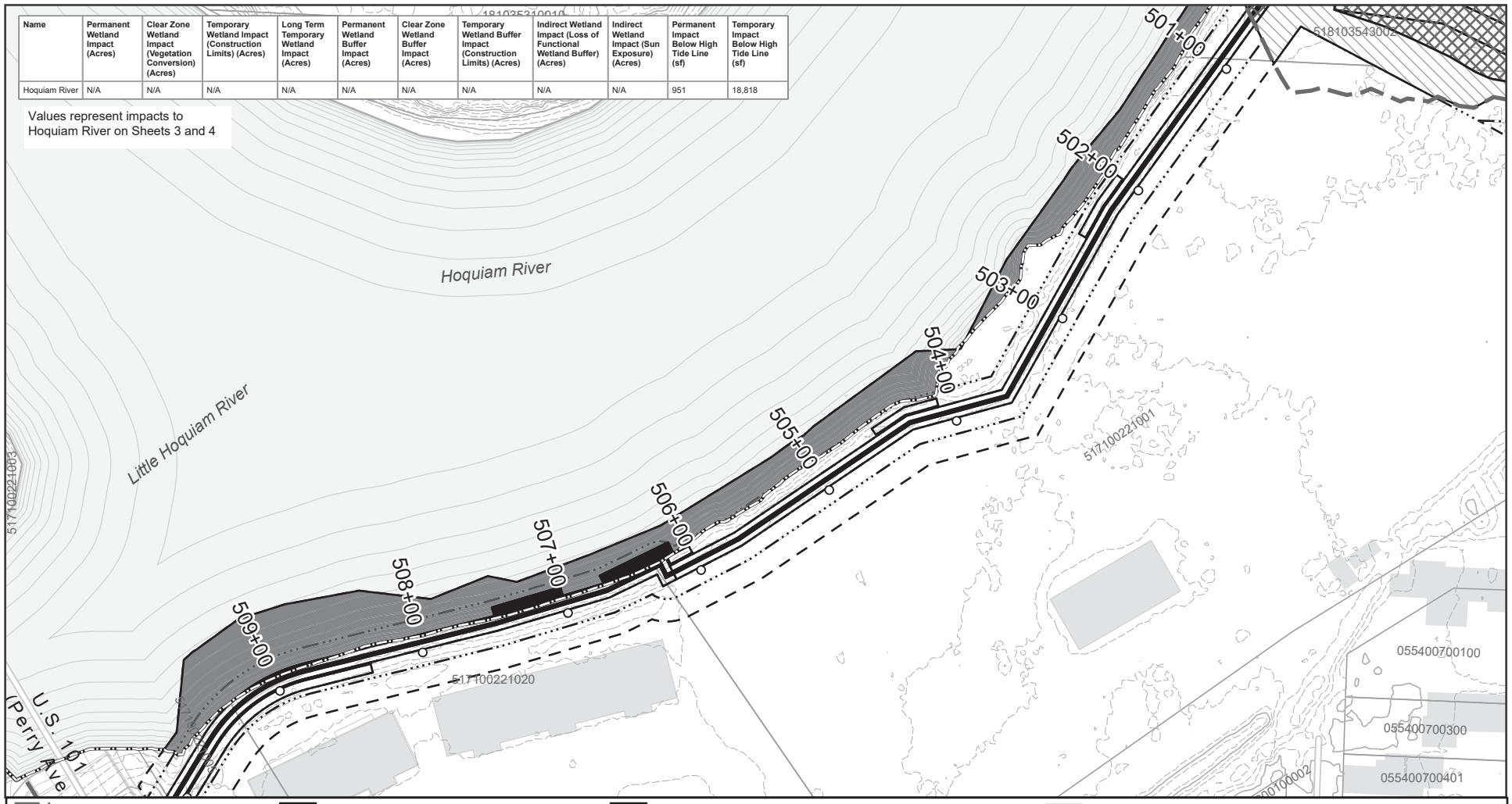
Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Hoquiam River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	951	18,818

Values represent impacts to Hoquiam River on Sheets 3 and 4



Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Permanent Impact Below High Tide Line
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 3 of 60

DATE: 4/5/2024

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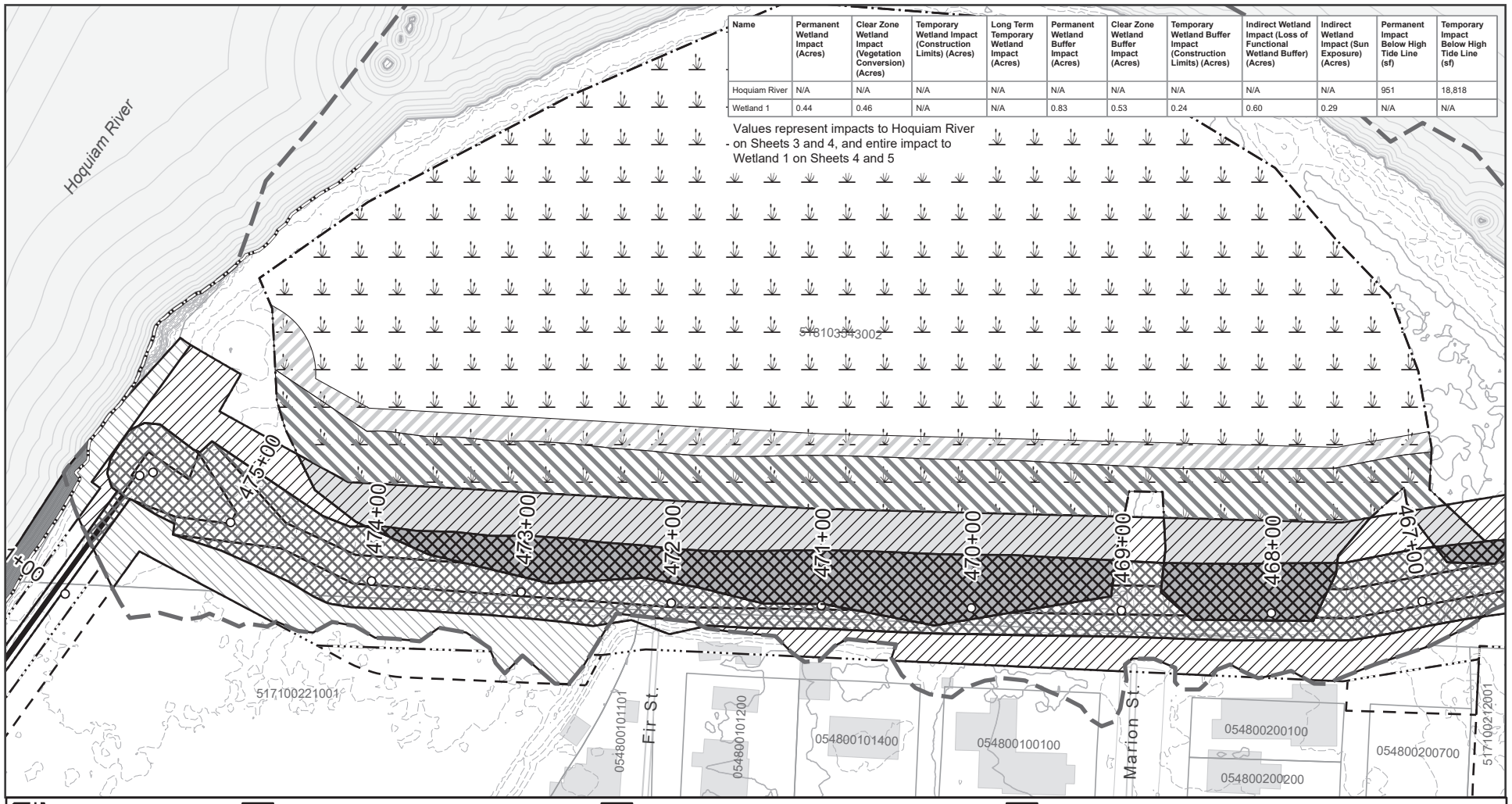

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Hoquiam River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	951	18,818
Wetland 1	0.44	0.46	N/A	N/A	0.83	0.53	0.24	0.60	0.29	N/A	N/A

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Clear Zone Wetland Impact (Vegetation Conversion)
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Indirect Wetland Impact (Sun Exposure)
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
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PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 4 of 60

DATE: 4/5/2024

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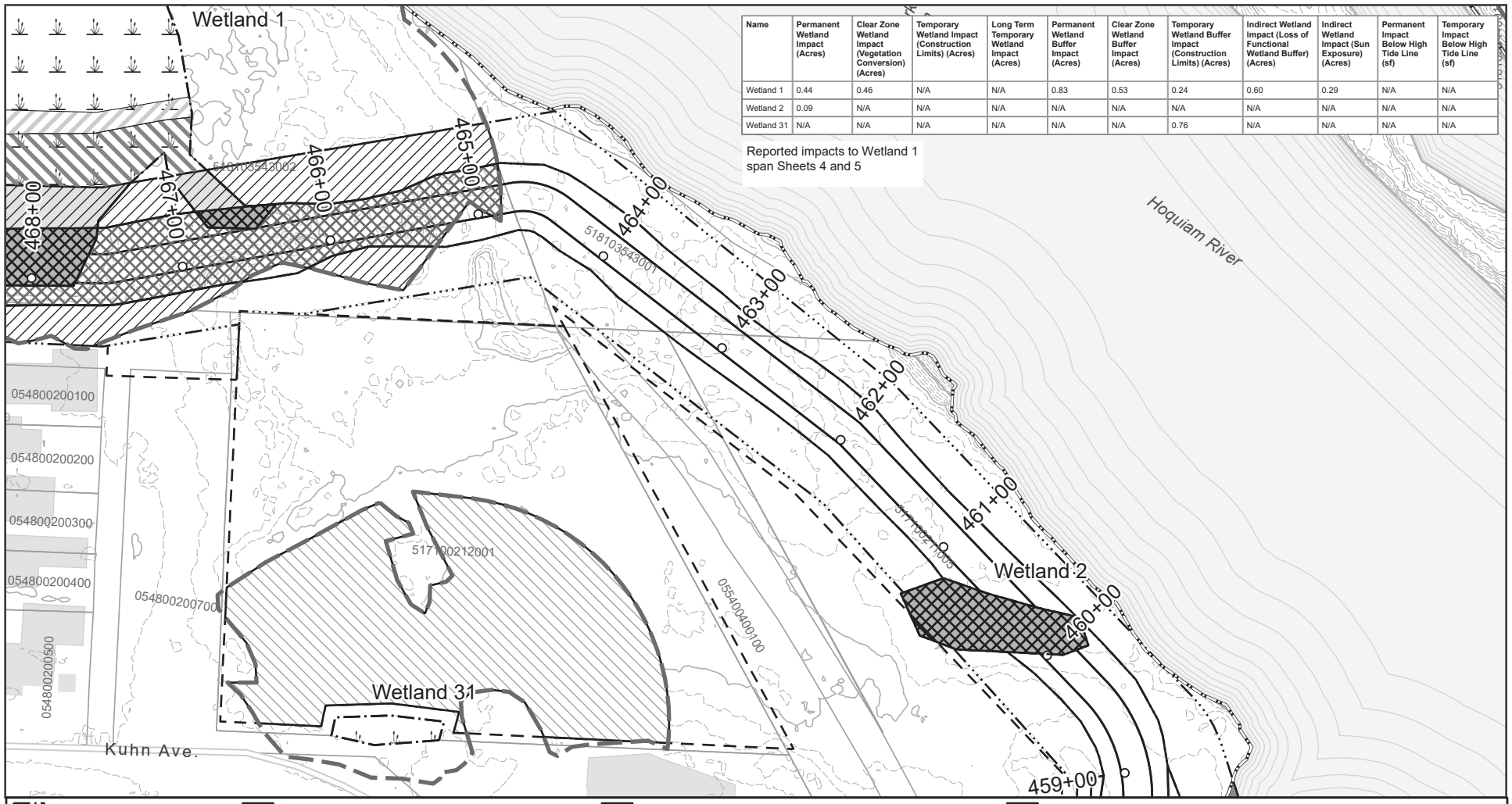

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Wetland 1	0.44	0.46	N/A	N/A	0.83	0.53	0.24	0.60	0.29	N/A	N/A
Wetland 2	0.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetland 31	N/A	N/A	N/A	N/A	N/A	N/A	0.76	N/A	N/A	N/A	N/A

Reported impacts to Wetland 1 span Sheets 4 and 5

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Clear Zone Wetland Impact (Vegetation Conversion)
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Indirect Wetland Impact (Sun Exposure)
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
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PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 5 of 60

DATE: 4/5/2024

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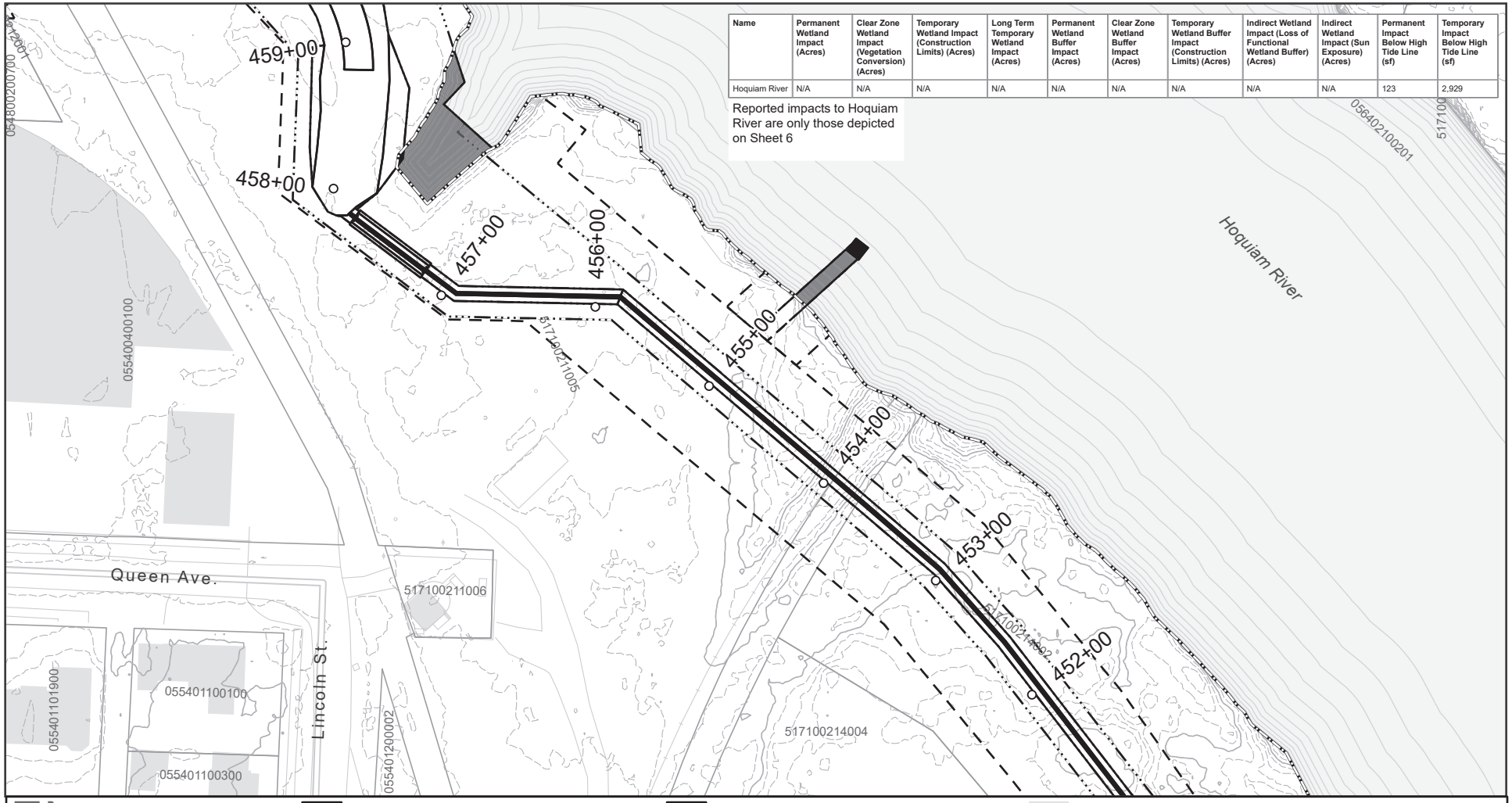

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Hoquiam River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	123	2,929

Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Impact Below High Tide Line
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
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PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 6 of 60

DATE: 4/5/2024

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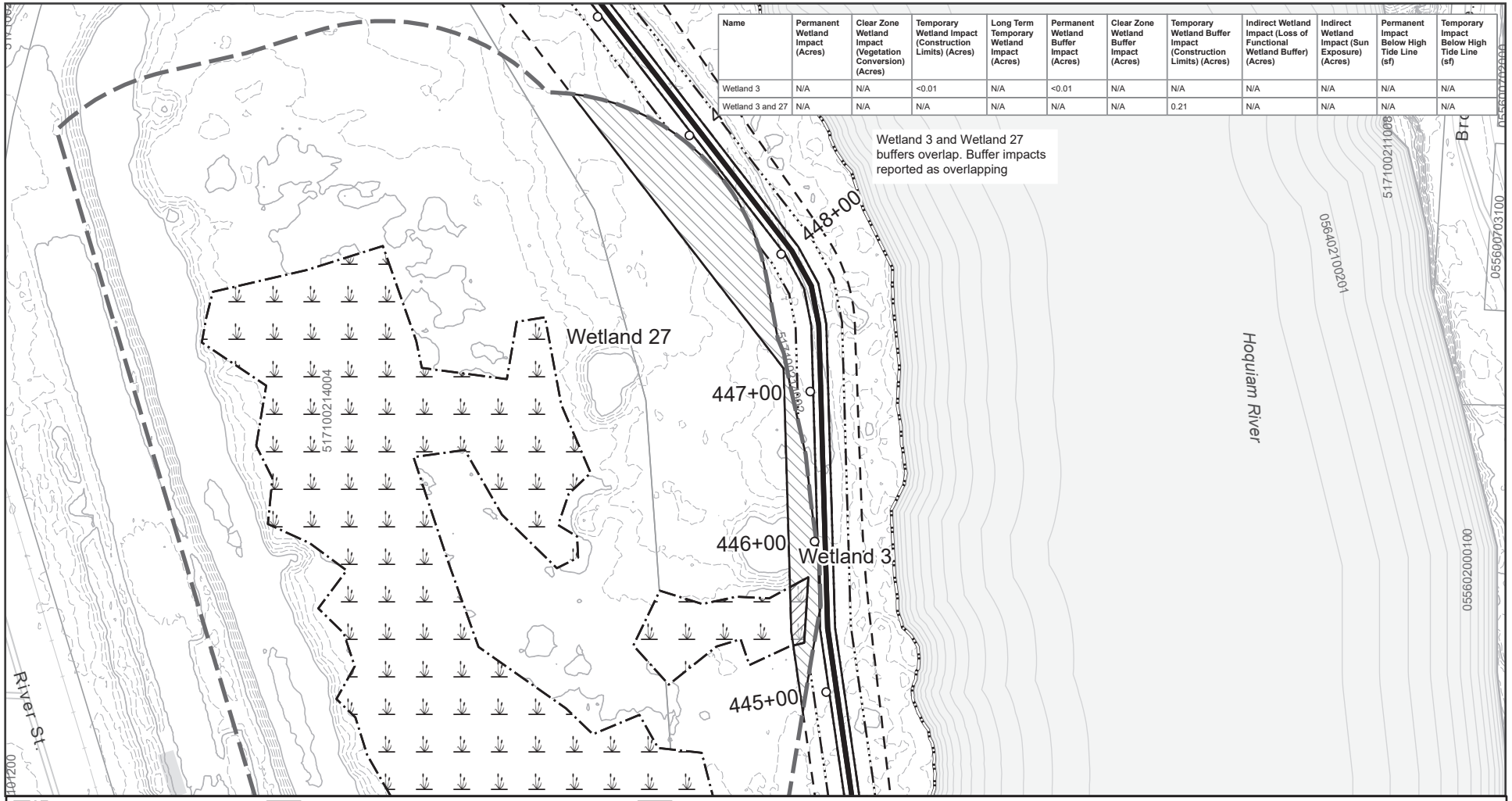
Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 3	N/A	N/A	<0.01	N/A	<0.01	N/A	N/A	N/A	N/A	N/A	N/A
Wetland 3 and 27	N/A	N/A	N/A	N/A	N/A	N/A	0.21	N/A	N/A	N/A	N/A

Wetland 3 and Wetland 27 buffers overlap. Buffer impacts reported as overlapping



Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N 0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 7 of 60

DATE: 4/5/2024

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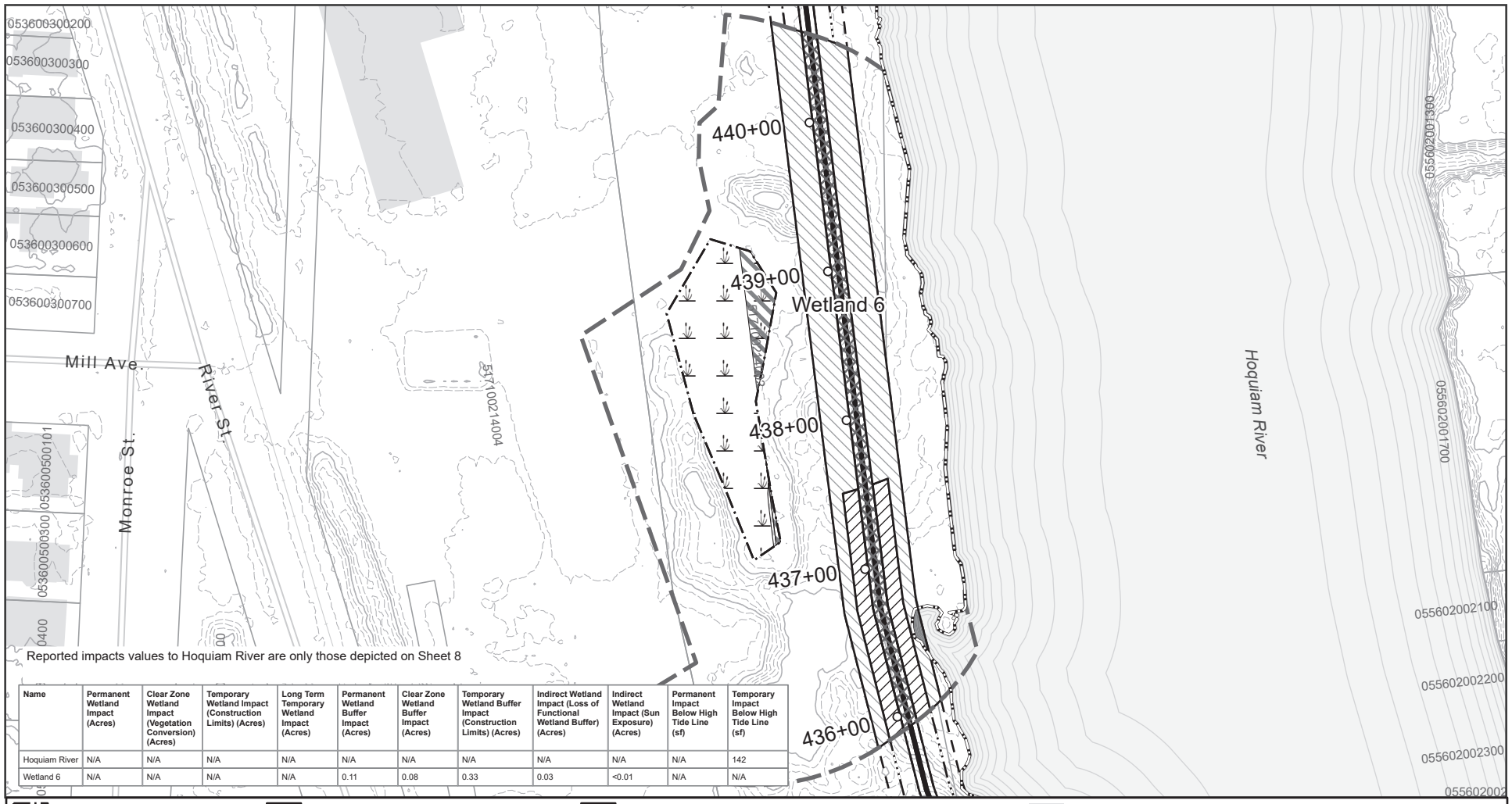

Reported impacts values to Hoquiam River are only those depicted on Sheet 8

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Hoquiam River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	142
Wetland 6	N/A	N/A	N/A	N/A	0.11	0.08	0.33	0.03	<0.01	N/A	N/A

- Wetland
- Wetland Buffer
- Waters Below High Tide Line
- High Tide Line
- Alignment Stationing Location
- Proposed Permanent Impact Boundary
- Proposed Vegetation Clear Zone (VCZ)
- Proposed Construction Limits
- Permanent Wetland Buffer Impact
- Clear Zone Wetland Buffer Impact
- Temporary Wetland Buffer Impact (Construction Limits)
- Indirect Wetland Impact (Loss of Functional Wetland Buffer)
- Indirect Wetland Impact (Sun Exposure)
- Temporary Impact Below High Tide Line
- Existing Building Footprints
- Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N

0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 8 of 60

DATE: 4/5/2024

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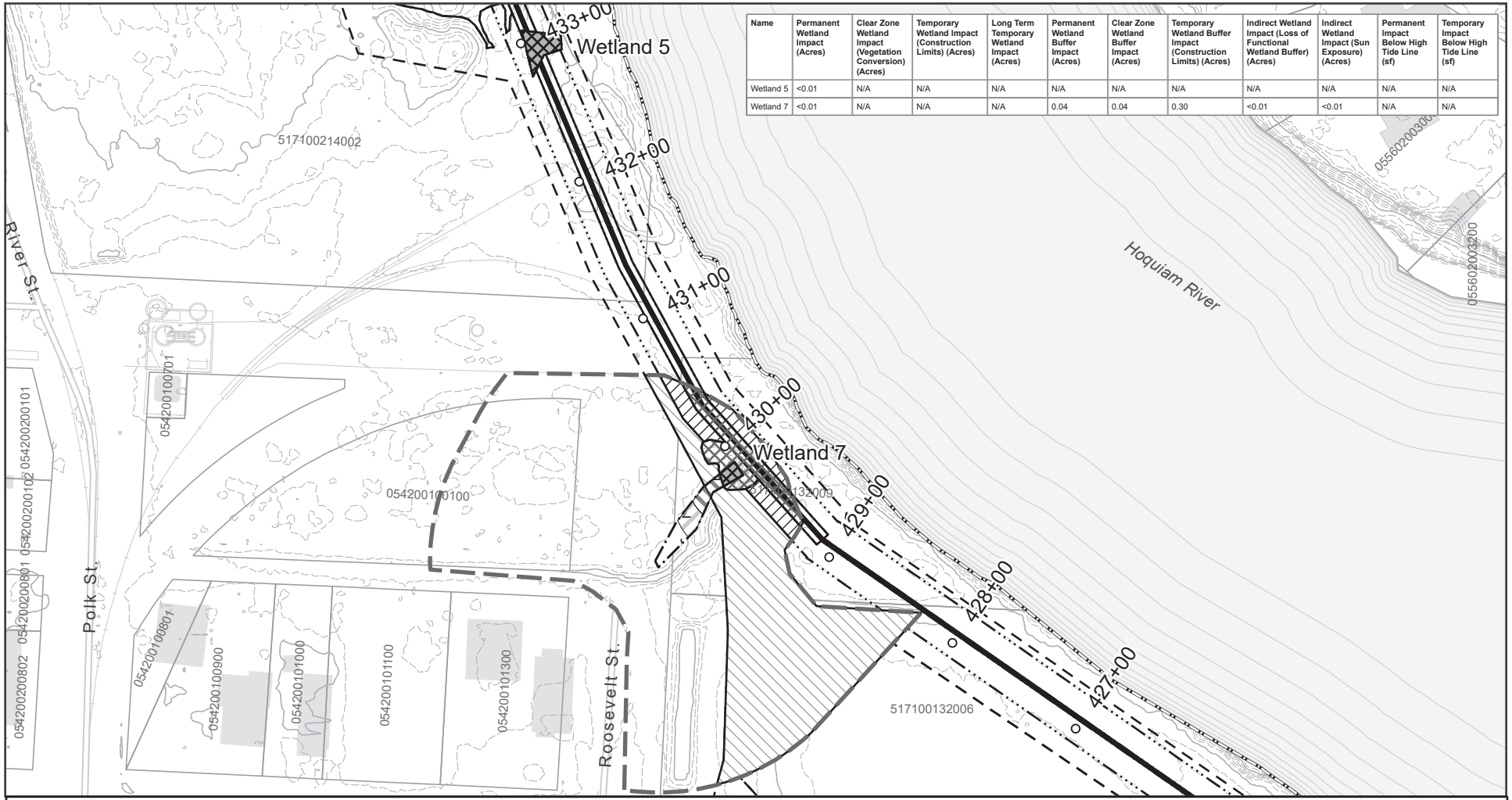

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 5	<0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetland 7	<0.01	N/A	N/A	N/A	0.04	0.04	0.30	<0.01	<0.01	N/A	N/A

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Indirect Wetland Impact (Sun Exposure)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 9 of 60

DATE: 4/5/2024

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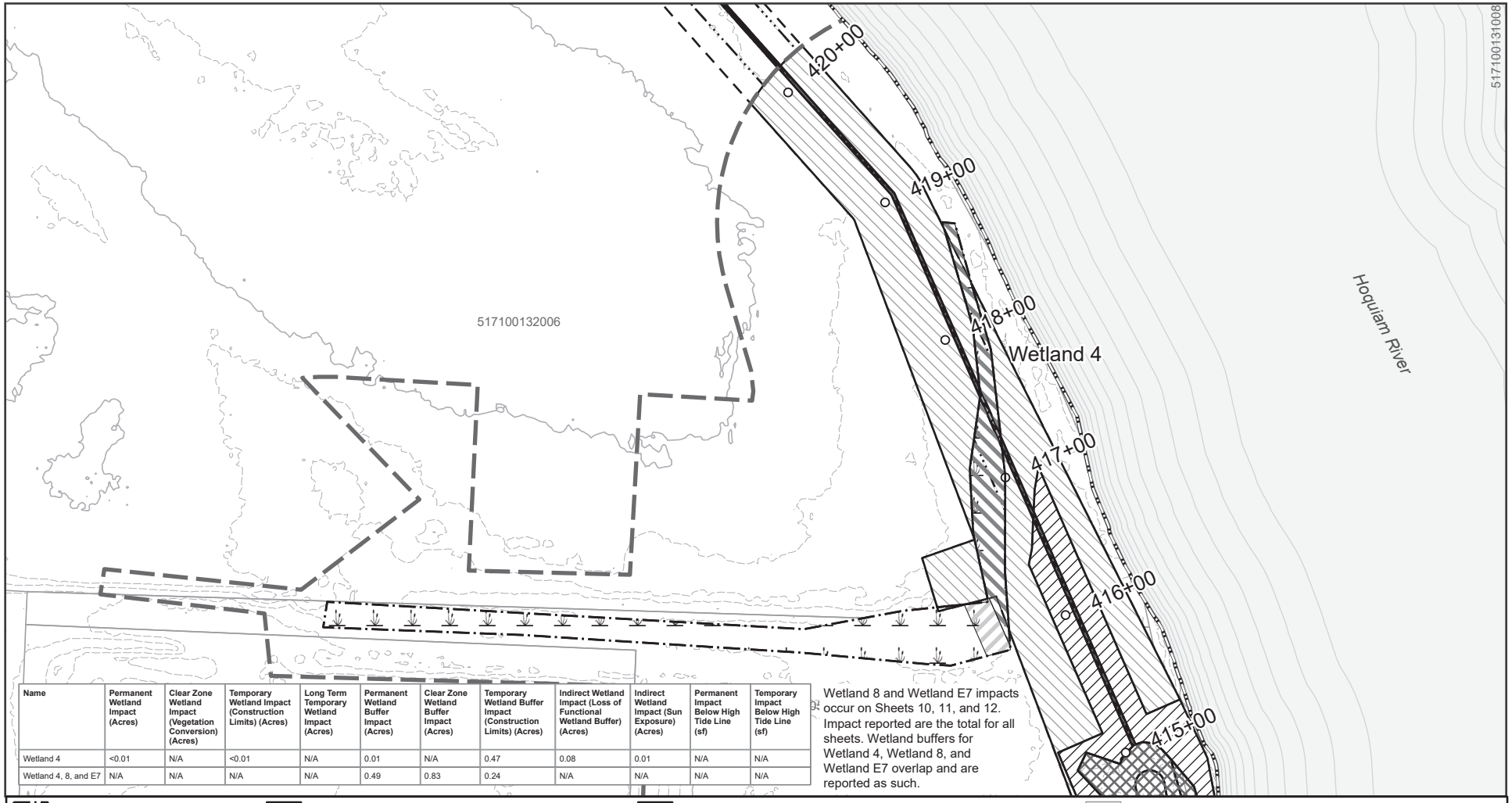

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 4	<0.01	N/A	<0.01	N/A	0.01	N/A	0.47	0.08	0.01	N/A	N/A
Wetland 4, 8, and E7	N/A	N/A	N/A	N/A	0.49	0.83	0.24	N/A	N/A	N/A	N/A

Wetland 8 and Wetland E7 impacts occur on Sheets 10, 11, and 12. Impact reported are the total for all sheets. Wetland buffers for Wetland 4, Wetland 8, and Wetland E7 overlap and are reported as such.

- Wetland
- Wetland Buffer
- Waters Below High Tide Line
- High Tide Line
- Alignment Stationing Location
- Proposed Permanent Impact Boundary
- Proposed Vegetation Clear Zone (VCZ)
- Proposed Construction Limits
- Permanent Wetland Impact
- Temporary Wetland Impact (Construction Limits)
- Permanent Wetland Buffer Impact
- Clear Zone Wetland Buffer Impact
- Temporary Wetland Buffer Impact (Construction Limits)
- Indirect Wetland Impact (Loss of Functional Wetland Buffer)
- Indirect Wetland Impact (Sun Exposure)
- Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N

0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 10 of 60

DATE: 4/5/2024

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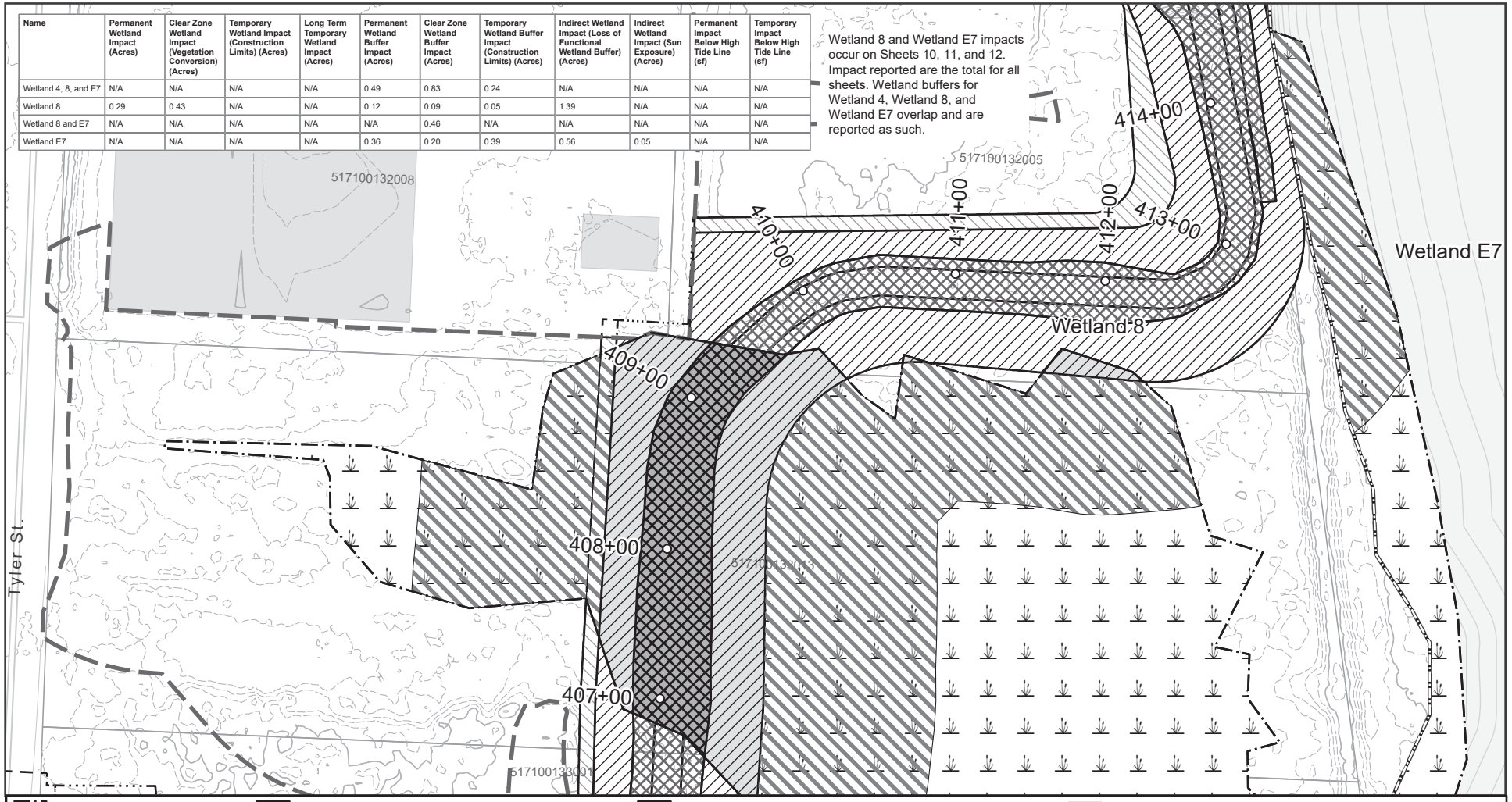
Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 4, 8, and E7	N/A	N/A	N/A	N/A	0.49	0.83	0.24	N/A	N/A	N/A	N/A
Wetland 8	0.29	0.43	N/A	N/A	0.12	0.09	0.05	1.39	N/A	N/A	N/A
Wetland 8 and E7	N/A	N/A	N/A	N/A	N/A	0.46	N/A	N/A	N/A	N/A	N/A
Wetland E7	N/A	N/A	N/A	N/A	0.36	0.20	0.39	0.56	0.05	N/A	N/A

Wetland 8 and Wetland E7 impacts occur on Sheets 10, 11, and 12. Impact reported are the total for all sheets. Wetland buffers for Wetland 4, Wetland 8, and Wetland E7 overlap and are reported as such.



Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Clear Zone Wetland Impact (Vegetation Conversion)
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 11 of 60

DATE: 4/5/2024

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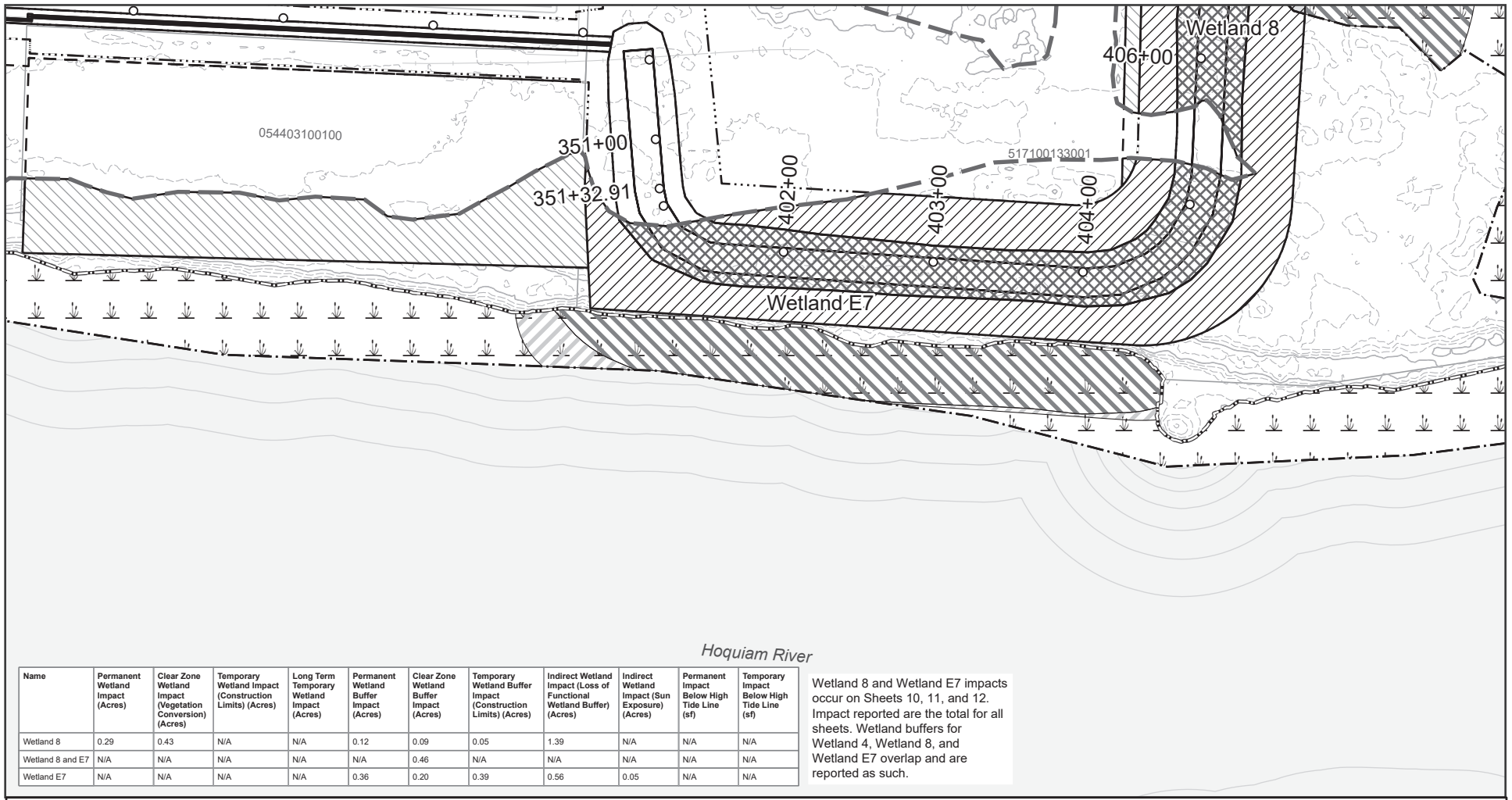


Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 8	0.29	0.43	N/A	N/A	0.12	0.09	0.05	1.39	N/A	N/A	N/A
Wetland 8 and E7	N/A	N/A	N/A	N/A	N/A	0.46	N/A	N/A	N/A	N/A	N/A
Wetland E7	N/A	N/A	N/A	N/A	0.36	0.20	0.39	0.56	0.05	N/A	N/A

Wetland 8 and Wetland E7 impacts occur on Sheets 10, 11, and 12. Impact reported are the total for all sheets. Wetland buffers for Wetland 4, Wetland 8, and Wetland E7 overlap and are reported as such.

- Wetland
- Wetland Buffer
- Waters Below High Tide Line
- High Tide Line
- Alignment Stationing Location
- Proposed Permanent Impact Boundary
- Proposed Vegetation Clear Zone (VCZ)
- Proposed Construction Limits
- Clear Zone Wetland Impact (Vegetation Conversion)
- Permanent Wetland Buffer Impact
- Clear Zone Wetland Buffer Impact
- Temporary Wetland Buffer Impact (Construction Limits)
- Indirect Wetland Impact (Loss of Functional Wetland Buffer)
- Indirect Wetland Impact (Sun Exposure)
- Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N 0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

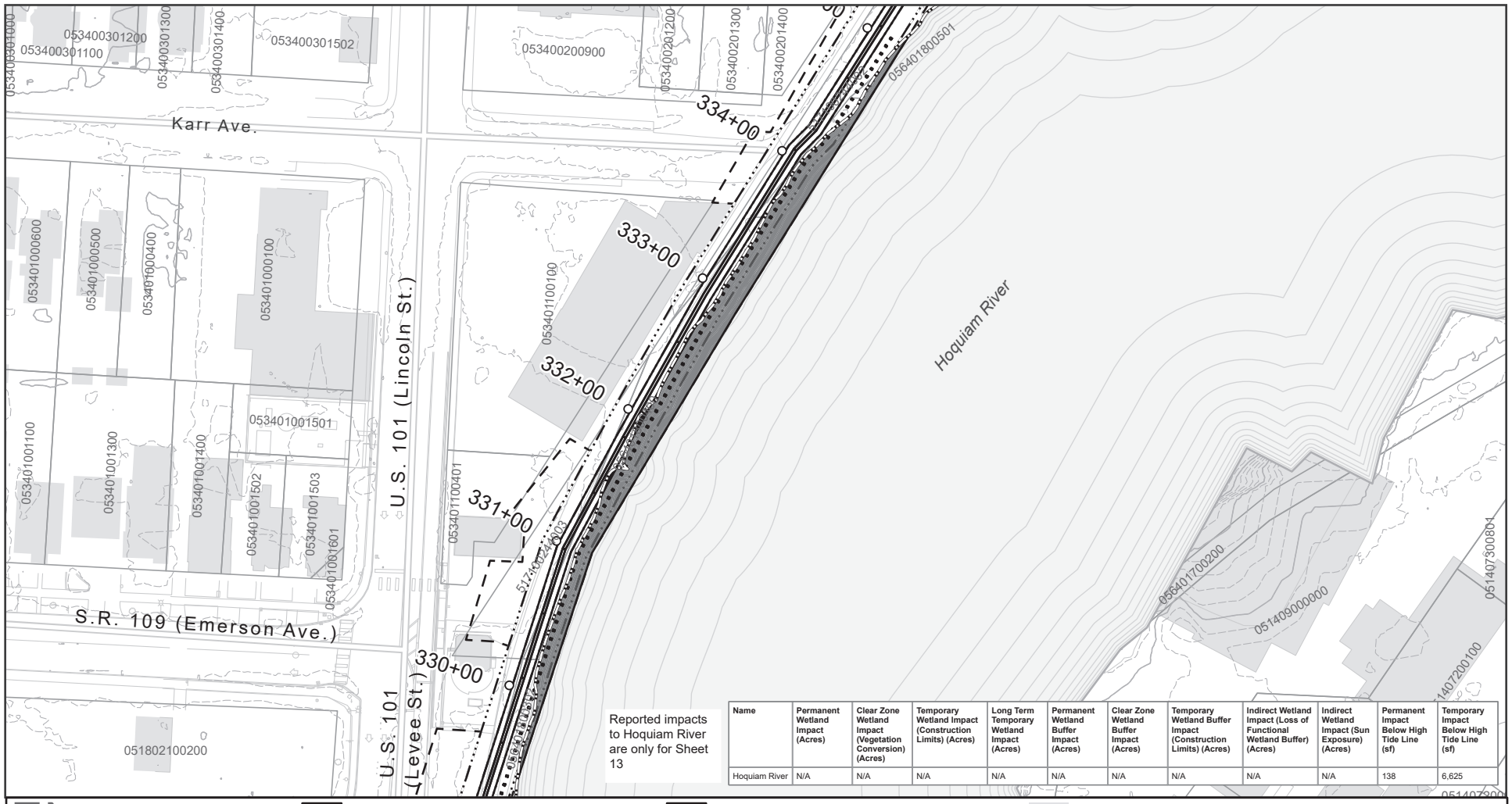
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 12 of 60

DATE: 4/5/2024



Reported impacts to Hoquiam River are only for Sheet 13

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Hoquiam River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	138	6,625

Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Impact Below High Tide Line
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N

0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 13 of 60

DATE: 4/5/2024

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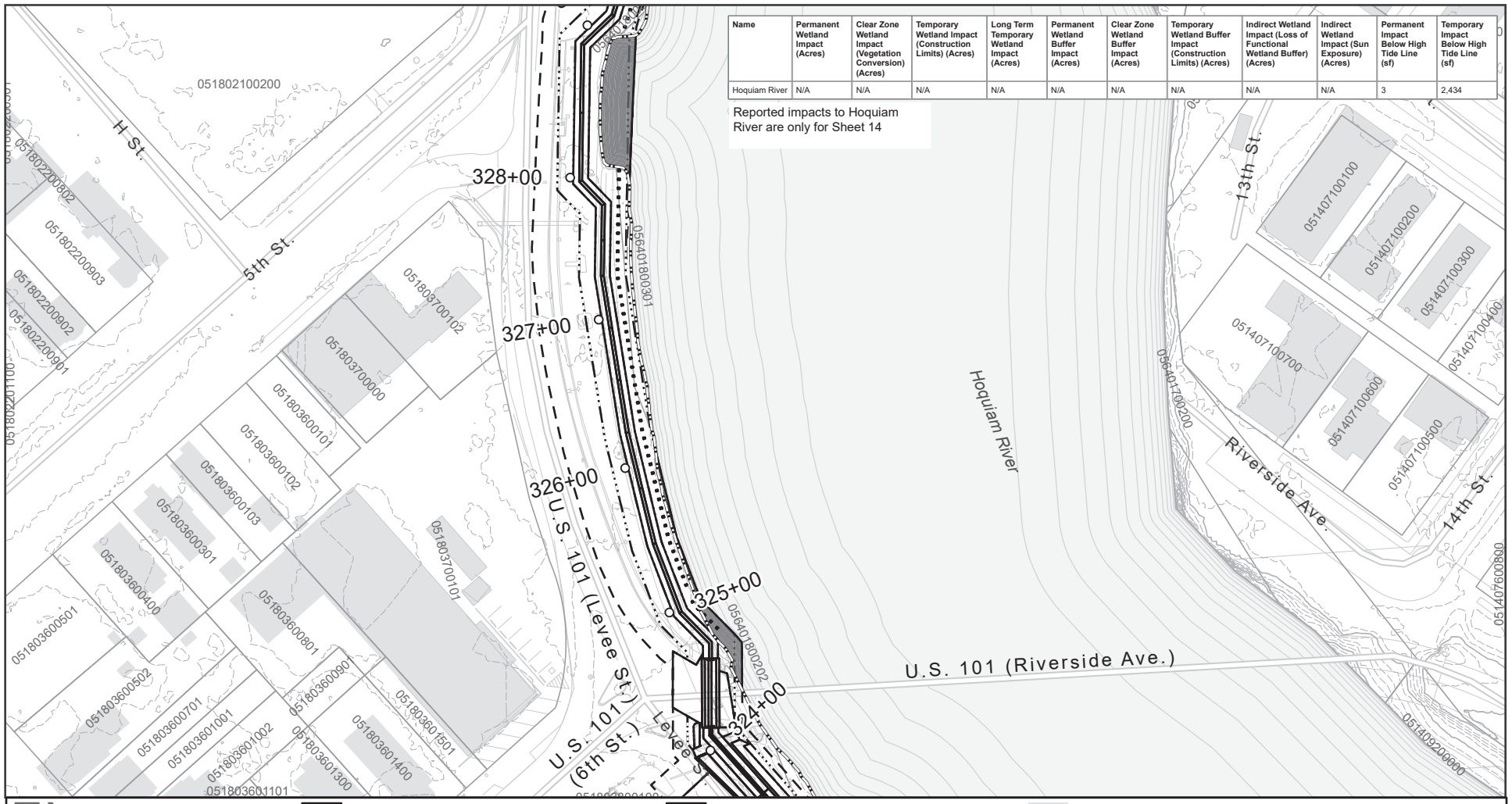

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Hoquiam River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	2,434

Reported impacts to Hoquiam River are only for Sheet 14

Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Impact Below High Tide Line
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N 0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 14 of 60

DATE: 4/5/2024

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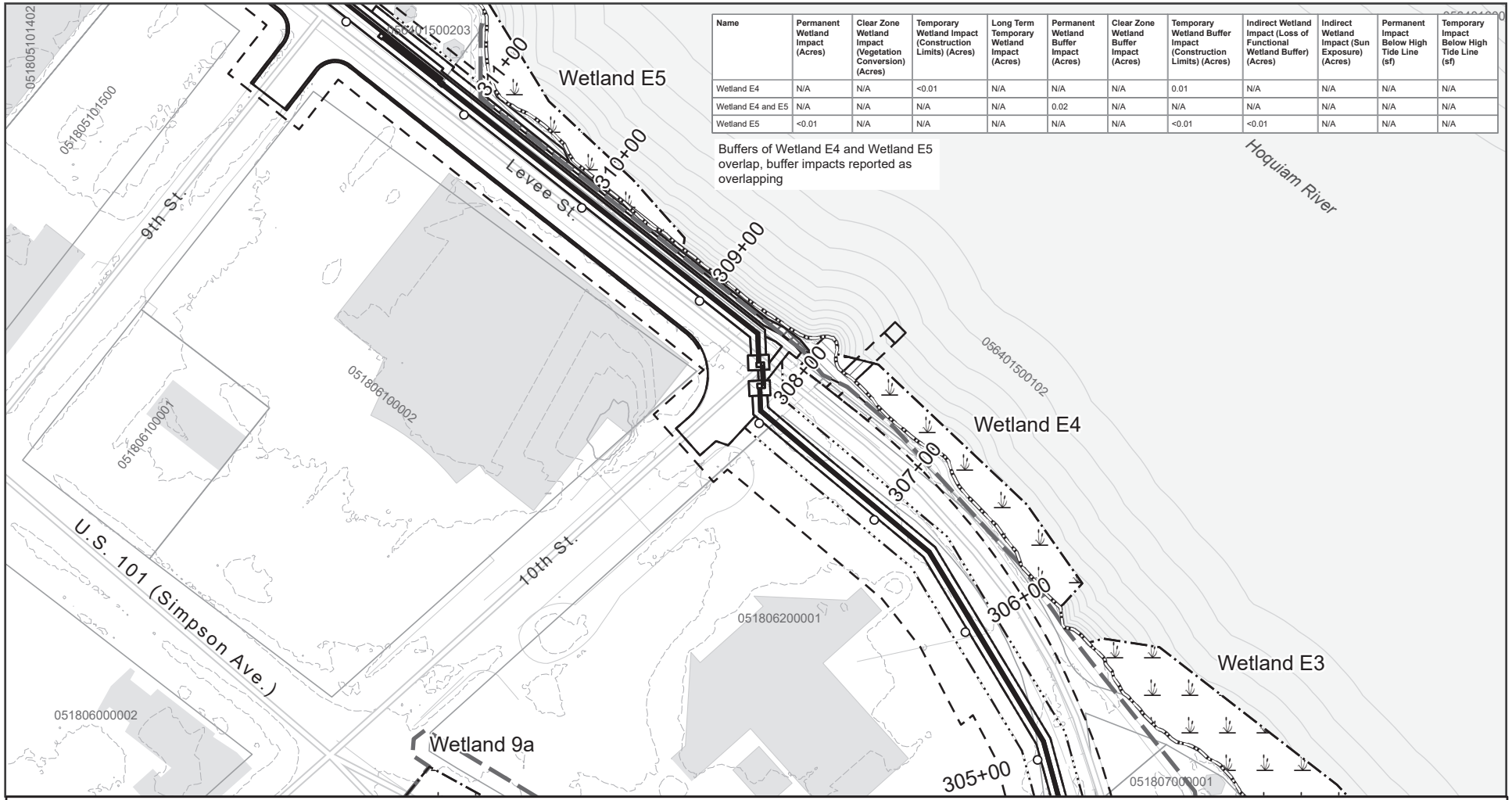

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland E4	N/A	N/A	<0.01	N/A	N/A	N/A	0.01	N/A	N/A	N/A	N/A
Wetland E4 and E5	N/A	N/A	N/A	N/A	0.02	N/A	N/A	N/A	N/A	N/A	N/A
Wetland E5	<0.01	N/A	N/A	N/A	N/A	N/A	<0.01	<0.01	N/A	N/A	N/A

Buffers of Wetland E4 and Wetland E5 overlap, buffer impacts reported as overlapping

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 15 of 60

DATE: 4/5/2024

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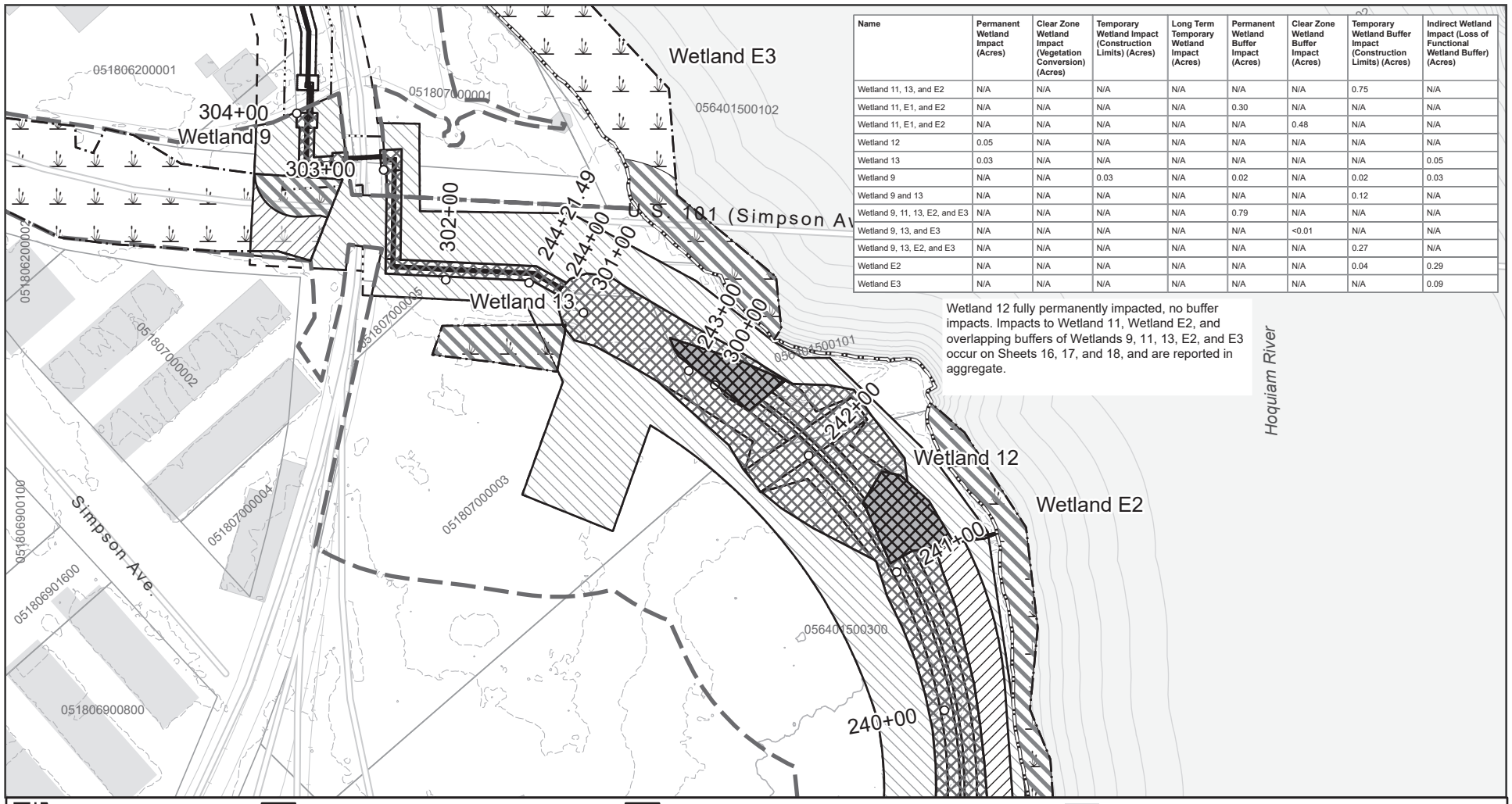

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)
Wetland 11, 13, and E2	N/A	N/A	N/A	N/A	N/A	N/A	0.75	N/A
Wetland 11, E1, and E2	N/A	N/A	N/A	N/A	0.30	N/A	N/A	N/A
Wetland 11, E1, and E2	N/A	N/A	N/A	N/A	N/A	0.48	N/A	N/A
Wetland 12	0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetland 13	0.03	N/A	N/A	N/A	N/A	N/A	N/A	0.05
Wetland 9	N/A	N/A	0.03	N/A	0.02	N/A	0.02	0.03
Wetland 9 and 13	N/A	N/A	N/A	N/A	N/A	N/A	0.12	N/A
Wetland 9, 11, 13, E2, and E3	N/A	N/A	N/A	N/A	0.79	N/A	N/A	N/A
Wetland 9, 13, and E3	N/A	N/A	N/A	N/A	N/A	<0.01	N/A	N/A
Wetland 9, 13, E2, and E3	N/A	N/A	N/A	N/A	N/A	N/A	0.27	N/A
Wetland E2	N/A	N/A	N/A	N/A	N/A	N/A	0.04	0.29
Wetland E3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.09

Wetland 12 fully permanently impacted, no buffer impacts. Impacts to Wetland 11, Wetland E2, and overlapping buffers of Wetlands 9, 11, 13, E2, and E3 occur on Sheets 16, 17, and 18, and are reported in aggregate.

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 16 of 60

DATE: 4/5/2024

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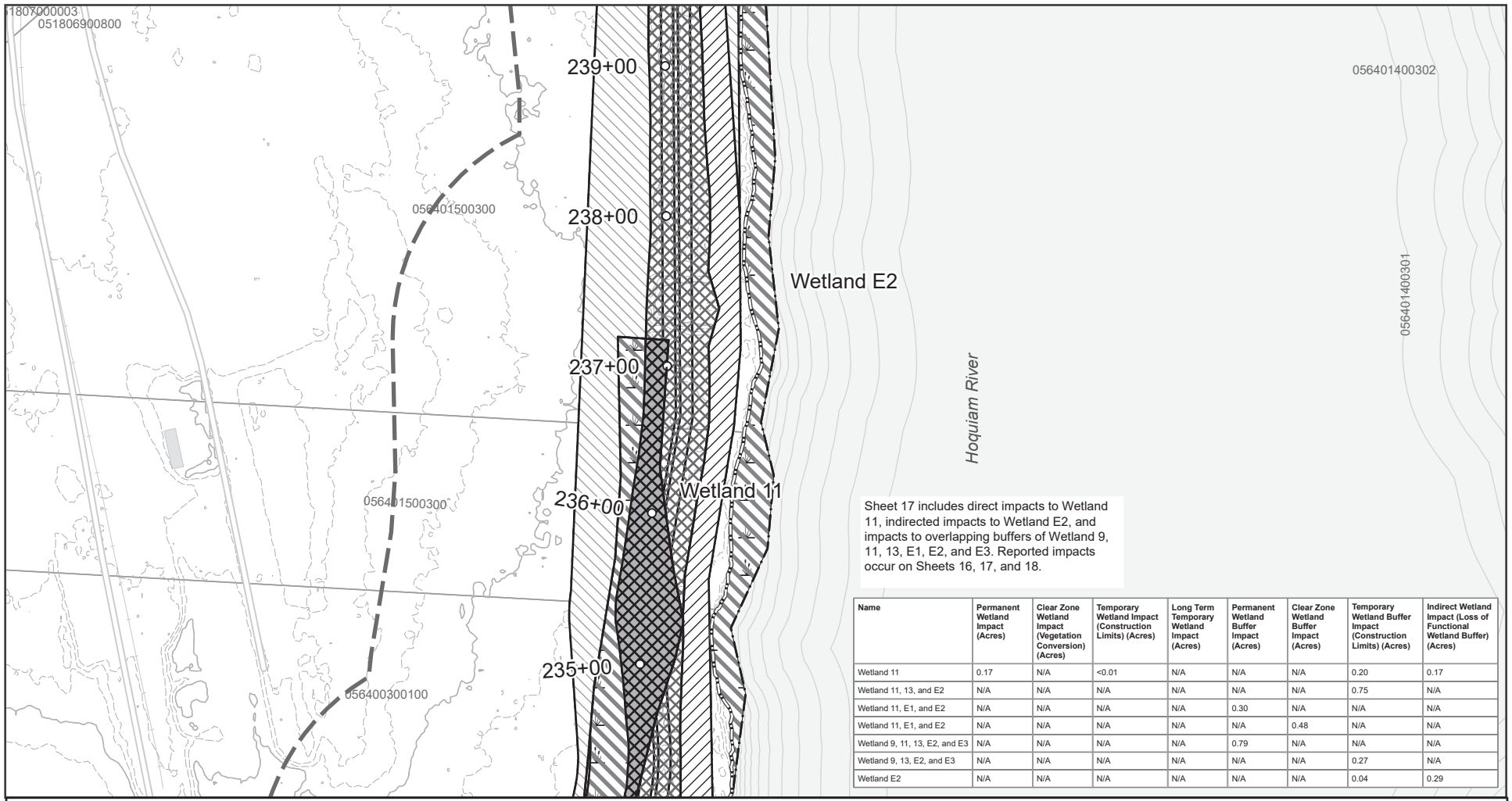

Sheet 17 includes direct impacts to Wetland 11, indirected impacts to Wetland E2, and impacts to overlapping buffers of Wetland 9, 11, 13, E1, E2, and E3. Reported impacts occur on Sheets 16, 17, and 18.

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)
Wetland 11	0.17	N/A	<0.01	N/A	N/A	N/A	0.20	0.17
Wetland 11, 13, and E2	N/A	N/A	N/A	N/A	N/A	N/A	0.75	N/A
Wetland 11, E1, and E2	N/A	N/A	N/A	N/A	0.30	N/A	N/A	N/A
Wetland 11, E1, and E2	N/A	N/A	N/A	N/A	N/A	0.48	N/A	N/A
Wetland 9, 11, 13, E2, and E3	N/A	N/A	N/A	N/A	0.79	N/A	N/A	N/A
Wetland 9, 13, E2, and E3	N/A	N/A	N/A	N/A	N/A	N/A	0.27	N/A
Wetland E2	N/A	N/A	N/A	N/A	N/A	N/A	0.04	0.29

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 17 of 60

DATE: 4/5/2024

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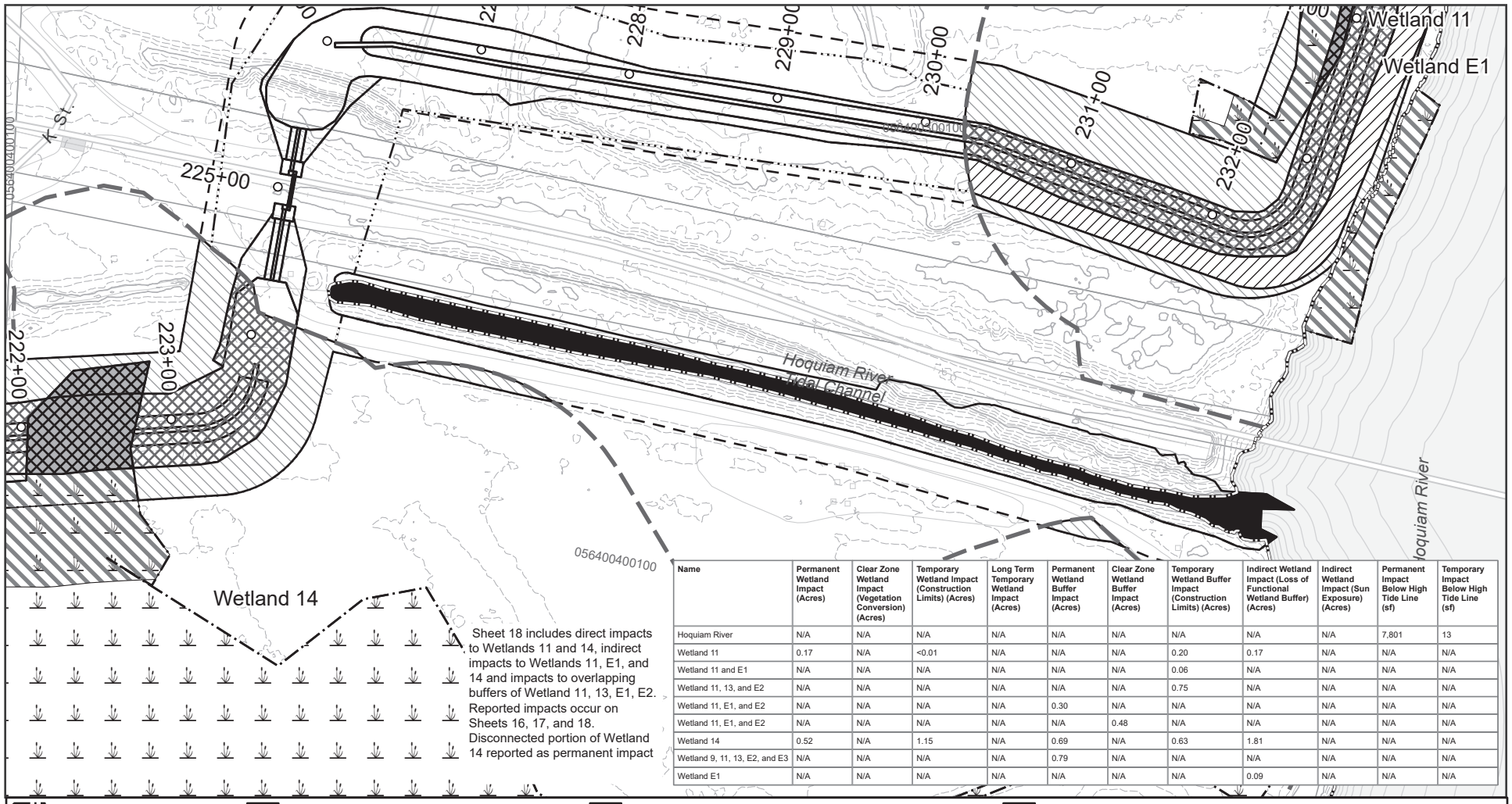


Sheet 18 includes direct impacts to Wetlands 11 and 14, indirect impacts to Wetlands 11, E1, and 14 and impacts to overlapping buffers of Wetland 11, 13, E1, E2. Reported impacts occur on Sheets 16, 17, and 18. Disconnected portion of Wetland 14 reported as permanent impact

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Hoquiam River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7,801	13
Wetland 11	0.17	N/A	<0.01	N/A	N/A	N/A	0.20	0.17	N/A	N/A	N/A
Wetland 11 and E1	N/A	N/A	N/A	N/A	N/A	N/A	0.06	N/A	N/A	N/A	N/A
Wetland 11, 13, and E2	N/A	N/A	N/A	N/A	N/A	N/A	0.75	N/A	N/A	N/A	N/A
Wetland 11, E1, and E2	N/A	N/A	N/A	N/A	0.30	N/A	N/A	N/A	N/A	N/A	N/A
Wetland 11, E1, and E2	N/A	N/A	N/A	N/A	N/A	0.48	N/A	N/A	N/A	N/A	N/A
Wetland 14	0.52	N/A	1.15	N/A	0.69	N/A	0.63	1.81	N/A	N/A	N/A
Wetland 9, 11, 13, E2, and E3	N/A	N/A	N/A	N/A	0.79	N/A	N/A	N/A	N/A	N/A	N/A
Wetland E1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.09	N/A	N/A	N/A

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Permanent Impact Below High Tide Line
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

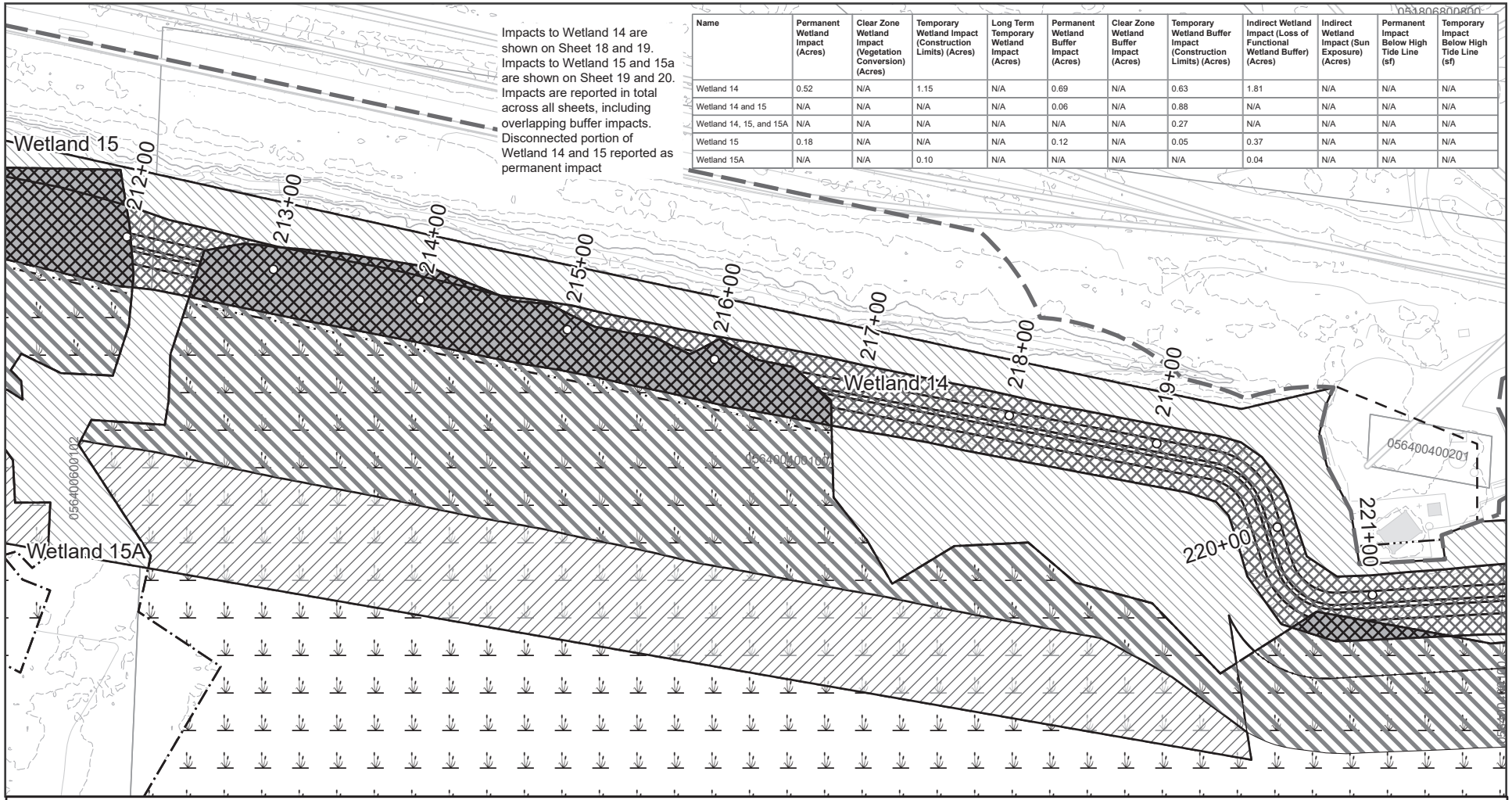
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 18 of 60

DATE: 4/5/2024



Impacts to Wetland 14 are shown on Sheet 18 and 19. Impacts to Wetland 15 and 15a are shown on Sheet 19 and 20. Impacts are reported in total across all sheets, including overlapping buffer impacts. Disconnected portion of Wetland 14 and 15 reported as permanent impact

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 14	0.52	N/A	1.15	N/A	0.69	N/A	0.63	1.81	N/A	N/A	N/A
Wetland 14 and 15	N/A	N/A	N/A	N/A	0.06	N/A	0.88	N/A	N/A	N/A	N/A
Wetland 14, 15, and 15A	N/A	N/A	N/A	N/A	N/A	N/A	0.27	N/A	N/A	N/A	N/A
Wetland 15	0.18	N/A	N/A	N/A	0.12	N/A	0.05	0.37	N/A	N/A	N/A
Wetland 15A	N/A	N/A	0.10	N/A	N/A	N/A	N/A	0.04	N/A	N/A	N/A

Wetland
Wetland Buffer
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 19 of 60

DATE: 4/5/2024

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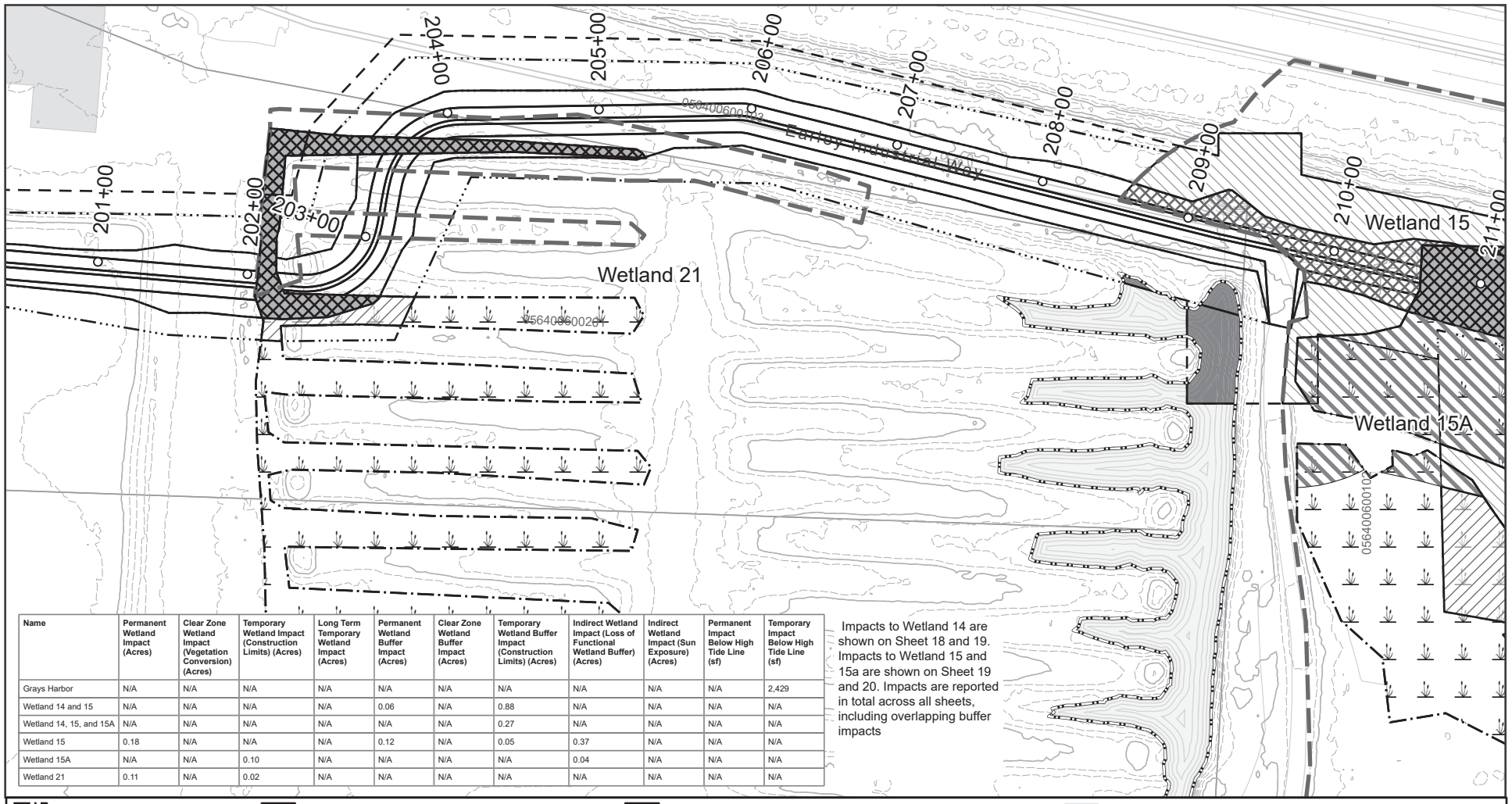

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Grays Harbor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,429
Wetland 14 and 15	N/A	N/A	N/A	N/A	0.06	N/A	0.88	N/A	N/A	N/A	N/A
Wetland 14, 15, and 15A	N/A	N/A	N/A	N/A	N/A	N/A	0.27	N/A	N/A	N/A	N/A
Wetland 15	0.18	N/A	N/A	N/A	0.12	N/A	0.05	0.37	N/A	N/A	N/A
Wetland 15A	N/A	N/A	0.10	N/A	N/A	N/A	N/A	0.04	N/A	N/A	N/A
Wetland 21	0.11	N/A	0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Impacts to Wetland 14 are shown on Sheet 18 and 19. Impacts to Wetland 15 and 15a are shown on Sheet 19 and 20. Impacts are reported in total across all sheets, including overlapping buffer impacts

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 20 of 60

DATE: 4/5/2024

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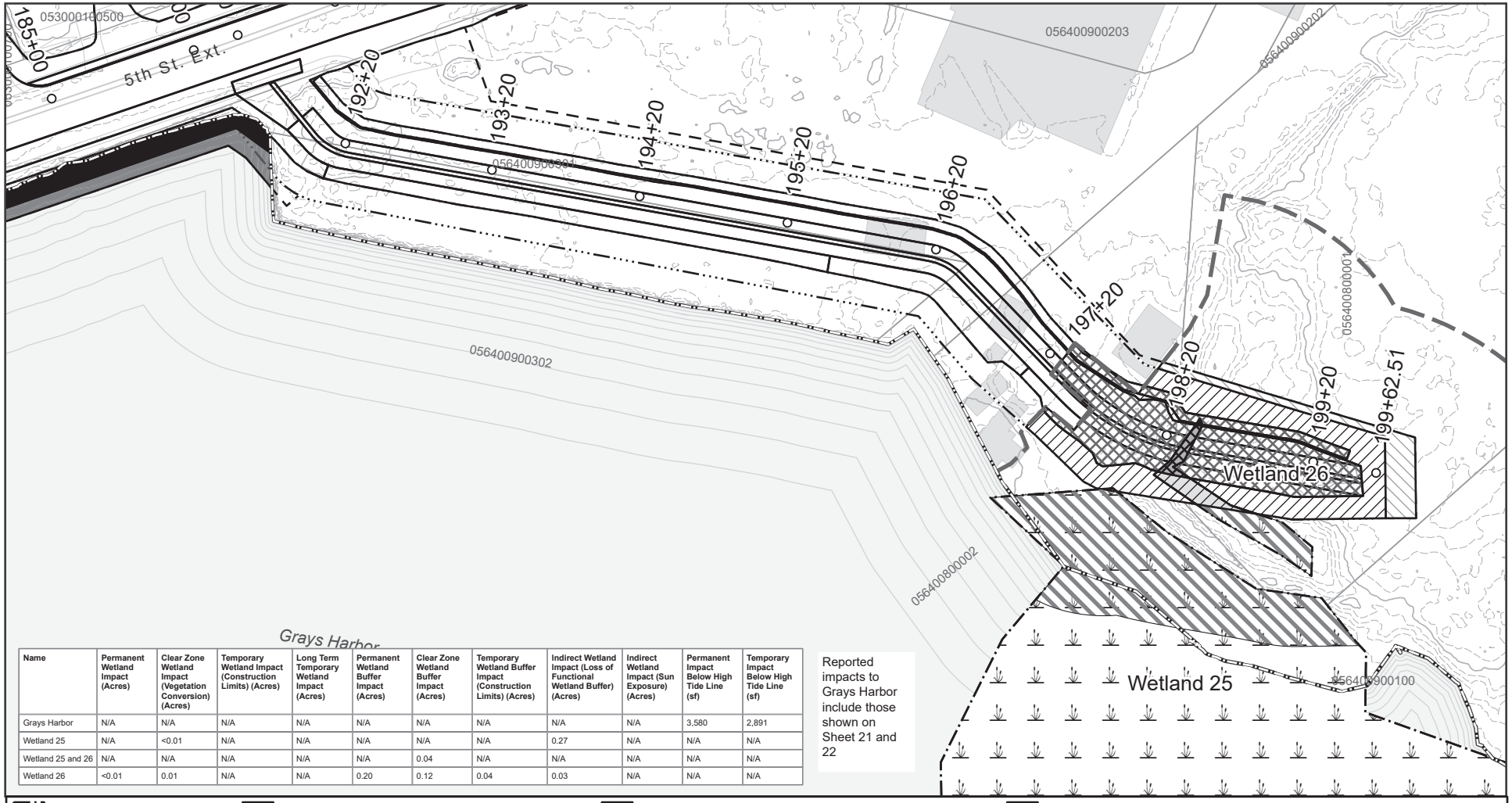

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Grays Harbor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,580	2,891
Wetland 25	N/A	<0.01	N/A	N/A	N/A	N/A	N/A	0.27	N/A	N/A	N/A
Wetland 25 and 26	N/A	N/A	N/A	N/A	N/A	0.04	N/A	N/A	N/A	N/A	N/A
Wetland 26	<0.01	0.01	N/A	N/A	0.20	0.12	0.04	0.03	N/A	N/A	N/A

Reported impacts to Grays Harbor include those shown on Sheet 21 and 22

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Clear Zone Wetland Impact (Vegetation Conversion)
Permanent Wetland Buffer Impact
Clear Zone Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Permanent Impact Below High Tide Line
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 21 of 60

DATE: 4/5/2024

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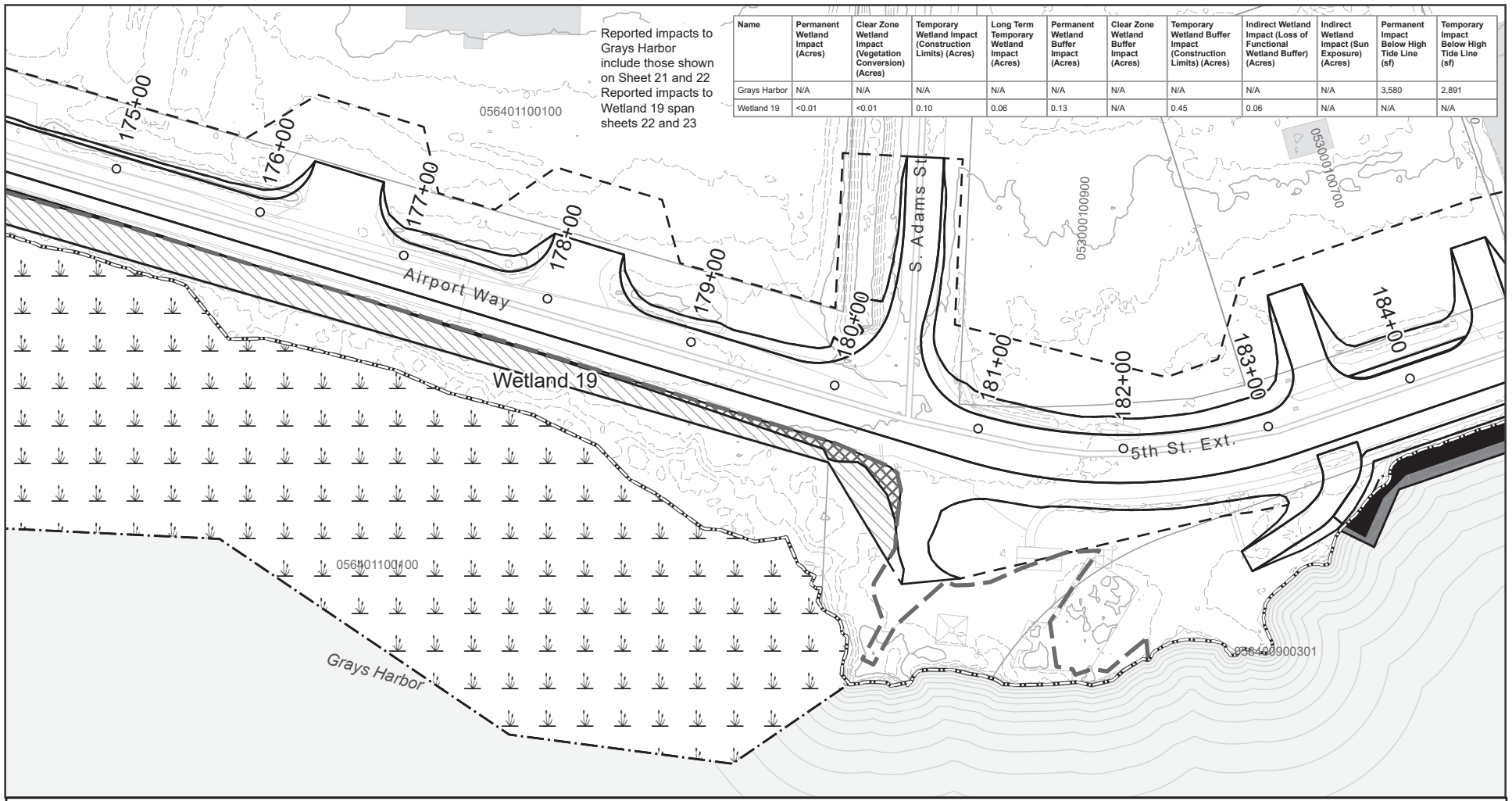

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Grays Harbor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,580	2,891
Wetland 19	<0.01	<0.01	0.10	0.06	0.13	N/A	0.45	0.06	N/A	N/A	N/A

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Permanent Impact Below High Tide Line
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 22 of 60

DATE: 4/5/2024

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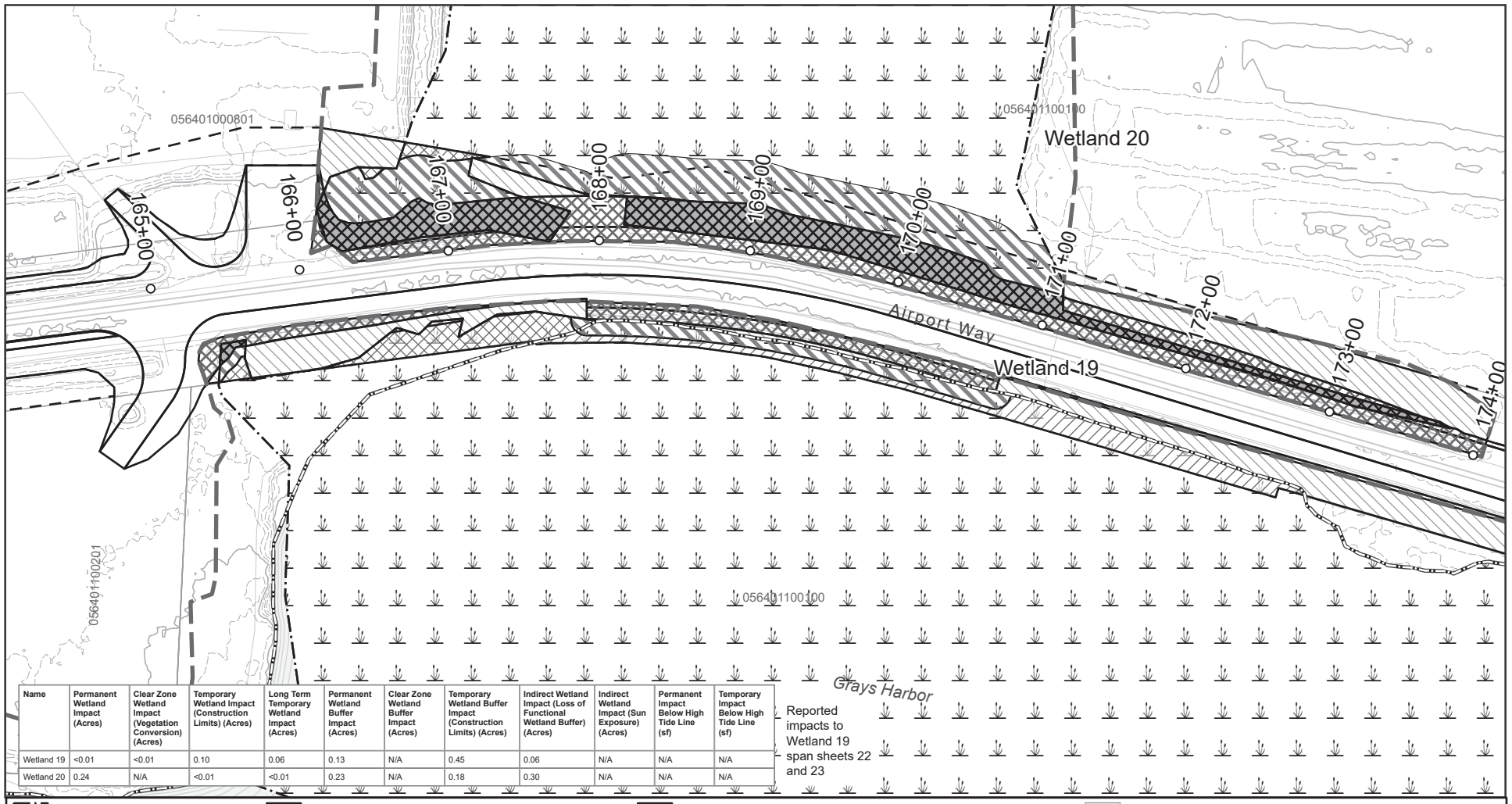

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 19	<0.01	<0.01	0.10	0.06	0.13	N/A	0.45	0.06	N/A	N/A	N/A
Wetland 20	0.24	N/A	<0.01	<0.01	0.23	N/A	0.18	0.30	N/A	N/A	N/A

Reported impacts to Wetland 19 span sheets 22 and 23

- Wetland
- Wetland Buffer
- Waters Below High Tide Line
- High Tide Line
- Alignment Stationing Location
- Proposed Permanent Impact Boundary
- Proposed Construction Limits
- Permanent Wetland Impact
- Temporary Wetland Impact (Construction Limits)
- Long Term Temporary Impact
- Permanent Wetland Buffer Impact
- Temporary Wetland Buffer Impact (Construction Limits)
- Indirect Wetland Impact (Loss of Functional Wetland Buffer)
- Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N

0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 23 of 60

DATE: 4/5/2024

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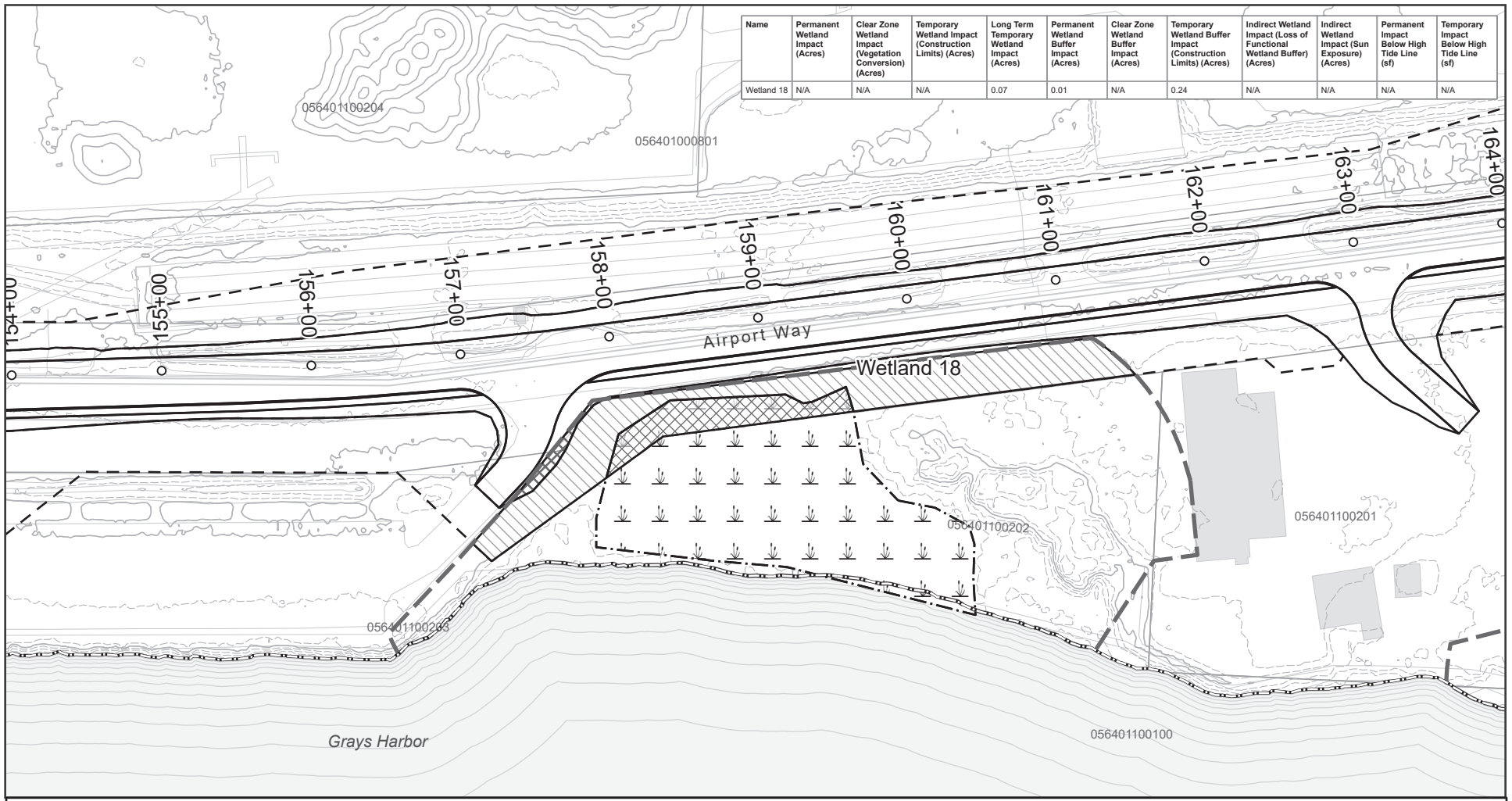
Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 18	N/A	N/A	N/A	0.07	0.01	N/A	0.24	N/A	N/A	N/A	N/A



Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Construction Limits
Long Term Temporary Impact
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N 0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 24 of 60

DATE: 4/5/2024

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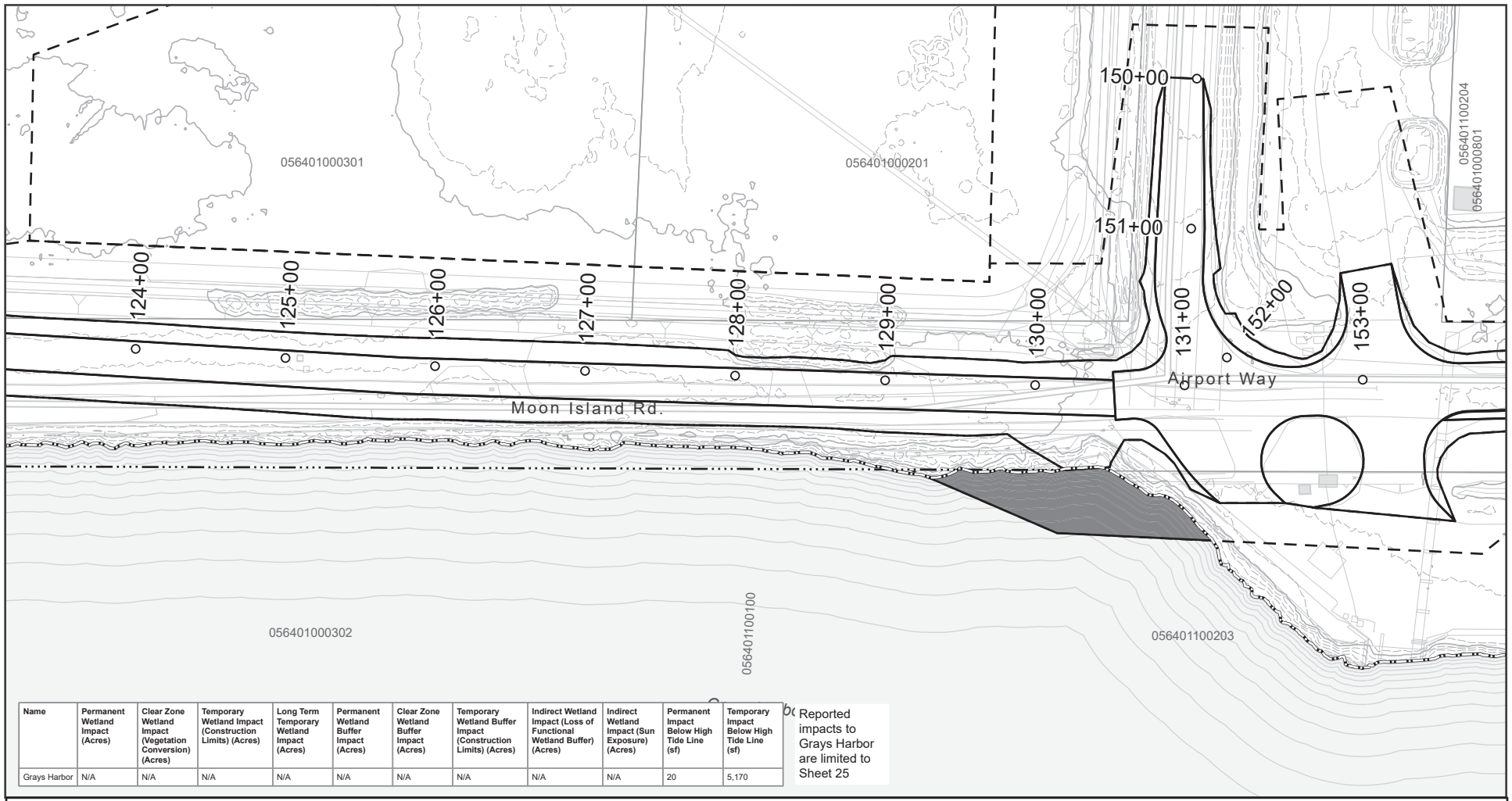

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Grays Harbor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20	5,170

Reported impacts to Grays Harbor are limited to Sheet 25

Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Impact Below High Tide Line
Temporary Impact Below High Tide Line
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 25 of 60

DATE: 4/5/2024

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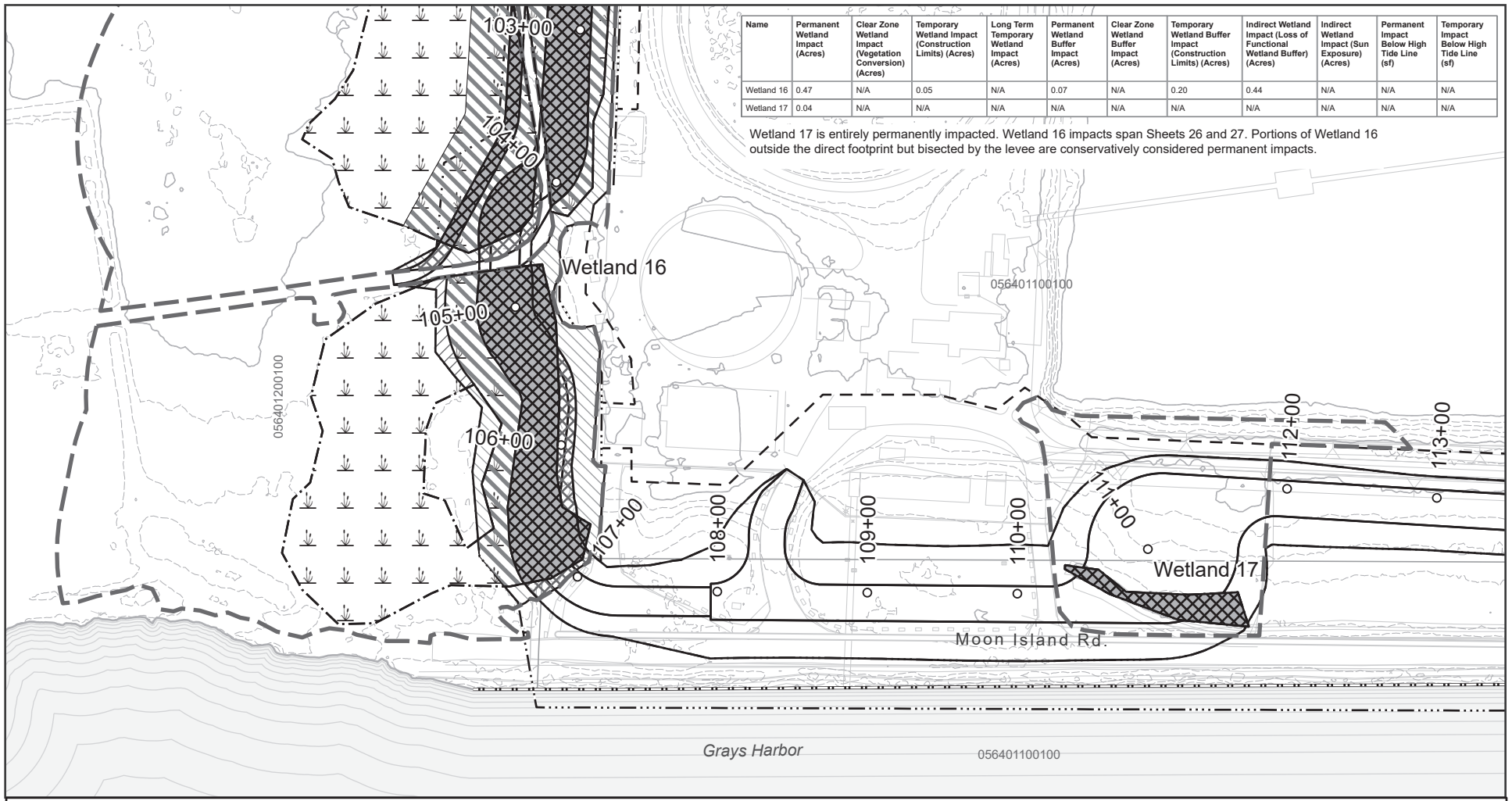

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 16	0.47	N/A	0.05	N/A	0.07	N/A	0.20	0.44	N/A	N/A	N/A
Wetland 17	0.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Wetland 17 is entirely permanently impacted. Wetland 16 impacts span Sheets 26 and 27. Portions of Wetland 16 outside the direct footprint but bisected by the levee are conservatively considered permanent impacts.

- Wetland
- Wetland Buffer
- Waters Below High Tide Line
- High Tide Line
- Alignment Stationing Location
- Proposed Permanent Impact Boundary
- Proposed Vegetation Clear Zone (VCZ)
- Proposed Construction Limits
- Permanent Wetland Impact
- Temporary Wetland Impact (Construction Limits)
- Permanent Wetland Buffer Impact
- Temporary Wetland Buffer Impact (Construction Limits)
- Indirect Wetland Impact (Loss of Functional Wetland Buffer)
- Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N 0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 26 of 60

DATE: 4/5/2024

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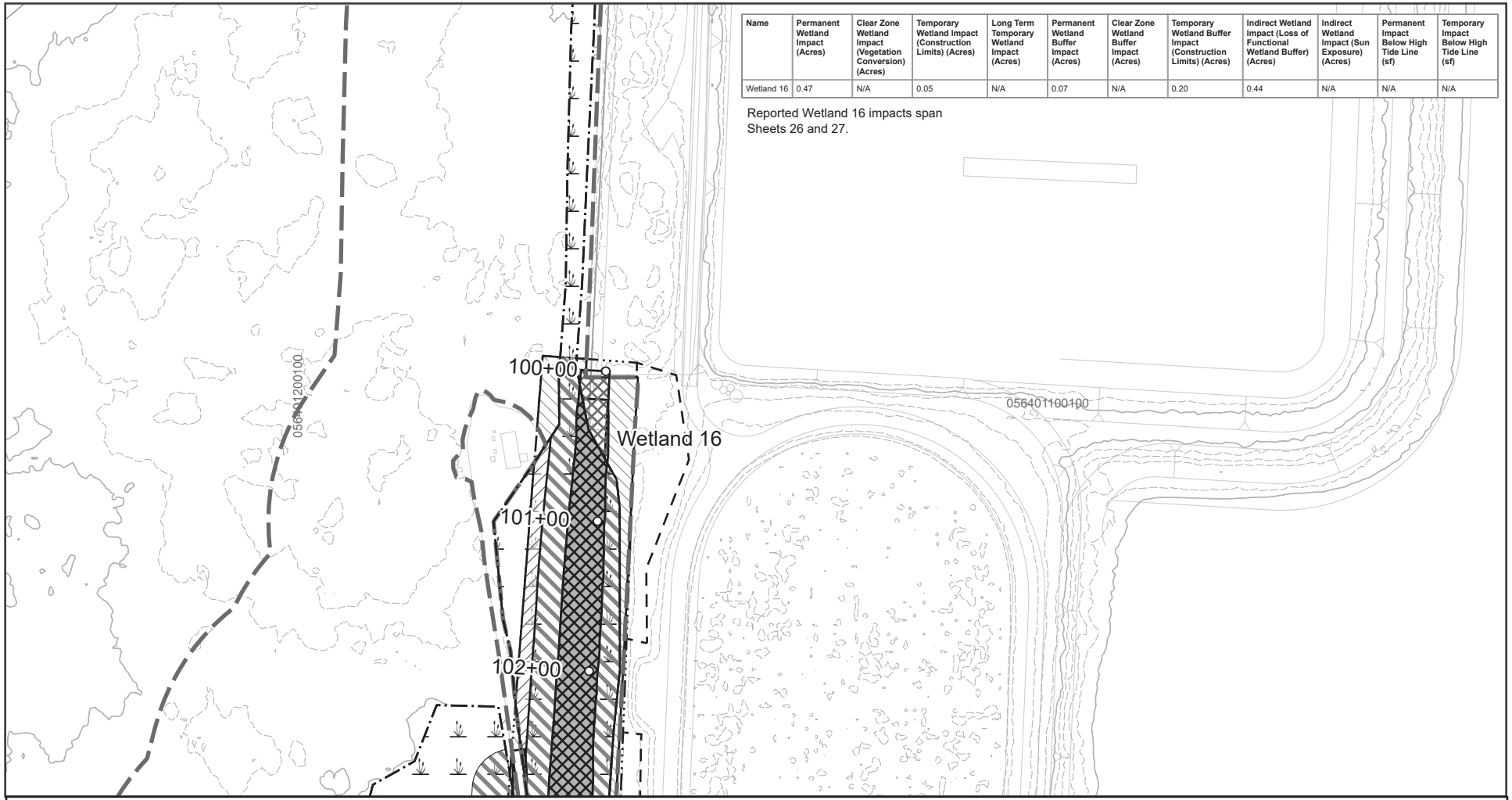
Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 16	0.47	N/A	0.05	N/A	0.07	N/A	0.20	0.44	N/A	N/A	N/A

Reported Wetland 16 impacts span Sheets 26 and 27.



Wetland
Wetland Buffer
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Vegetation Clear Zone (VCZ)
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0 100 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 27 of 60

DATE: 4/5/2024

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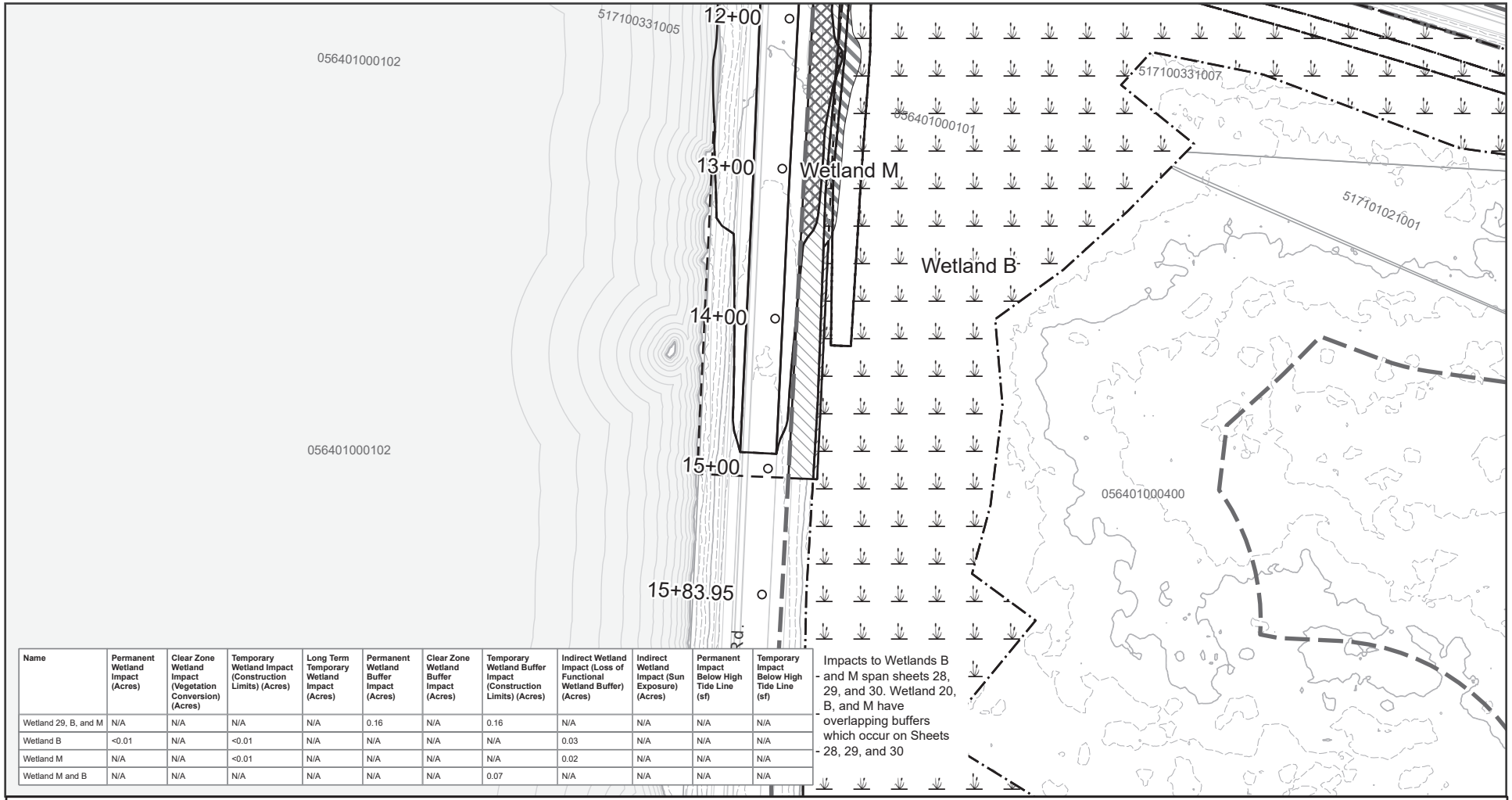


Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 29, B, and M	N/A	N/A	N/A	N/A	0.16	N/A	0.16	N/A	N/A	N/A	N/A
Wetland B	<0.01	N/A	<0.01	N/A	N/A	N/A	N/A	0.03	N/A	N/A	N/A
Wetland M	N/A	N/A	<0.01	N/A	N/A	N/A	N/A	0.02	N/A	N/A	N/A
Wetland M and B	N/A	N/A	N/A	N/A	N/A	N/A	0.07	N/A	N/A	N/A	N/A

Impacts to Wetlands B and M span sheets 28, 29, and 30. Wetland 20, B, and M have overlapping buffers which occur on Sheets 28, 29, and 30

Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

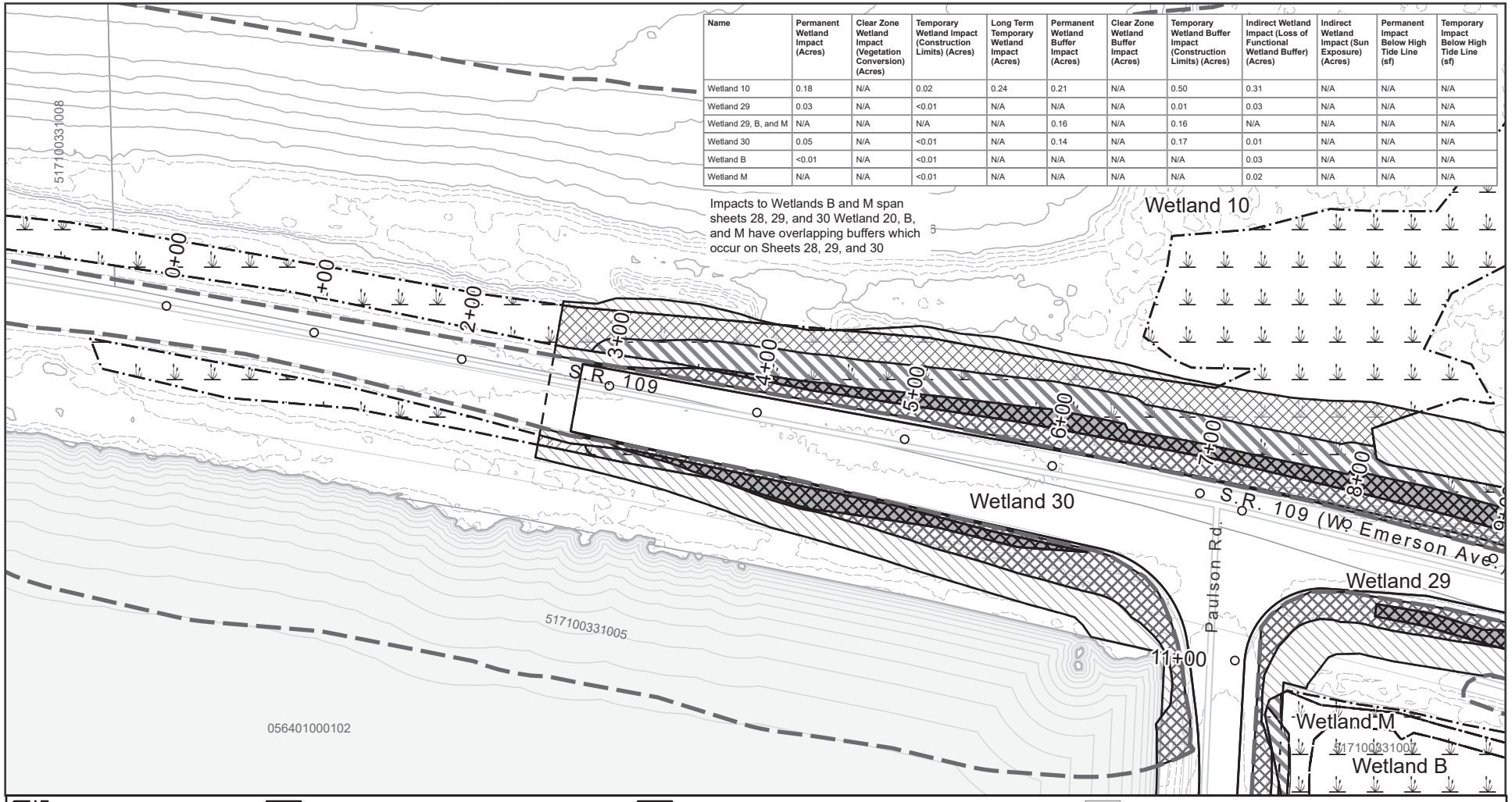
NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 28 of 60

DATE: 4/5/2024

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 10	0.18	N/A	0.02	0.24	0.21	N/A	0.50	0.31	N/A	N/A	N/A
Wetland 29	0.03	N/A	<0.01	N/A	N/A	N/A	0.01	0.03	N/A	N/A	N/A
Wetland 29, B, and M	N/A	N/A	N/A	N/A	0.16	N/A	0.16	N/A	N/A	N/A	N/A
Wetland 30	0.05	N/A	<0.01	N/A	0.14	N/A	0.17	0.01	N/A	N/A	N/A
Wetland B	<0.01	N/A	<0.01	N/A	N/A	N/A	N/A	0.03	N/A	N/A	N/A
Wetland M	N/A	N/A	<0.01	N/A	N/A	N/A	N/A	0.02	N/A	N/A	N/A

Impacts to Wetlands B and M span sheets 28, 29, and 30 Wetland 20, B, and M have overlapping buffers which occur on Sheets 28, 29, and 30



Wetland
Wetland Buffer
Waters Below High Tide Line
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Long Term Temporary Impact
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 29 of 60

DATE: 4/5/2024

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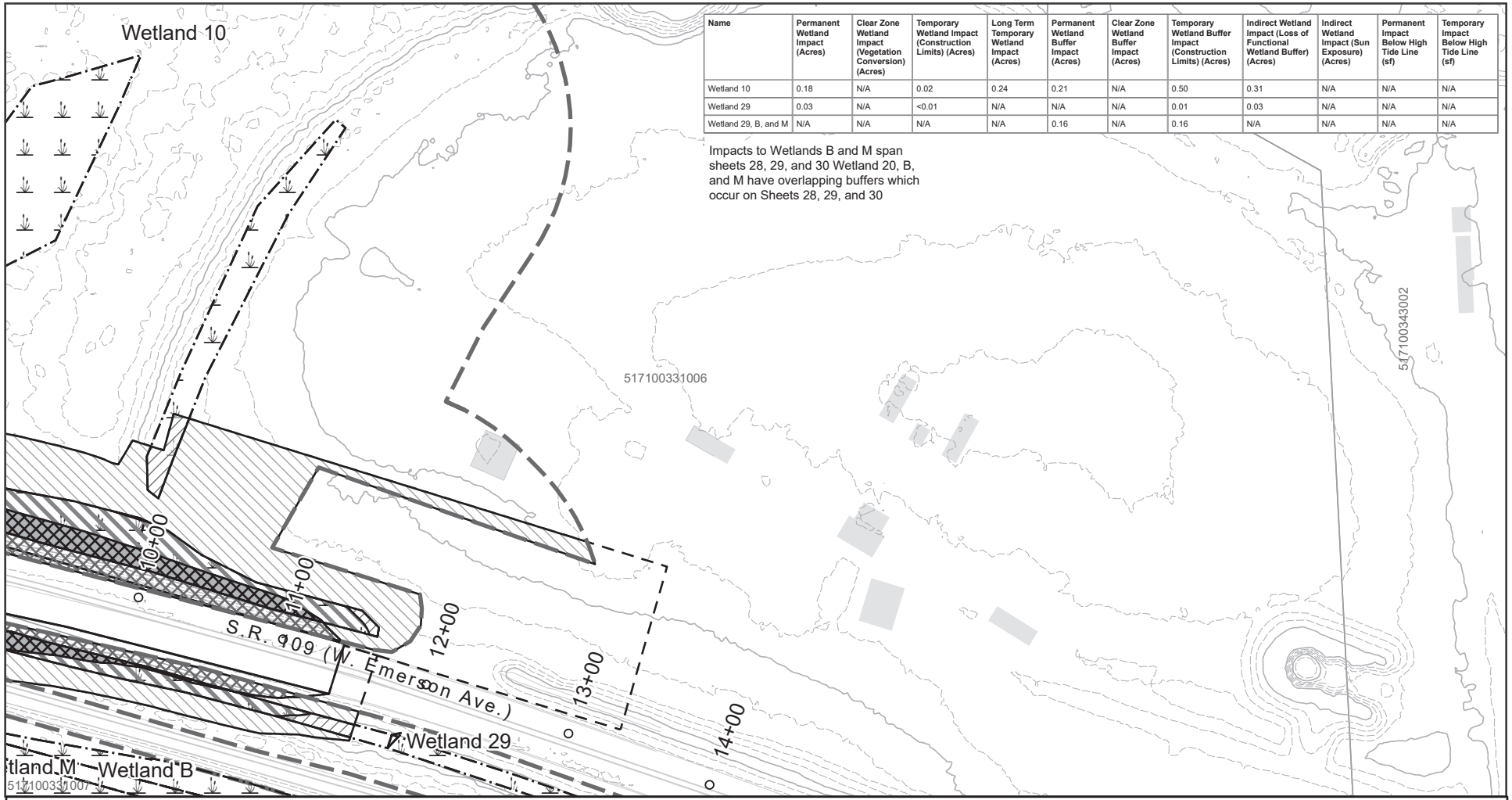

Name	Permanent Wetland Impact (Acres)	Clear Zone Wetland Impact (Vegetation Conversion) (Acres)	Temporary Wetland Impact (Construction Limits) (Acres)	Long Term Temporary Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Clear Zone Wetland Buffer Impact (Acres)	Temporary Wetland Buffer Impact (Construction Limits) (Acres)	Indirect Wetland Impact (Loss of Functional Wetland Buffer) (Acres)	Indirect Wetland Impact (Sun Exposure) (Acres)	Permanent Impact Below High Tide Line (sf)	Temporary Impact Below High Tide Line (sf)
Wetland 10	0.18	N/A	0.02	0.24	0.21	N/A	0.50	0.31	N/A	N/A	N/A
Wetland 29	0.03	N/A	<0.01	N/A	N/A	N/A	0.01	0.03	N/A	N/A	N/A
Wetland 29, B, and M	N/A	N/A	N/A	N/A	0.16	N/A	0.16	N/A	N/A	N/A	N/A

Impacts to Wetlands B and M span sheets 28, 29, and 30 Wetland 20, B, and M have overlapping buffers which occur on Sheets 28, 29, and 30

Wetland
Wetland Buffer
High Tide Line
Alignment Stationing Location
Proposed Permanent Impact Boundary
Proposed Construction Limits
Permanent Wetland Impact
Temporary Wetland Impact (Construction Limits)
Permanent Wetland Buffer Impact
Temporary Wetland Buffer Impact (Construction Limits)
Indirect Wetland Impact (Loss of Functional Wetland Buffer)
Existing Building Footprints
Property Boundaries

WETLAND AND WATERBODY IMPACT AREAS

N
0
100
Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 30 of 60

DATE: 4/5/2024

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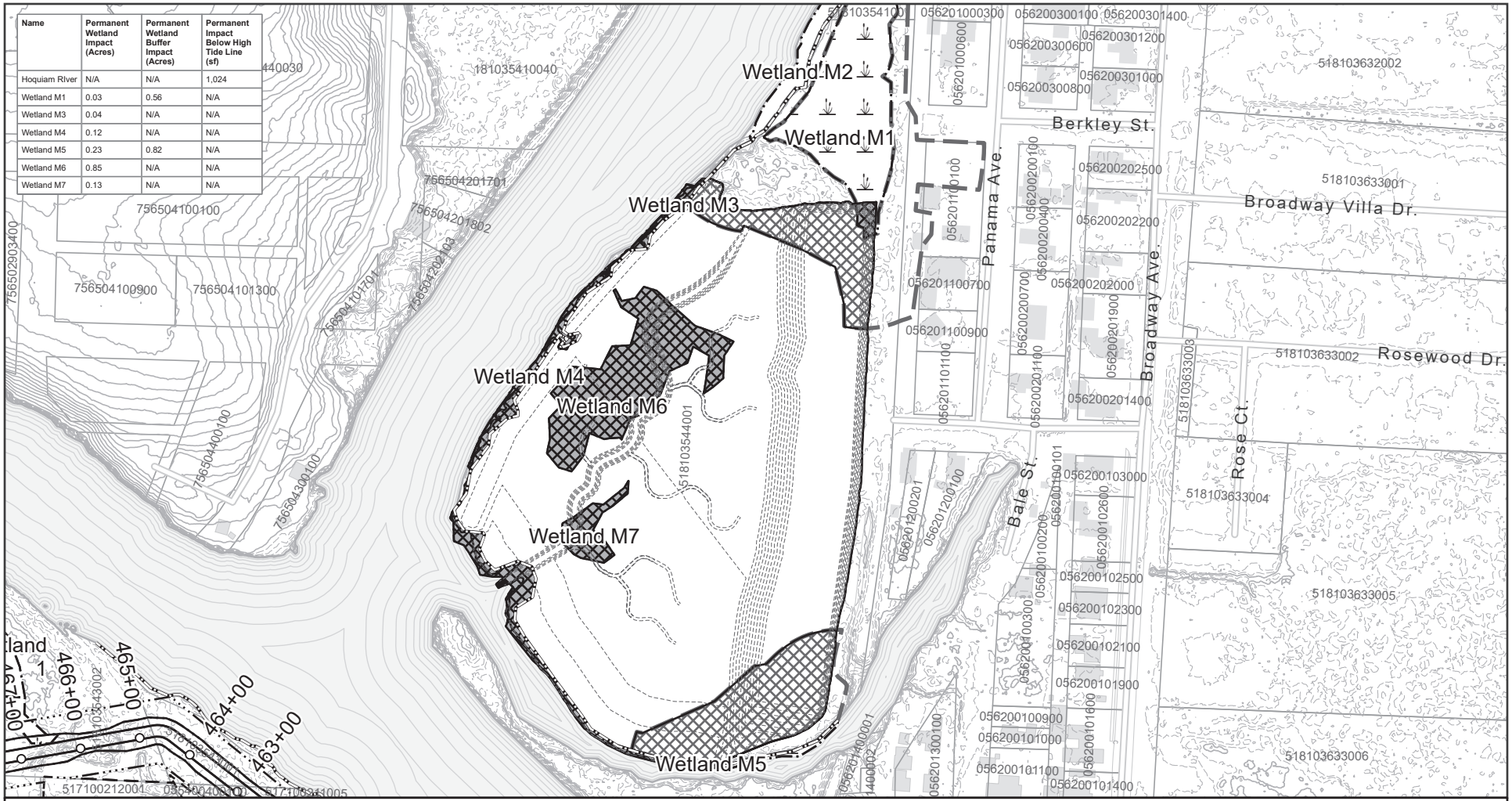
Name	Permanent Wetland Impact (Acres)	Permanent Wetland Buffer Impact (Acres)	Permanent Impact Below High Tide Line (sf)
Hoquiam River	N/A	N/A	1,024
Wetland M1	0.03	0.56	N/A
Wetland M3	0.04	N/A	N/A
Wetland M4	0.12	N/A	N/A
Wetland M5	0.23	0.82	N/A
Wetland M6	0.85	N/A	N/A
Wetland M7	0.13	N/A	N/A



Wetland
Waters Below High Tide Line
Alignment Stationing Location
High Tide Line
Mitigation Site Impact Boundary
Mitigation Site Grading Contours
Permanent Wetland Impact
Permanent Wetland Buffer Impact
Permanent Impact Below High Tide Line
Property Boundaries
Existing Building Footprints

WETLAND AND WATERBODY IMPACT AREAS MITIGATION SITE

N

0 250 Feet

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Offsite Mitigation Site: 46.997200 N lat. / -123.883738 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 31 of 60

DATE: 4/5/2024

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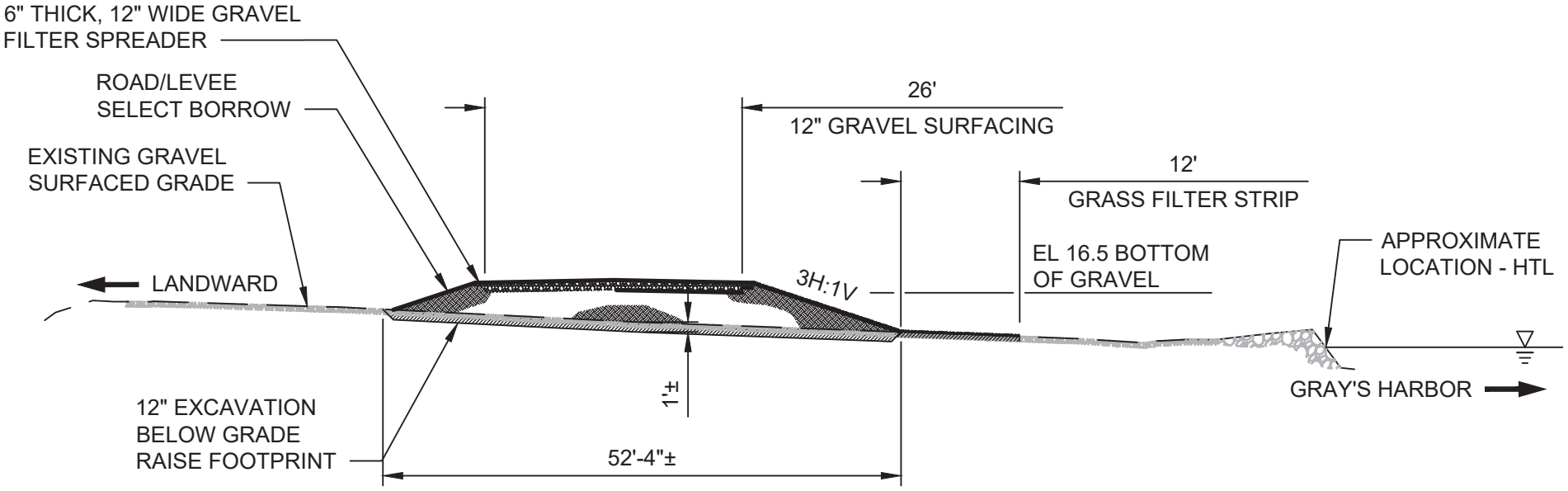


ROAD RAISE - MOON ISLAND ROAD

STA 118+00 - LOOKING EAST

SCALE: 1/16" = 1'-0"

TYPICAL CROSS SECTION
Road Raise
Moon Island Road
STA 112+00 - STA 130+00

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

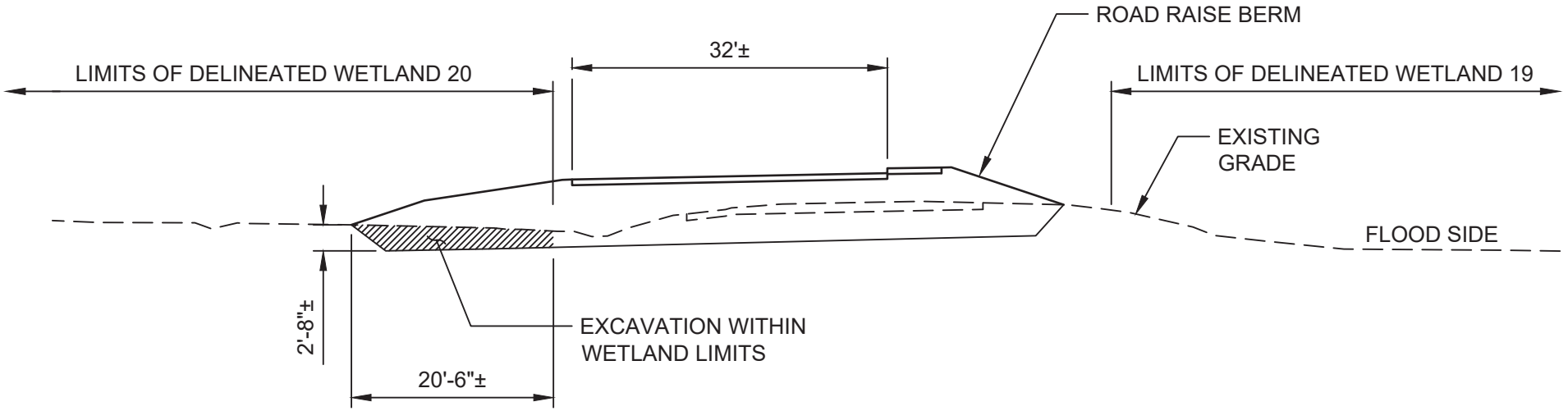
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 32 of 60

DATE: 4/5/2024



ROAD RAISE NEAR WETLANDS 19 & 20

STA 167+00 - LOOKING EAST

SCALE: 1/16" = 1'-0"

TYPICAL CROSS SECTION
Road Raise
Wetlands 19 and 20
STA 167+00

APPLICANT: City of Hoquiam REFERENCE #: NWS-2022-144 ADJACENT PROPERTY OWNERS: See JARPA Attachment C NOTES:	Project Name: North Shore Levee West DATUM: North American Datum 1983 LAT/LONG: Northern Project Terminus: 46.992717 N lat. / -123.893686 W long. Western Project Terminus: 46.981925 N lat. / -123.917947 W long.	PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall NEAR/AT: Hoquiam COUNTY: Grays Harbor STATE: Washington SHEET: 33 of 60 DATE: 4/5/2024

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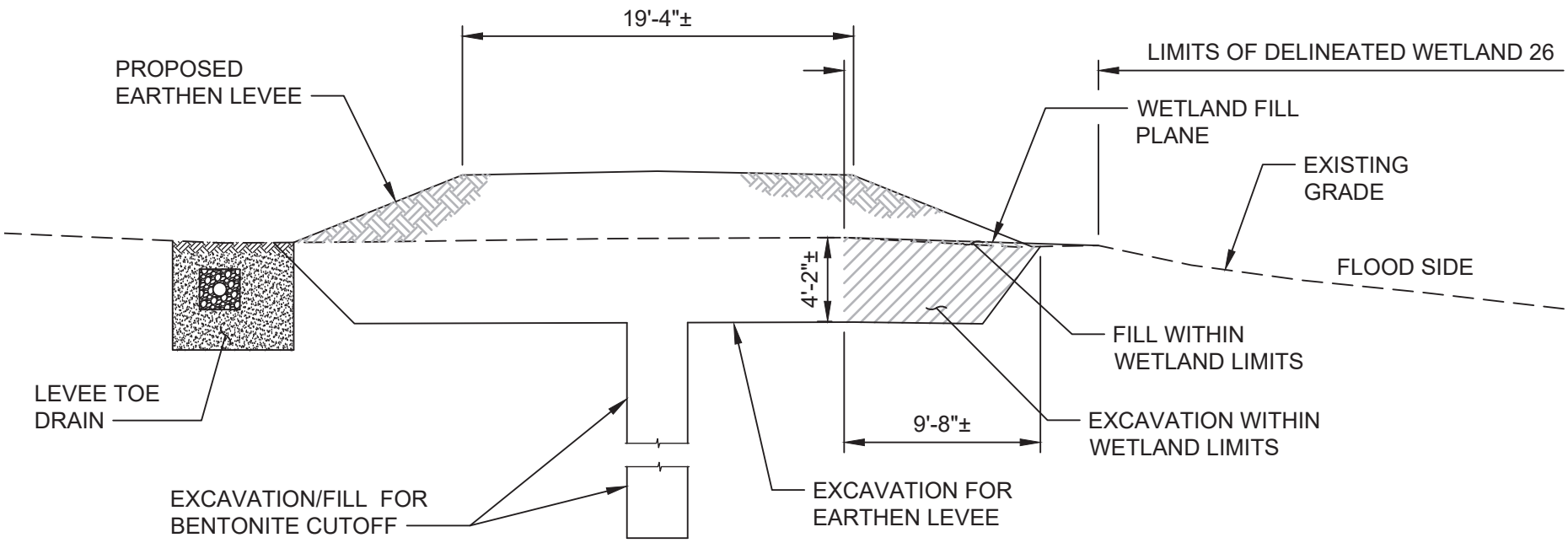

LEVEE IN WETLAND 26

STA. 198+20 - LOOKING EAST

SCALE: 1/8" = 1'-0"

TYPICAL CROSS SECTION
Earthen Berm with Bentonite Cutoff and Toe Drain
Wetland 26
STA 198+20

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 34 of 60

DATE: 4/5/2024

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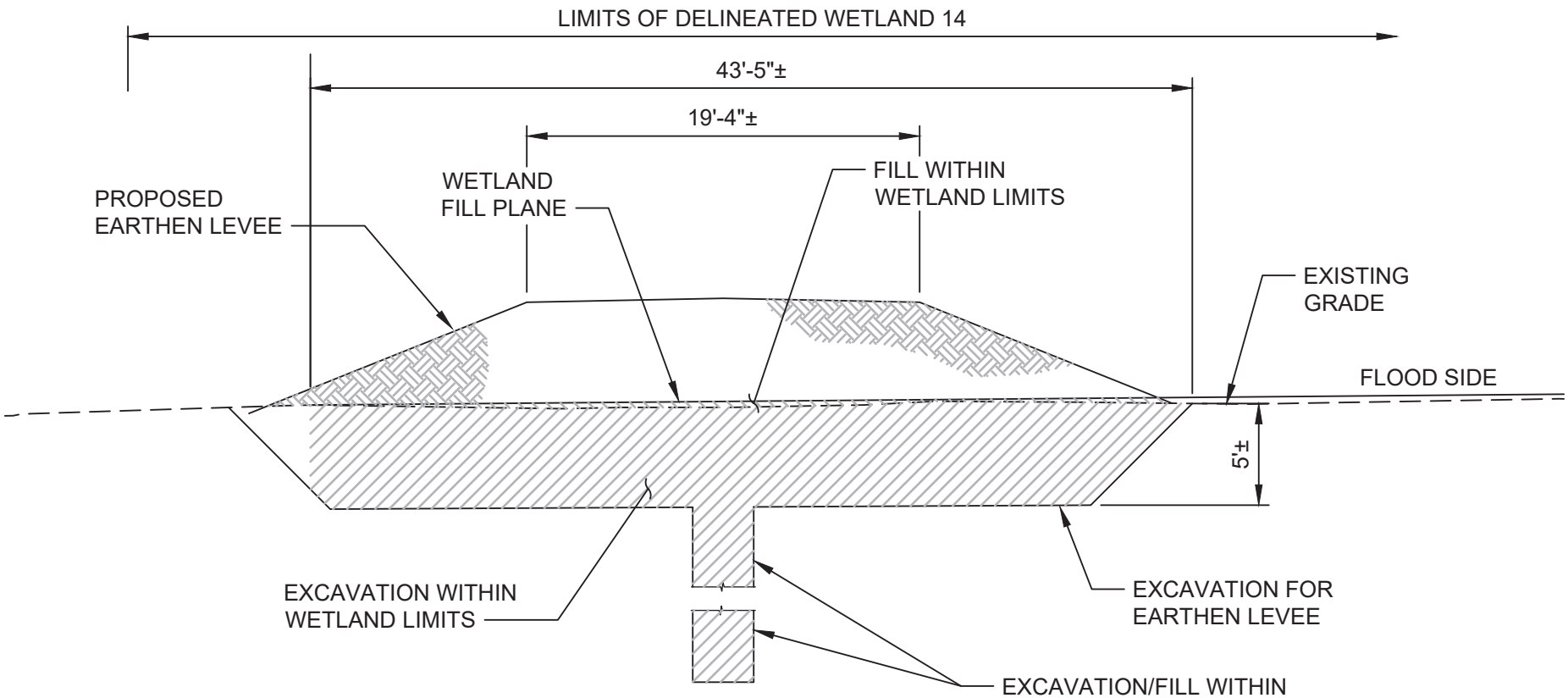


LEVEE IN WETLAND 14

STA 213+00 - LOOKING EAST
SCALE: 1/8" = 1'-0"

TYPICAL CROSS SECTION
Earthen Berm with Bentonite Cutoff
Wetland 14
STA 213+00

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

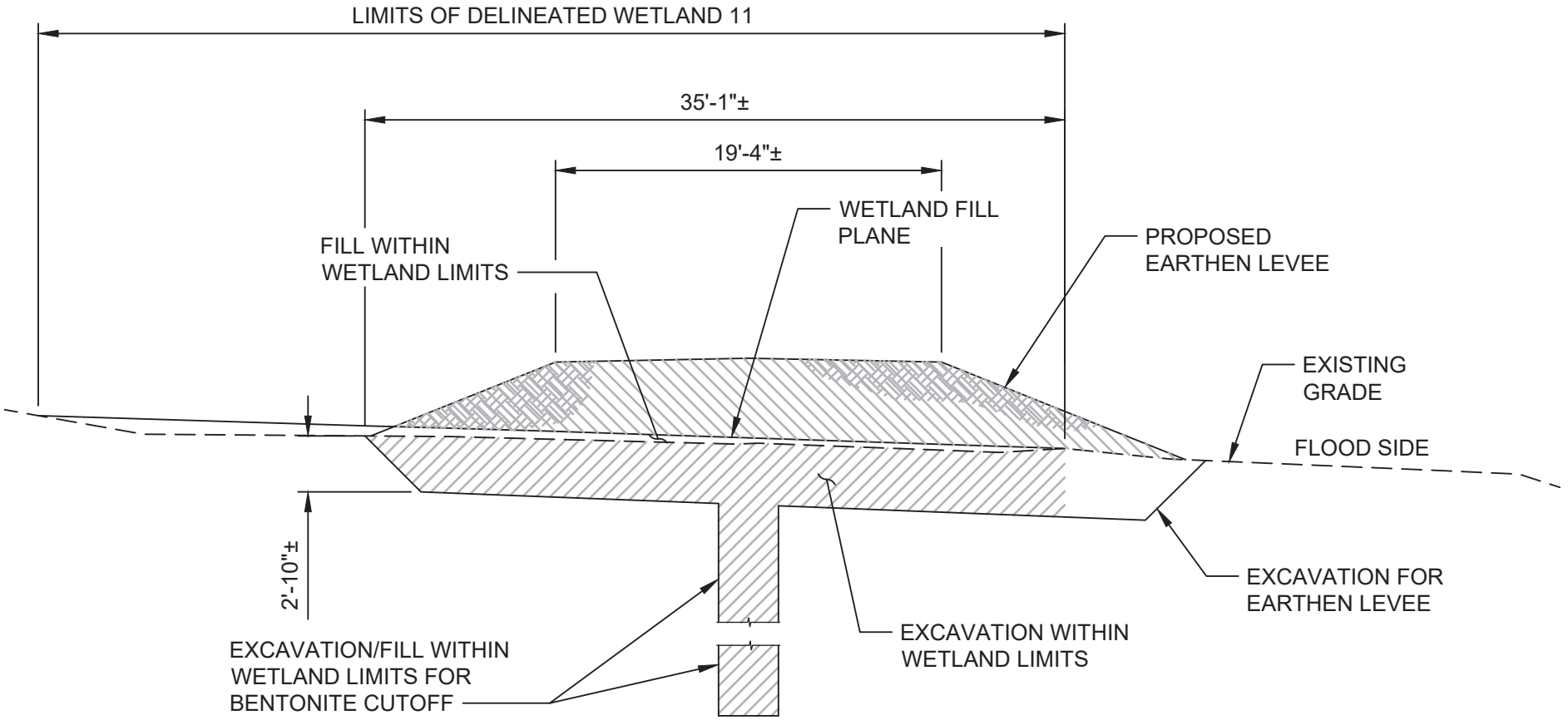
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 35 of 60

DATE: 4/5/2024



LEVEE IN WETLAND 11

STA 235+00 - LOOKING NORTH

SCALE: 1/8" = 1'-0"

TYPICAL CROSS SECTION
Earthen Berm with Bentonite Cutoff
Wetland 11
STA 235+00

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 36 of 60

DATE: 4/5/2024

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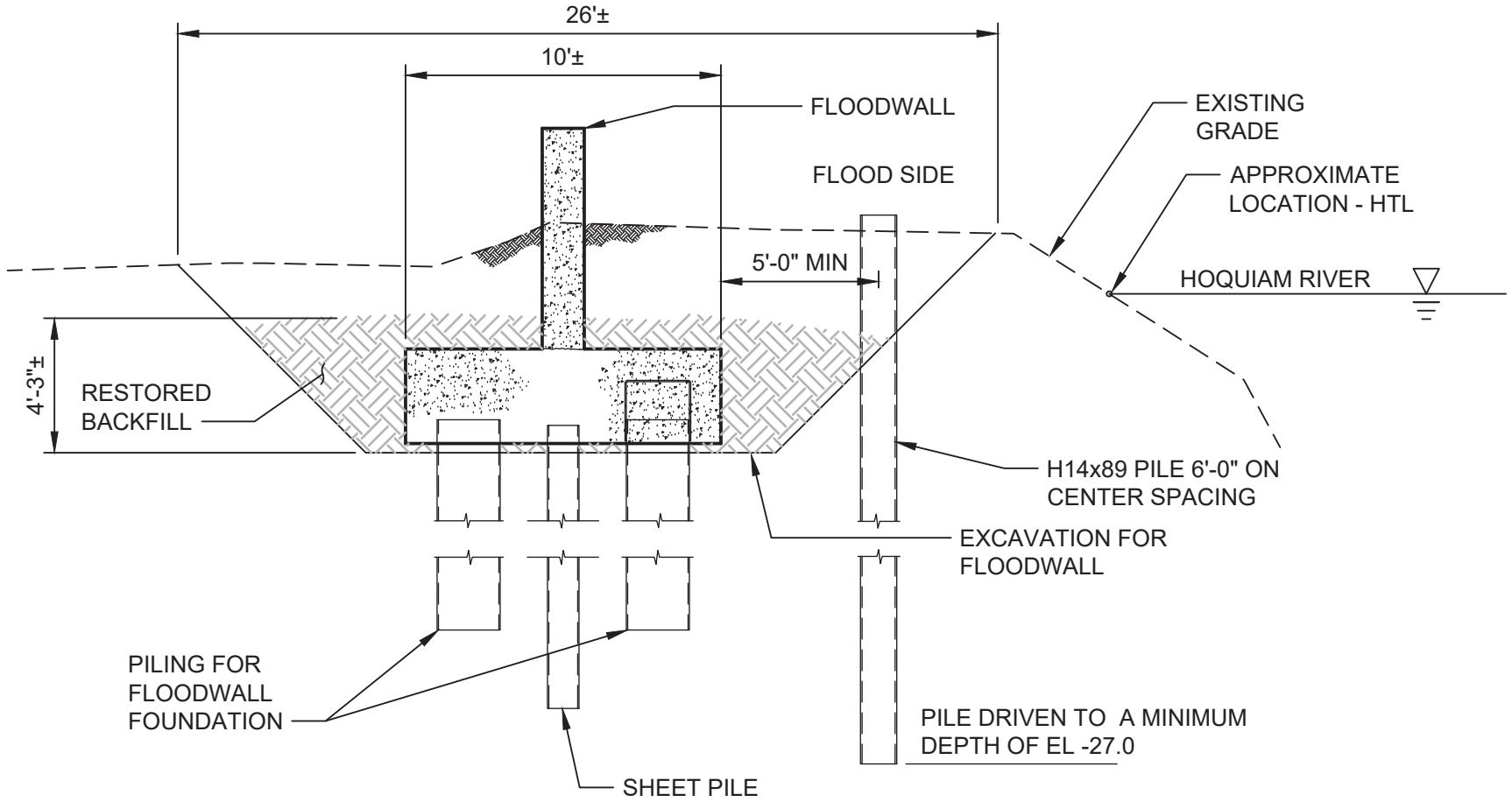


FLOODWALL WITH H-PILES BELOW HTL

SCALE: 3/16" = 1'-0"

TYPICAL CROSS SECTION
Floodwall with H-Piles
Hoquiam River

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:This construction is typical from STA 325+00 to 335+00

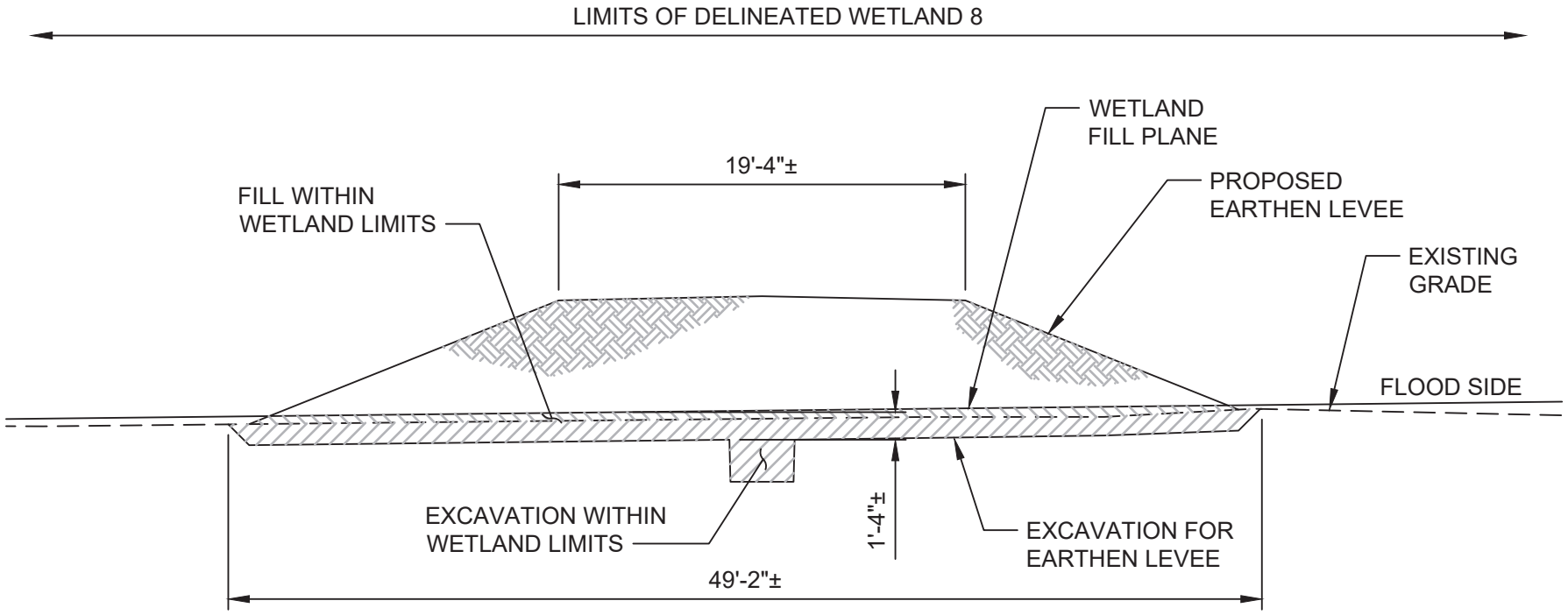
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 37 of 60

DATE: 4/5/2024



LEVEE IN WETLAND 8

STA 408+00 - LOOKING NORTH

SCALE: 1/8" = 1'-0"

TYPICAL CROSS SECTION
Earthen Berm
Wetland 8
STA 408+00

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

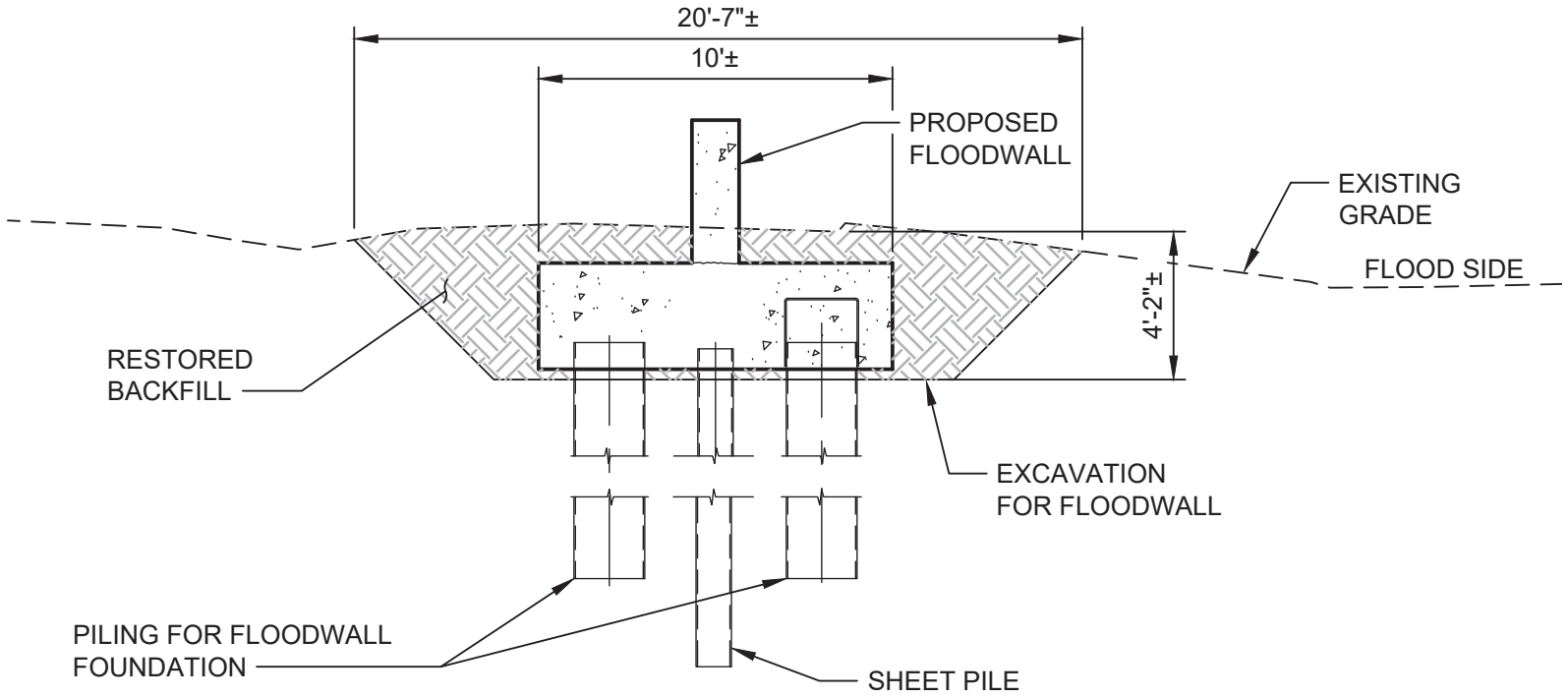
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 38 of 60

DATE: 4/5/2024



TYPICAL FLOODWALL

SCALE: 3/16" = 1'-0"

TYPICAL CROSS SECTION
T-type Floodwall
STA 445+00

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

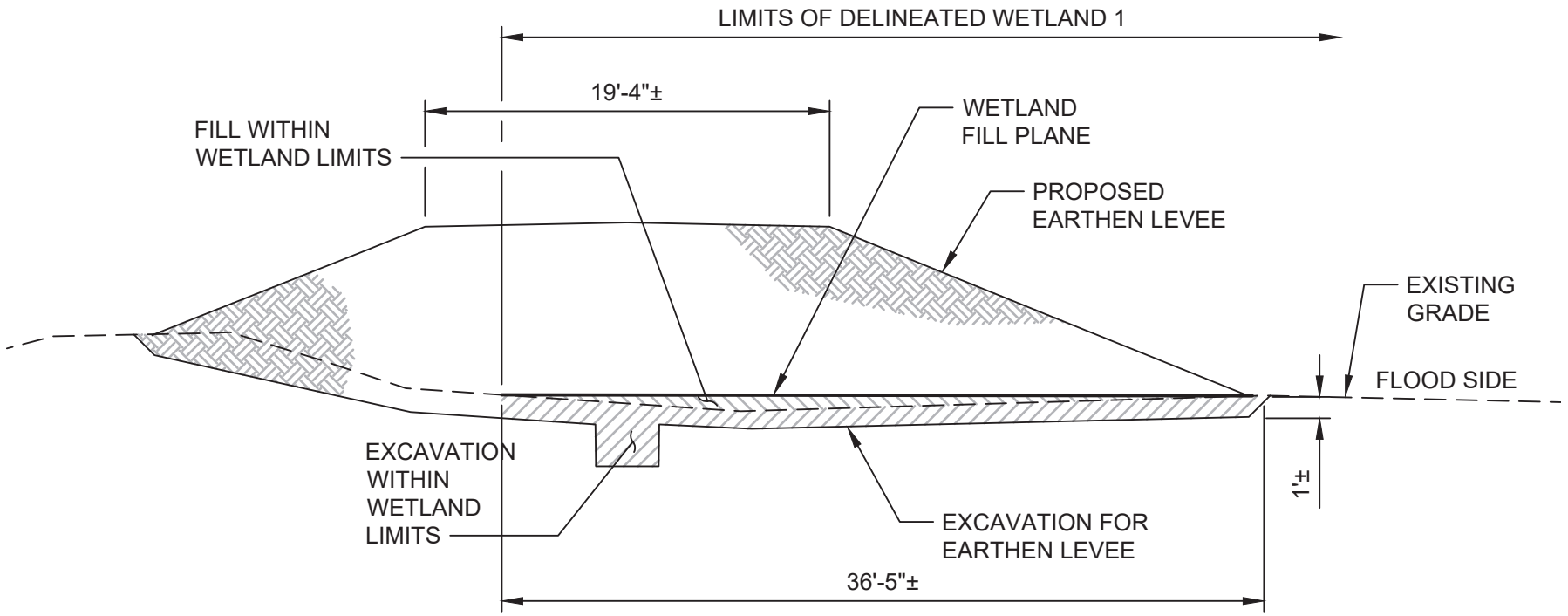
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 39 of 60

DATE: 4/5/2024



LEVEE IN WETLAND 1

STA 471+00 - LOOKING WESTERLY

SCALE:1/8" = 1'-0"

TYPICAL CROSS SECTION
Earthen Berm
Wetland 1
STA 471+00

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

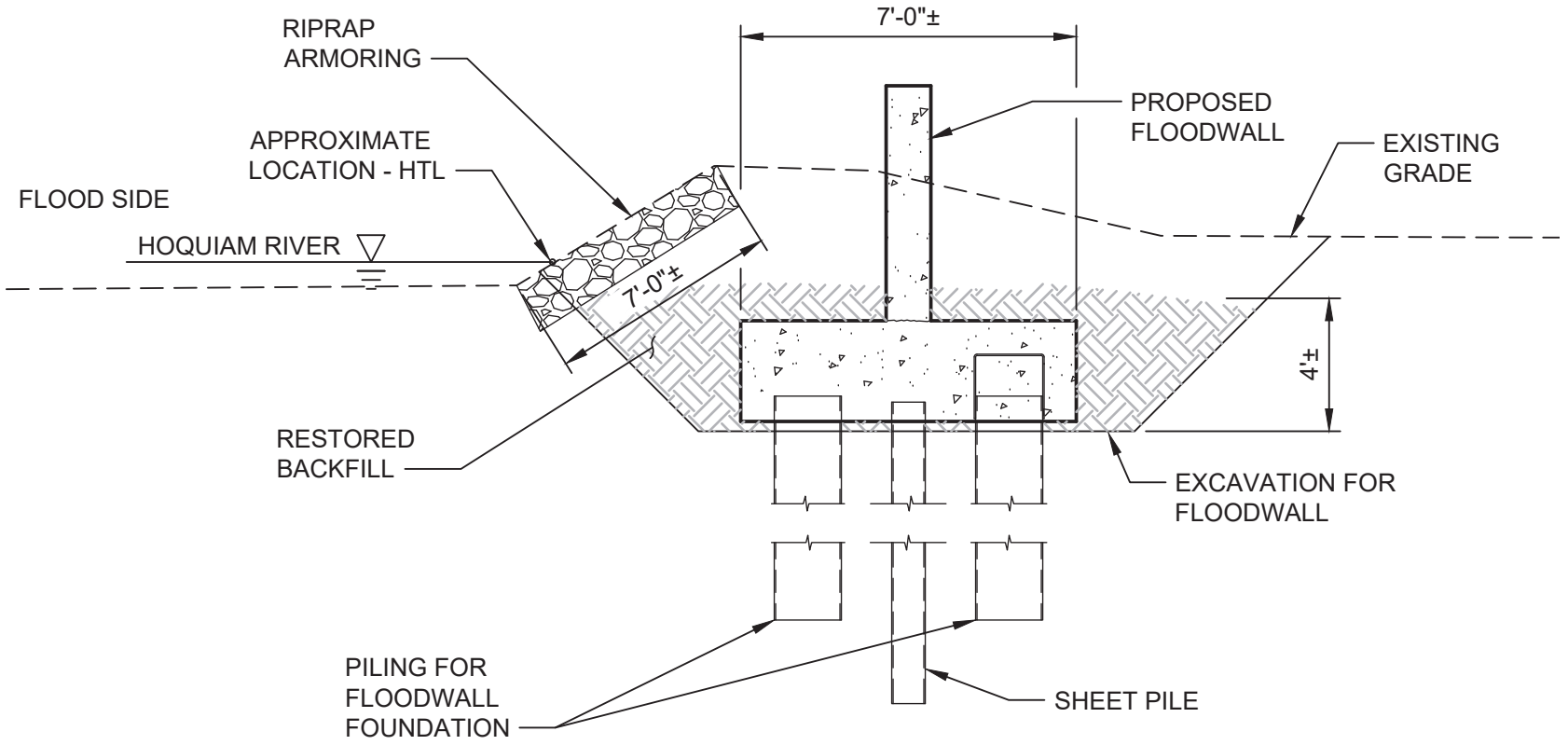
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 40 of 60

DATE: 4/5/2024



FLOODWALL & ARMORING NEAR HTL

SCALE: 3/16" = 1'-0"

TYPICAL CROSS SECTION
Floodwall with Riprap
Hoquiam River
STA. 504+50

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

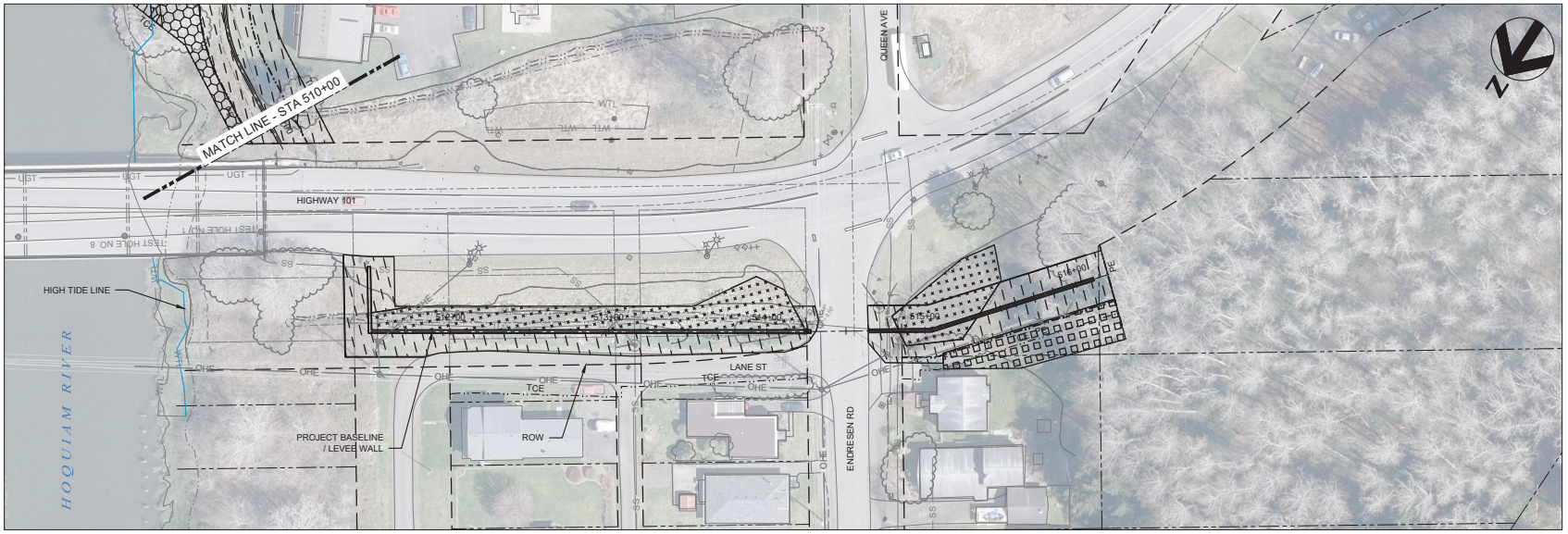
PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 41 of 60

DATE: 4/5/2024

\\bel-srv03\gisdata\Projects\Washington\City_of_Hoquiam_004419\T05_NS_Levee_10315330\Map_Docs\Hoquiam\JARPA\NSLW_JARPA_New_3.aprx



PLAN

0 20 40 80
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
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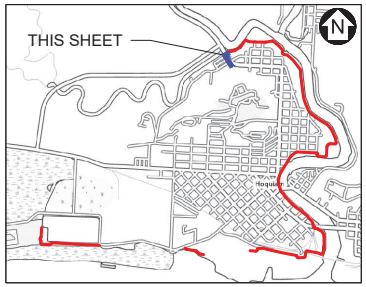
	DAMP NATIVE SEED MIX	.16
	NATIVE SHRUB MIX	.06



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

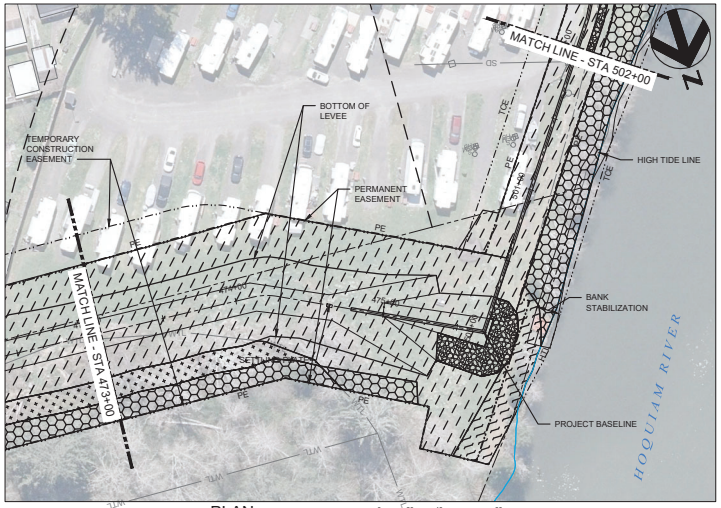
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 42 of 60

DATE: 4/5/2024



PLAN

SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
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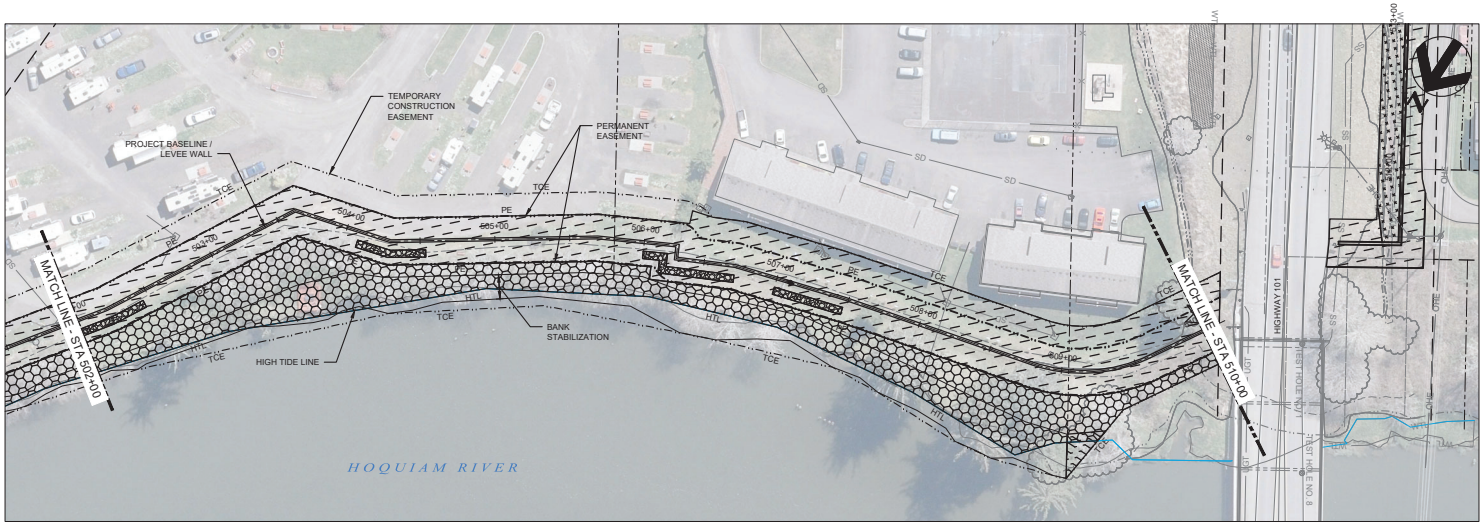
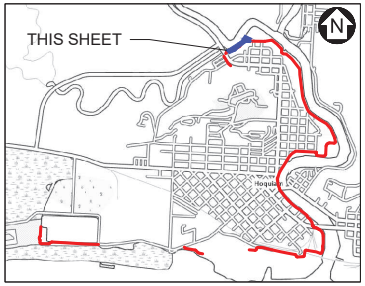
	DAMP NATIVE SEED MIX	.04
	TIDAL SEED MIX	.05
	WETLAND FOREST MIX	.62



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

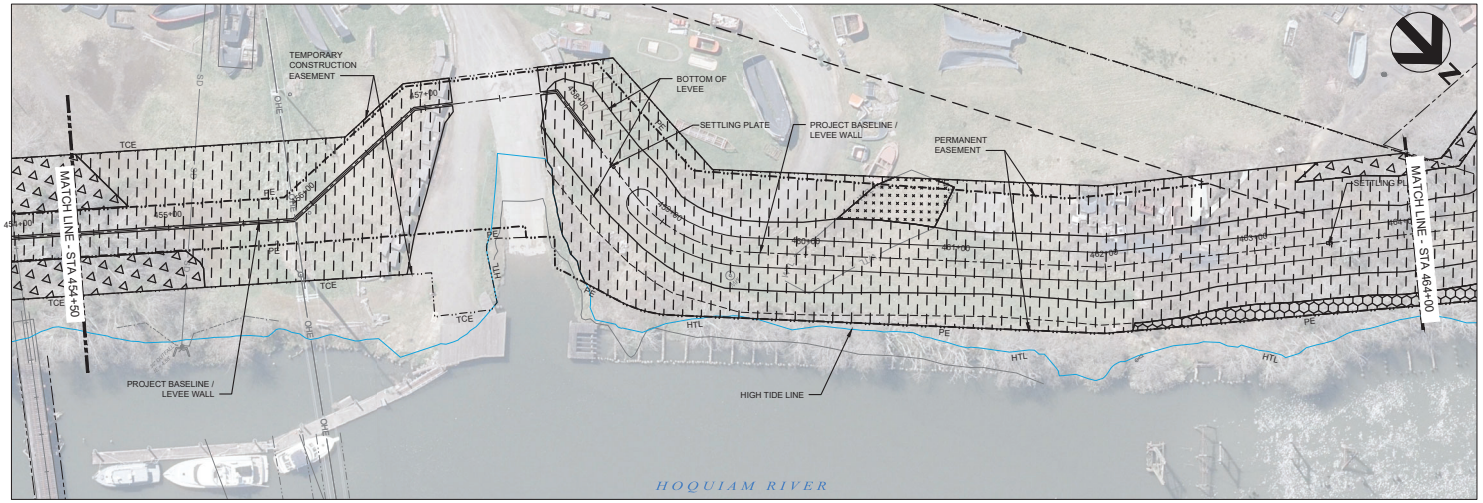
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 43 of 60

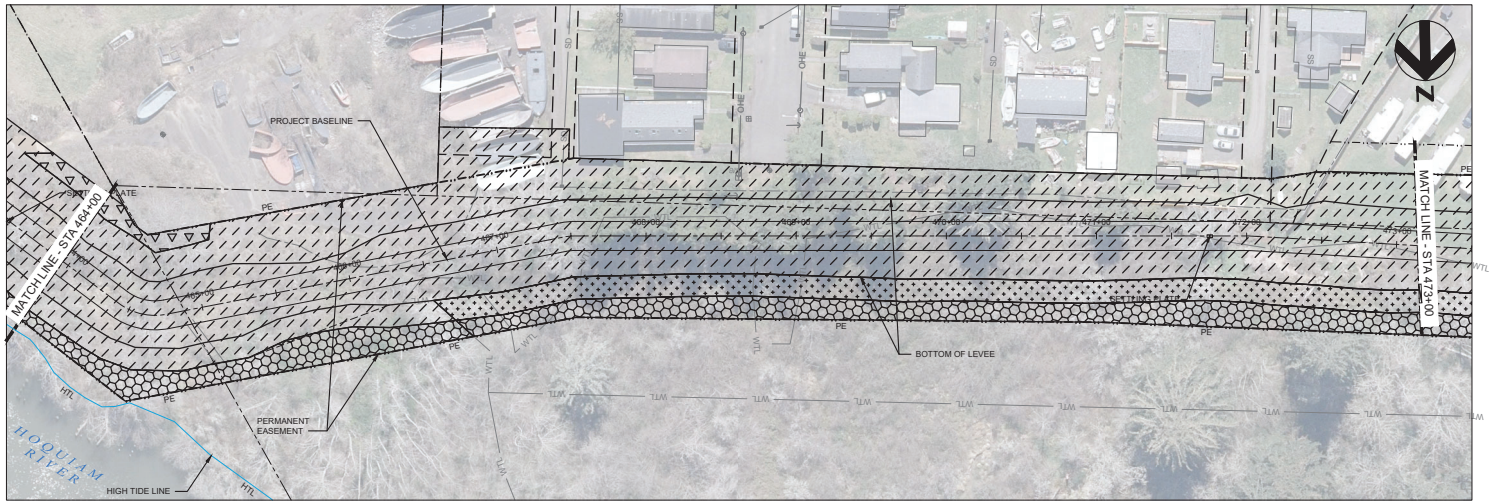
DATE: 4/5/2024



PLAN

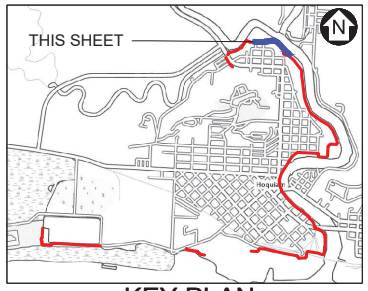
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	3.03
	DAMP NATIVE SEED MIX	.26
	TIDAL SEED MIX	.41
	WETLAND FOREST MIX	.39
	UPLAND FOREST MIX	.15



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 44 of 60

DATE: 4/5/2024

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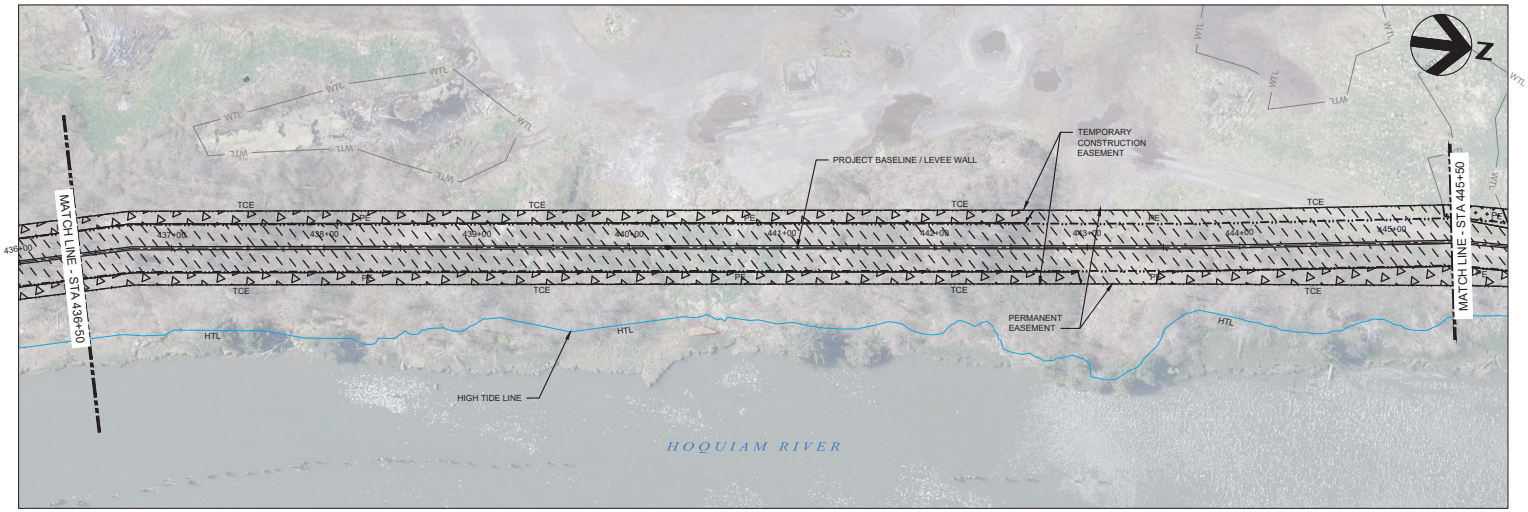

PLAN

SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
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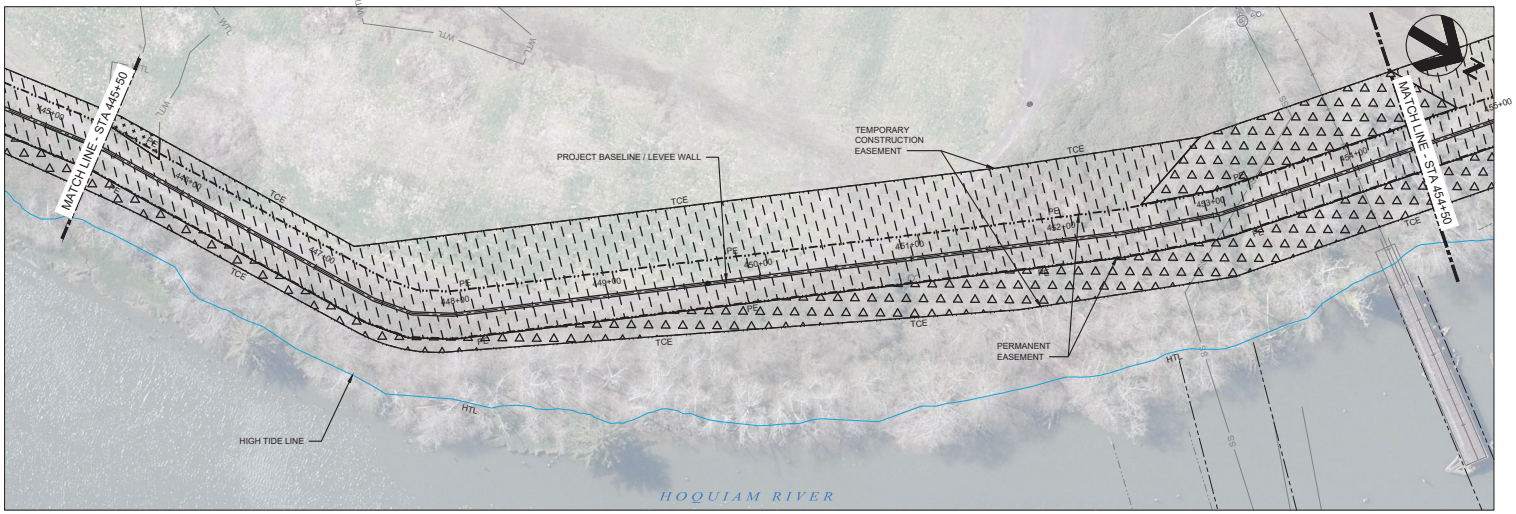
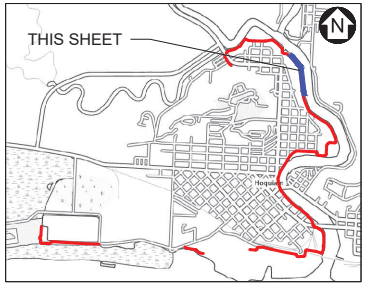
	DAMP NATIVE SEED MIX	.009
	UPLAND FOREST MIX	.71



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

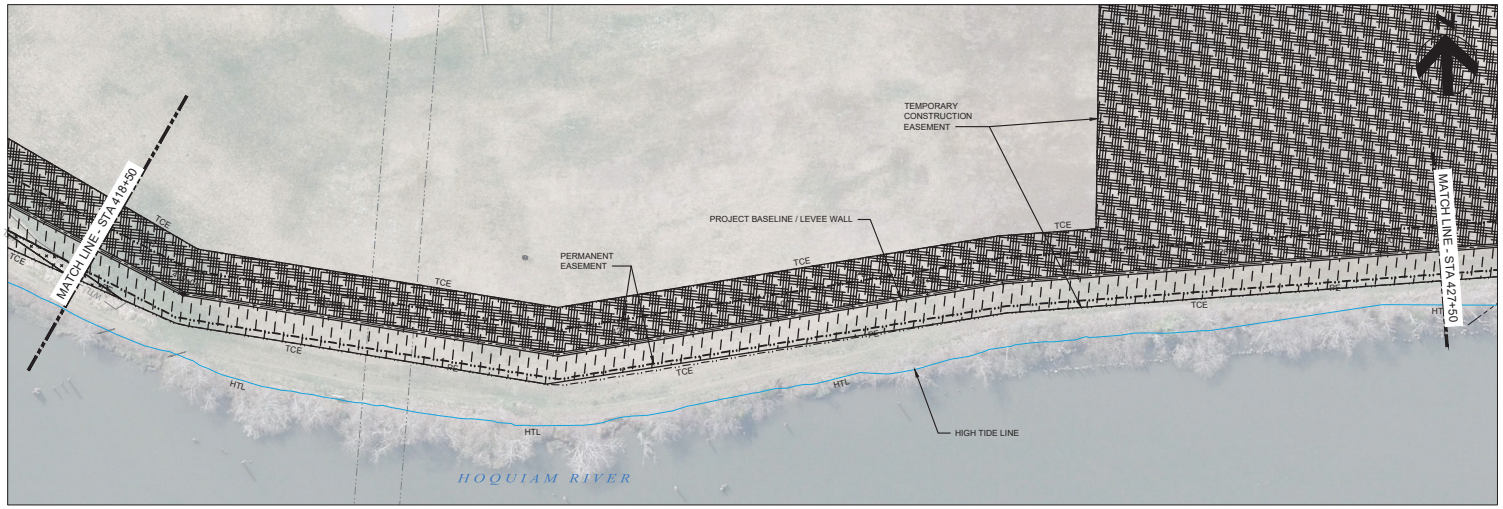
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 45 of 60

DATE: 4/5/2024



PLAN

SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
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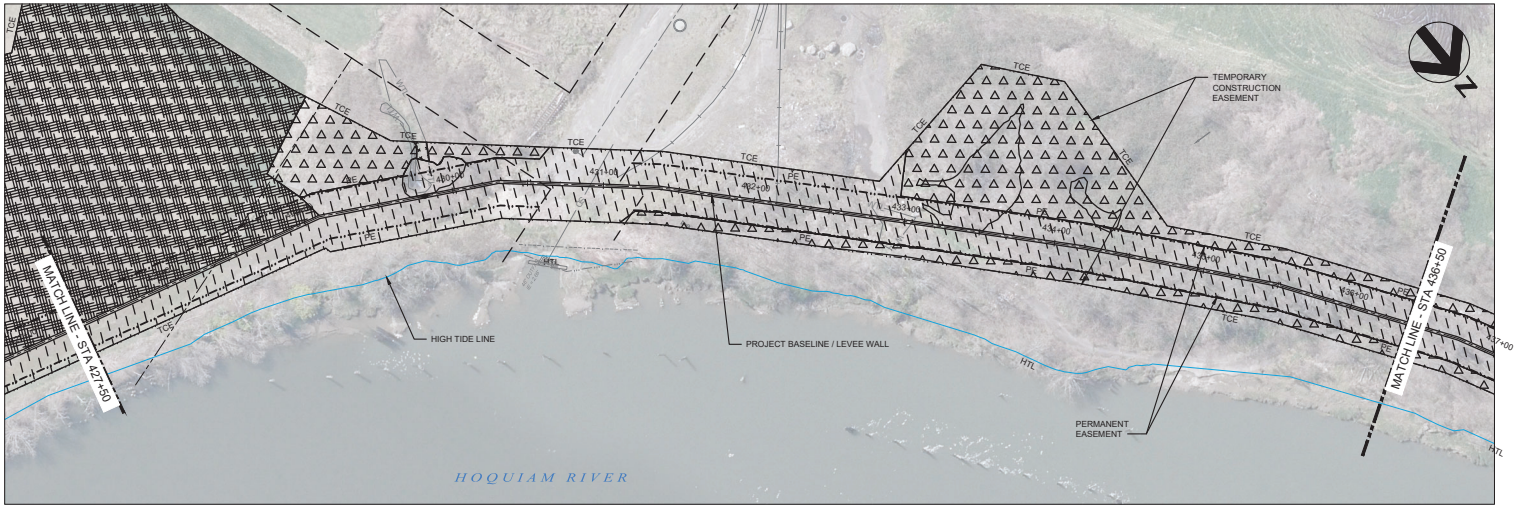
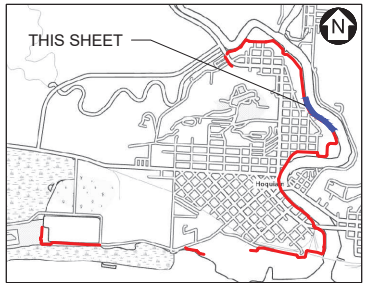
	DAMP NATIVE SEED MIX	.002
	SEEDED LAWN	2.23
	UPLAND FOREST MIX	.5



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 46 of 60

DATE: 4/5/2024

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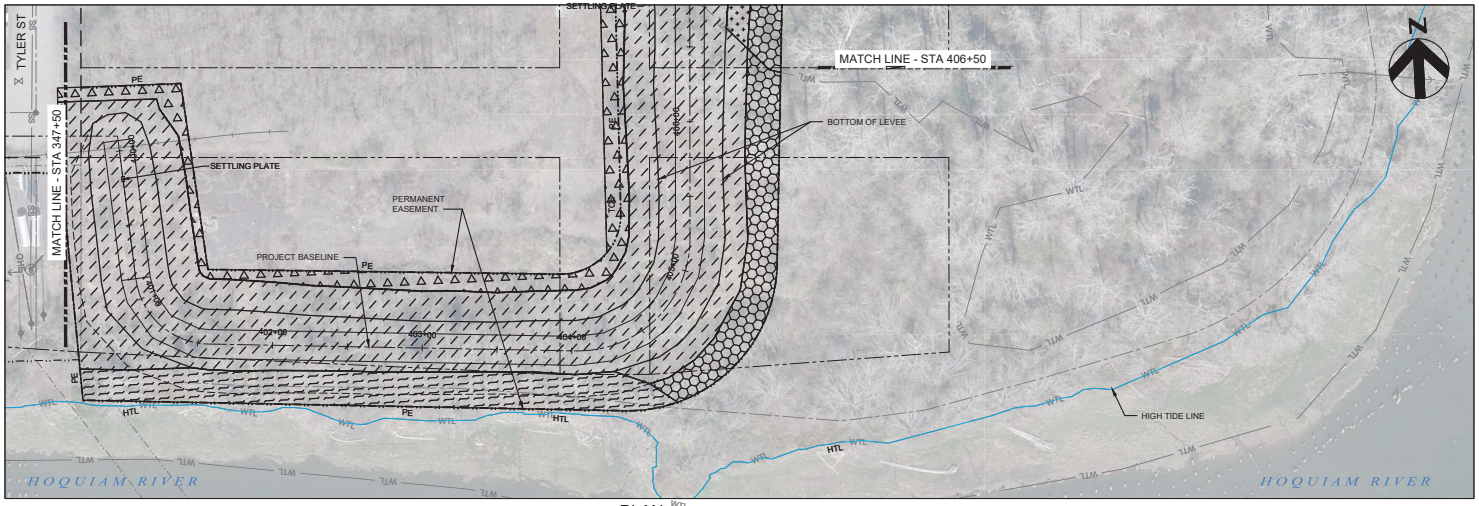


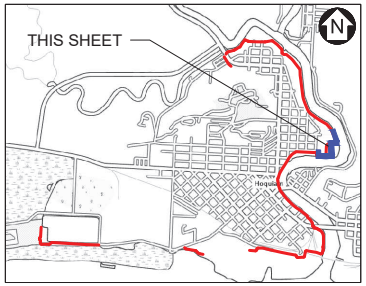
PLAN

SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	2.74
	DAMP NATIVE SEED MIX	.26
	TIDAL SEED MIX	.34
	WETLAND FOREST MIX	.45
	UPLAND FOREST MIX	.5

PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 47 of 60

DATE: 4/5/2024

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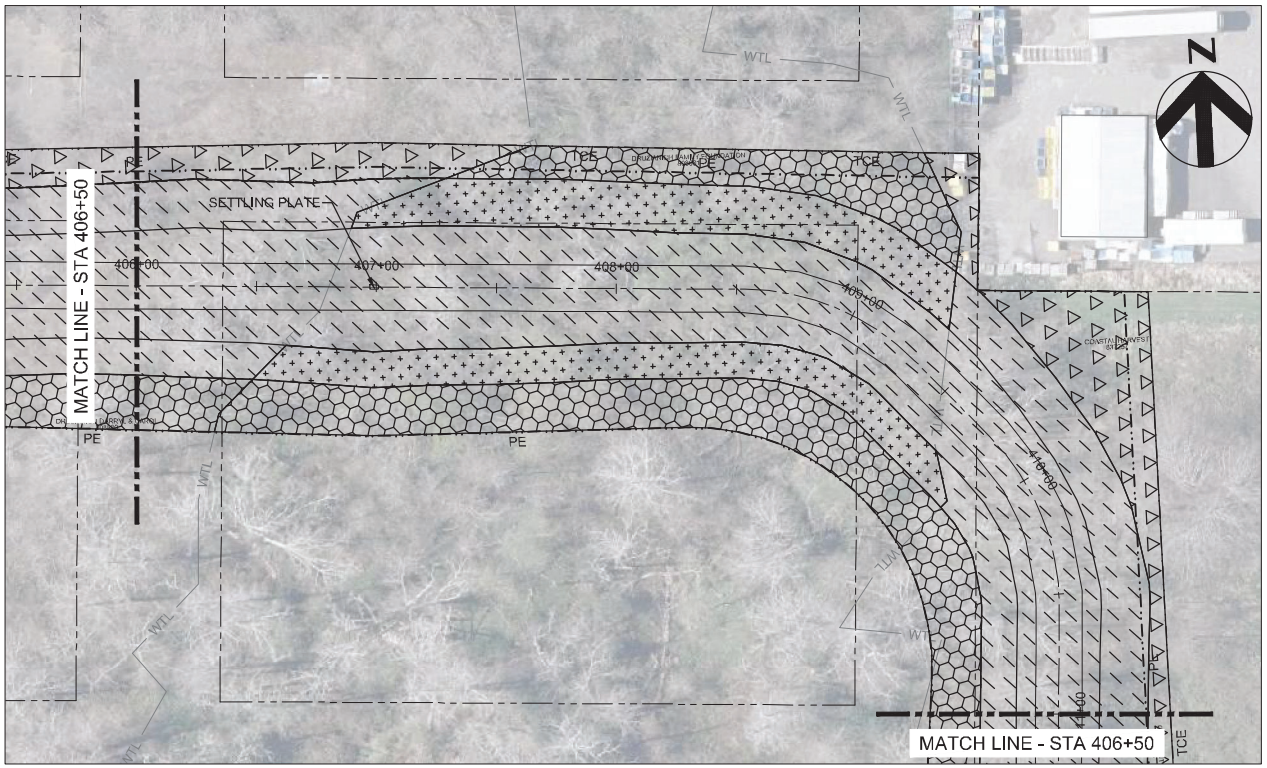
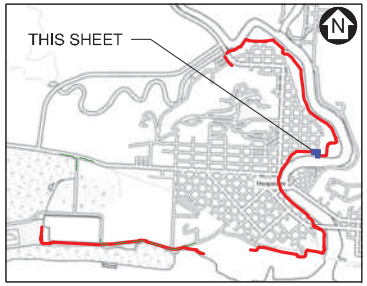


PLAN

0 20 40 80
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	2.74
	DAMP NATIVE SEED MIX	.26
	TIDAL SEED MIX	.34
	WETLAND FOREST MIX	.45
	UPLAND FOREST MIX	.5



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

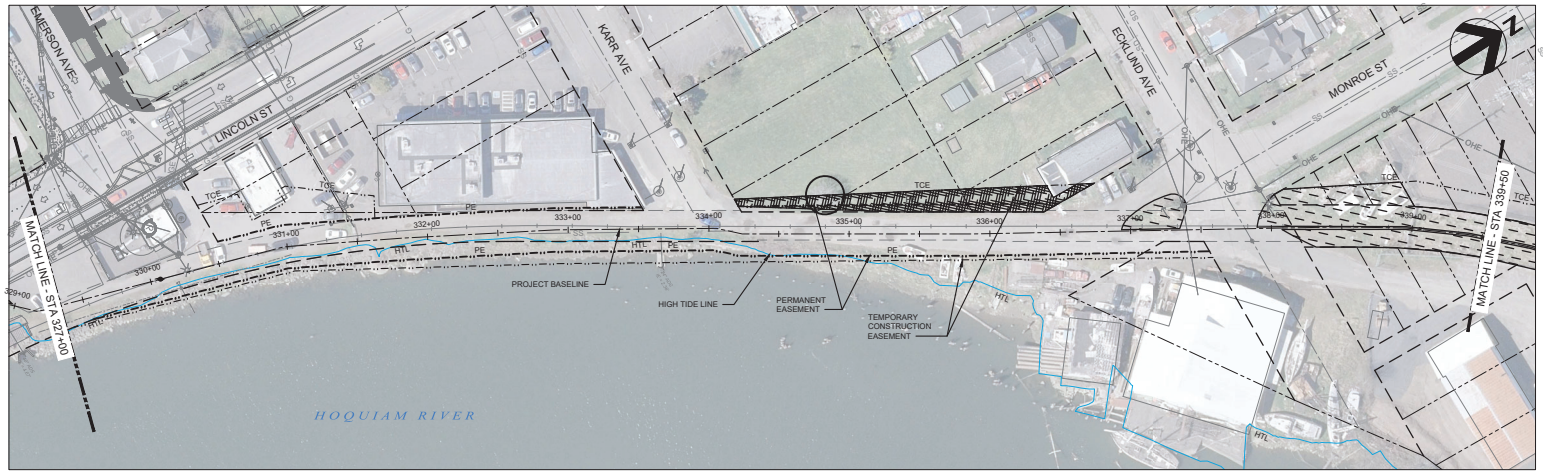
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 48 of 60

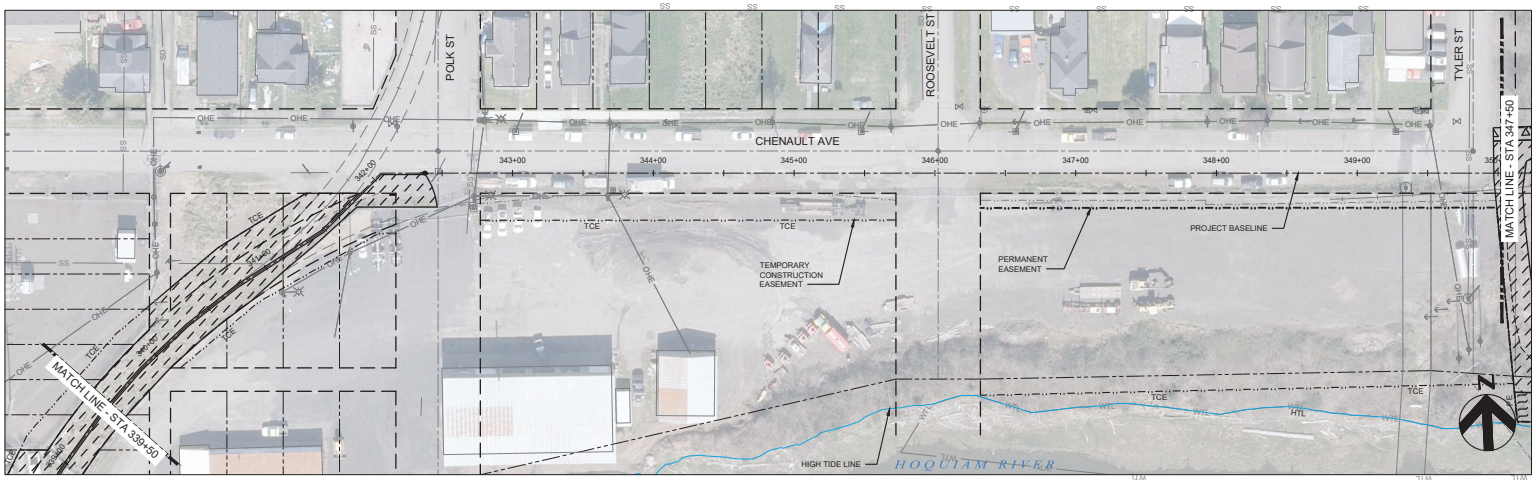
DATE: 4/5/2024



PLAN

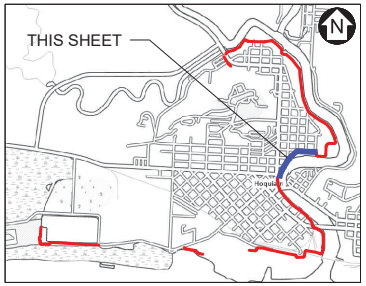
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	.34
	SEEDED LAWN	.07



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 49 of 60

DATE: 4/5/2024

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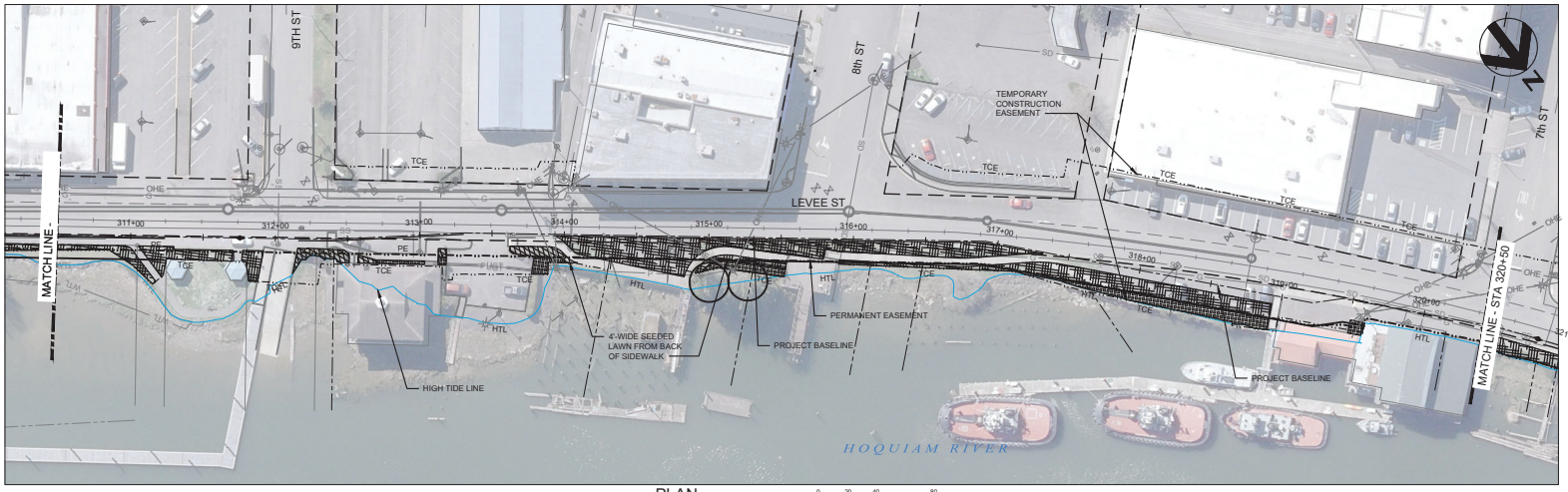
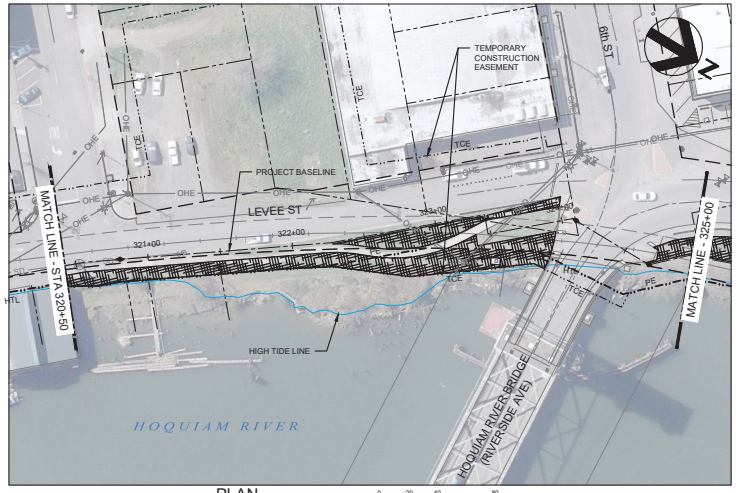


PLAN

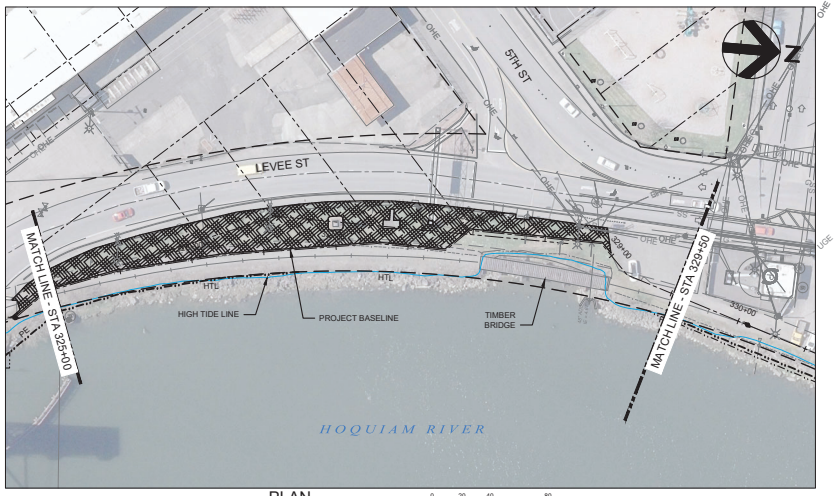
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	SEEDED LAWN	.48
	NATIVE SHRUB MIX	.03
	ORNAMENTAL GRASS MIX	.1



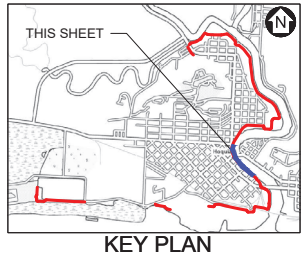
PLAN

SCALE IN FEET



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 50 of 60

DATE: 4/5/2024

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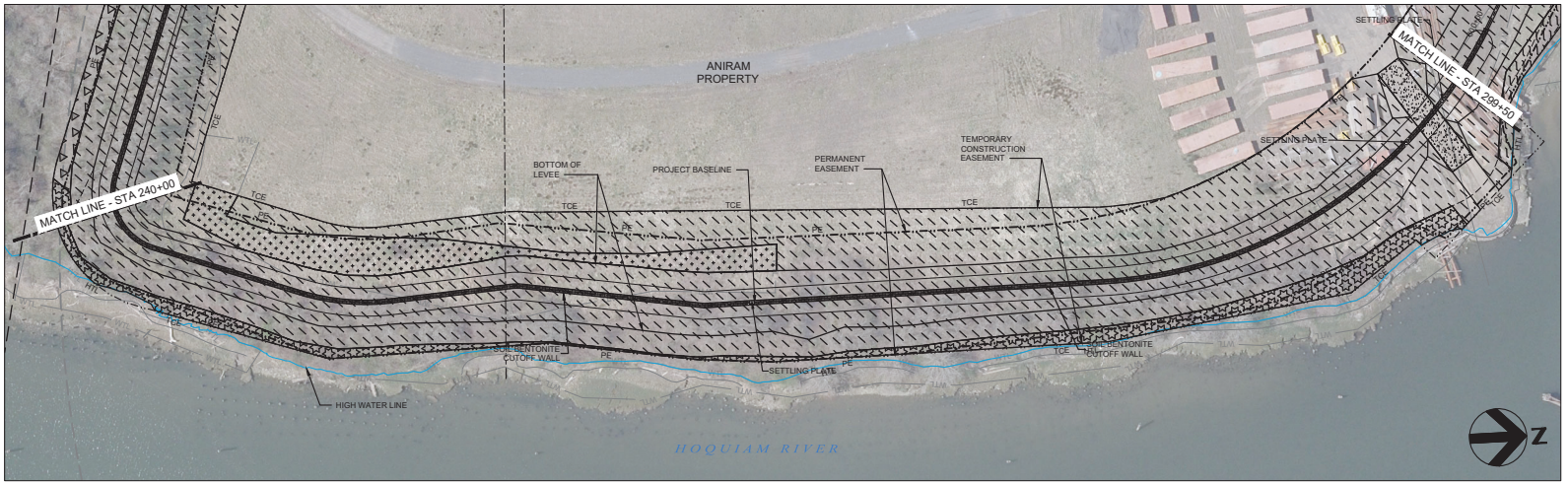
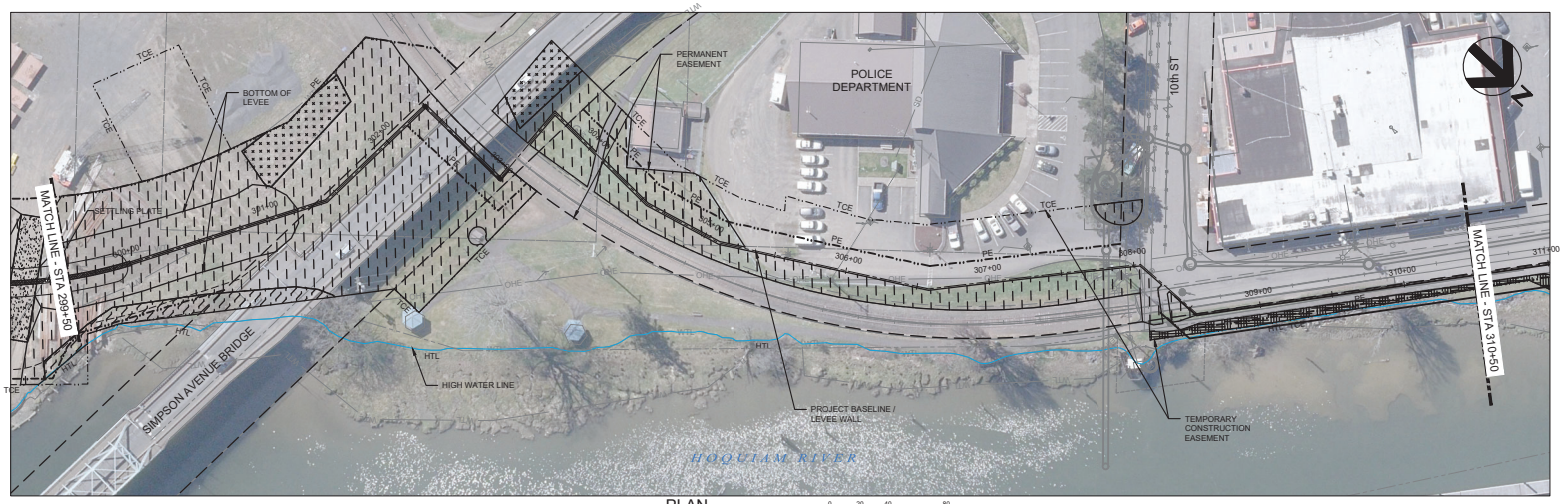


PLAN

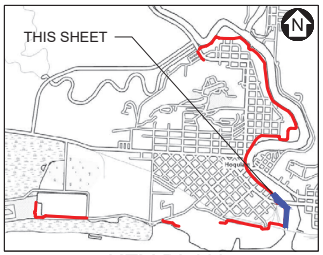
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	2.91
	DAMP NATIVE SEED MIX	.24
	TIDAL SEED MIX	.05
	SEEDED LAWN	.03
	SHORELINE SHRUB MIX	.18



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

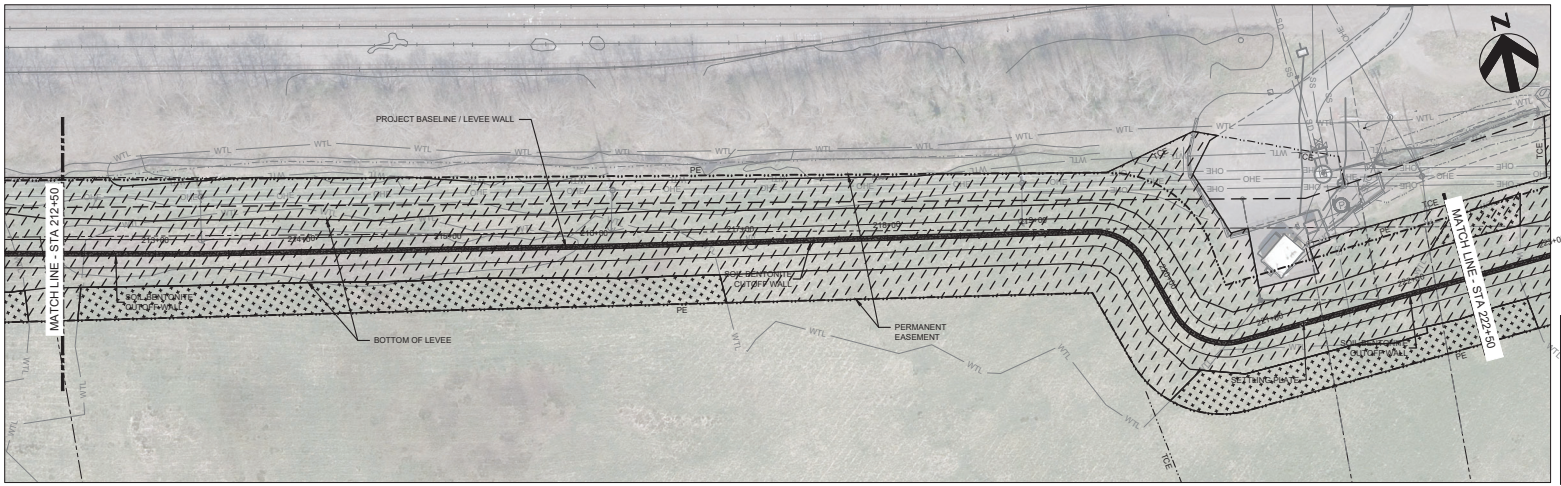
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 51 of 60

DATE: 4/5/2024



PLAN

SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
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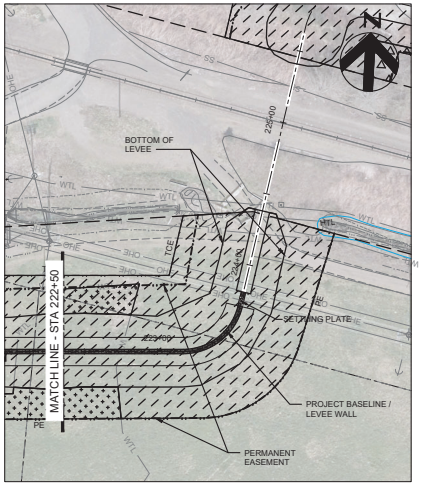
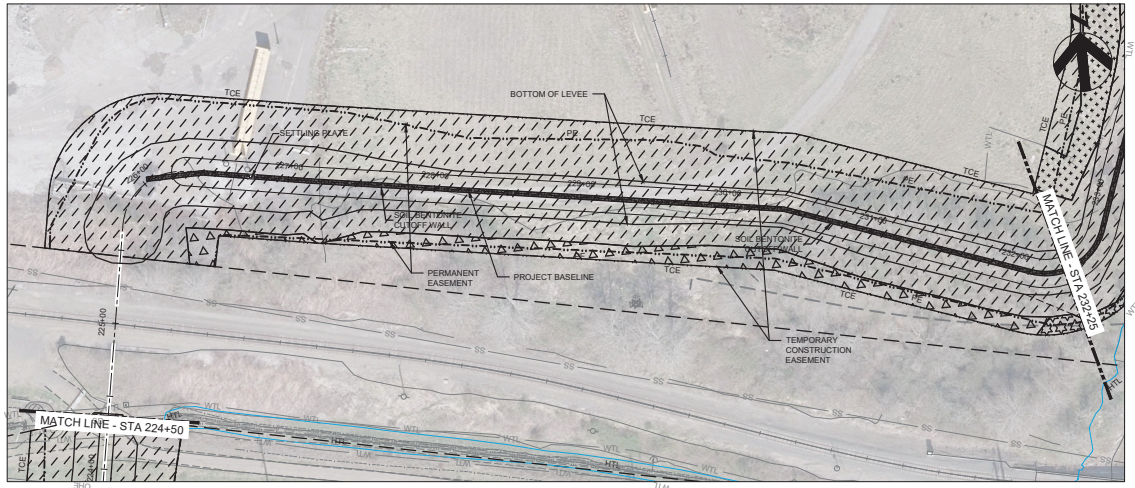
	DAMP NATIVE SEED MIX	.36
	UPLAND FOREST MIX	.14



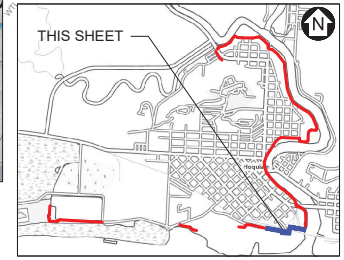
PLAN

SCALE IN FEET



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

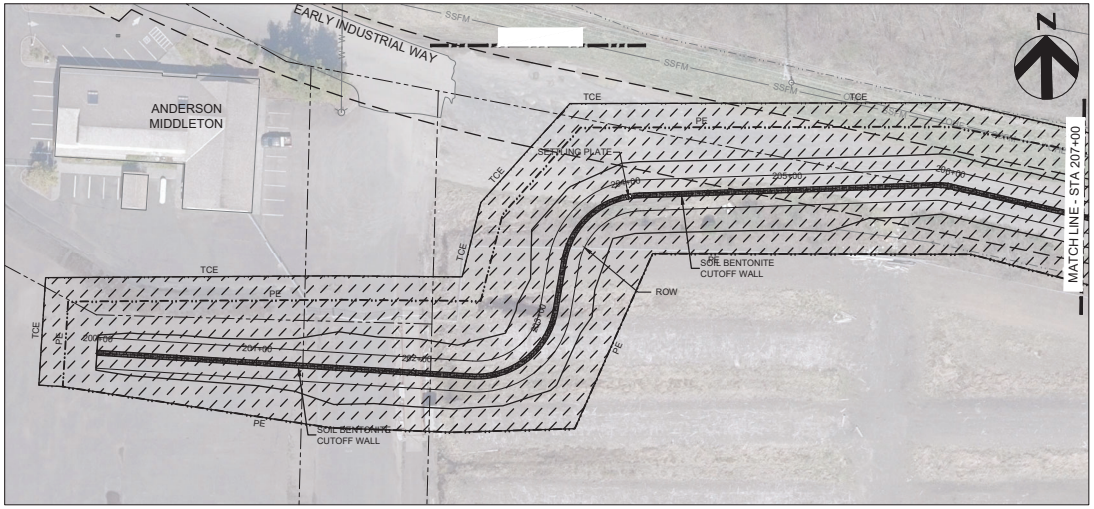
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 52 of 60

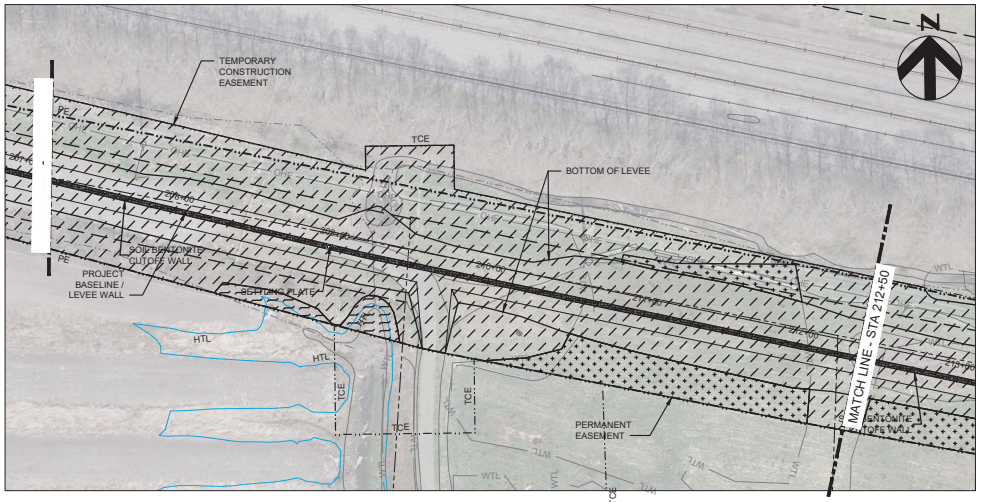
DATE: 4/5/2024



PLAN

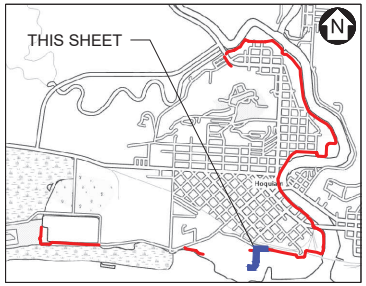
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	2.72
	DAMP NATIVE SEED MIX	.15



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

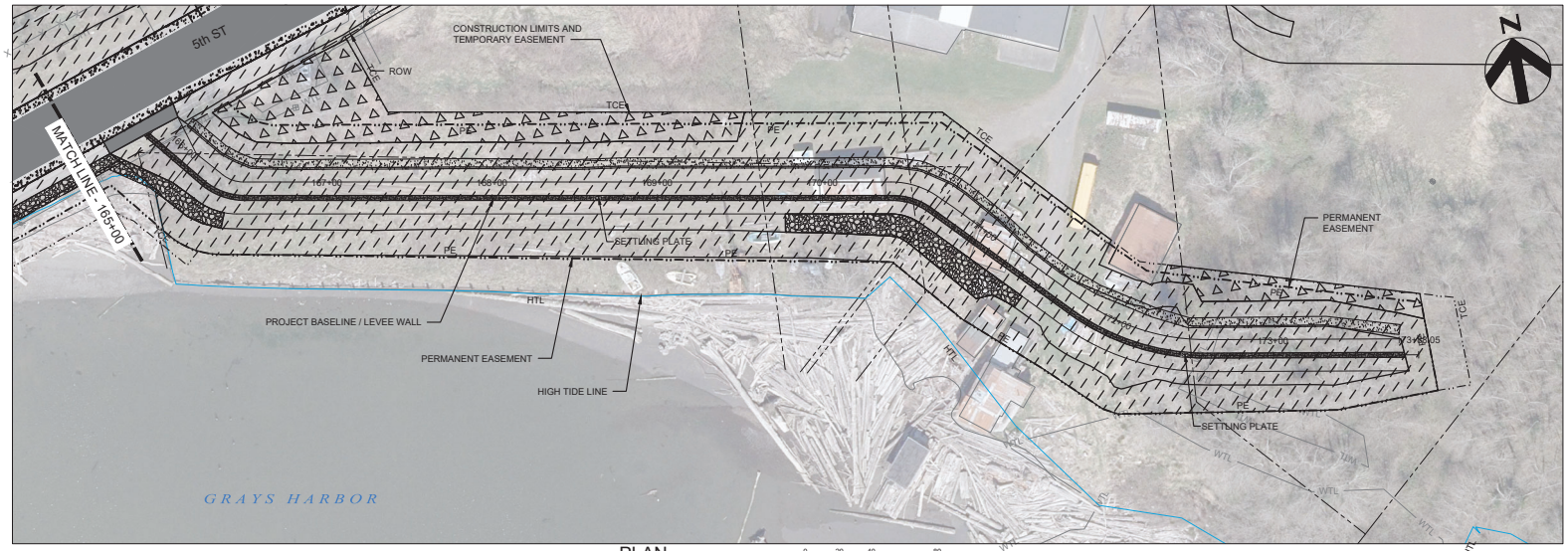
Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 53 of 60

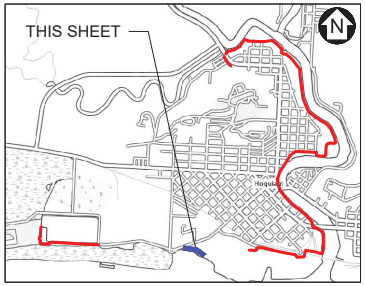
DATE: 4/5/2024



PLAN

0 20 40 80
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	1.7
	UPLAND FOREST MIX	.23



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

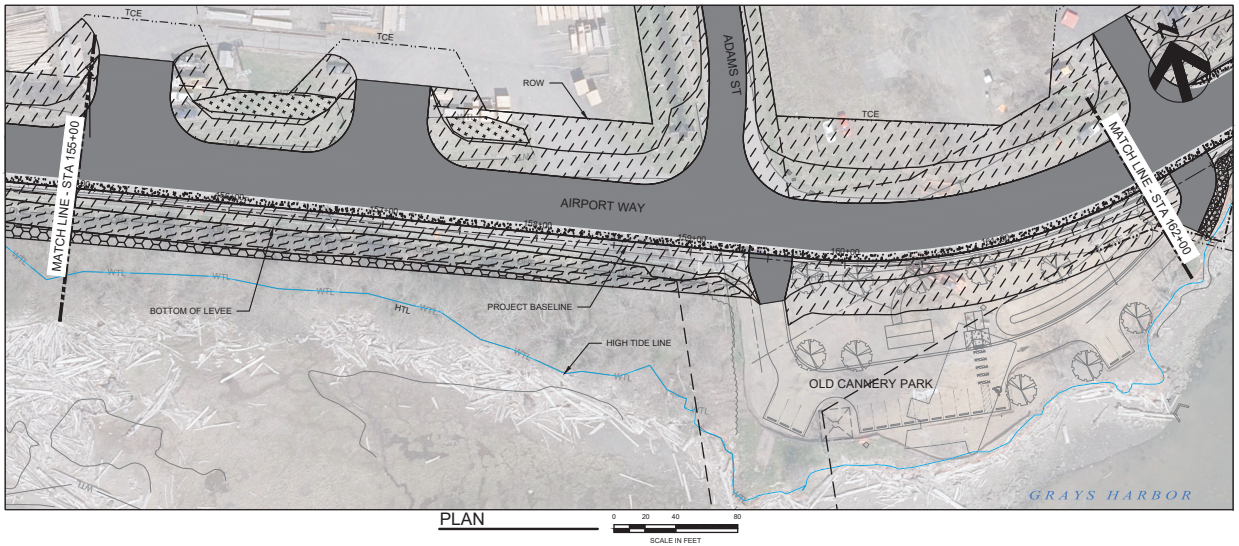
PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 54 of 60

DATE: 4/5/2024

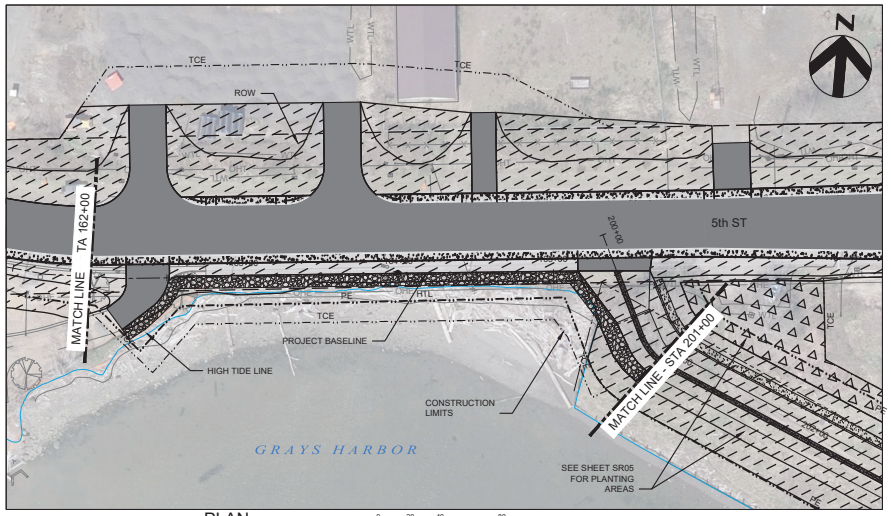
\\bel-srv03\gisdata\Projects\Washington\City_of_Hoquiam_004419\T05_NS_Levee_10315330\Map_Docs\Hoquiam\JARPA\NSLW_JARPA_New_3.aprx



PLAN

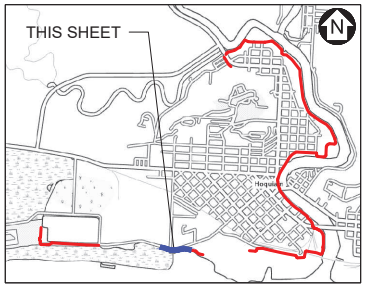
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	1.35
	DAMP NATIVE SEED MIX	.04
	TIDAL SEED MIX	.14
	WETLAND FOREST MIX	.04



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
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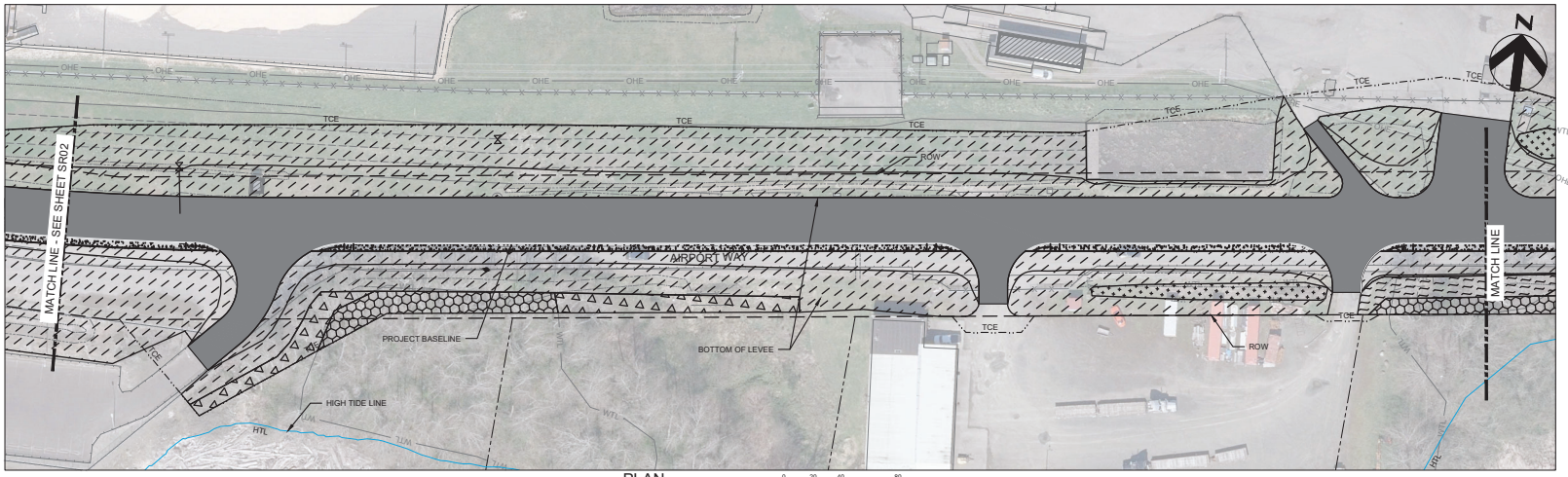
PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 55 of 60

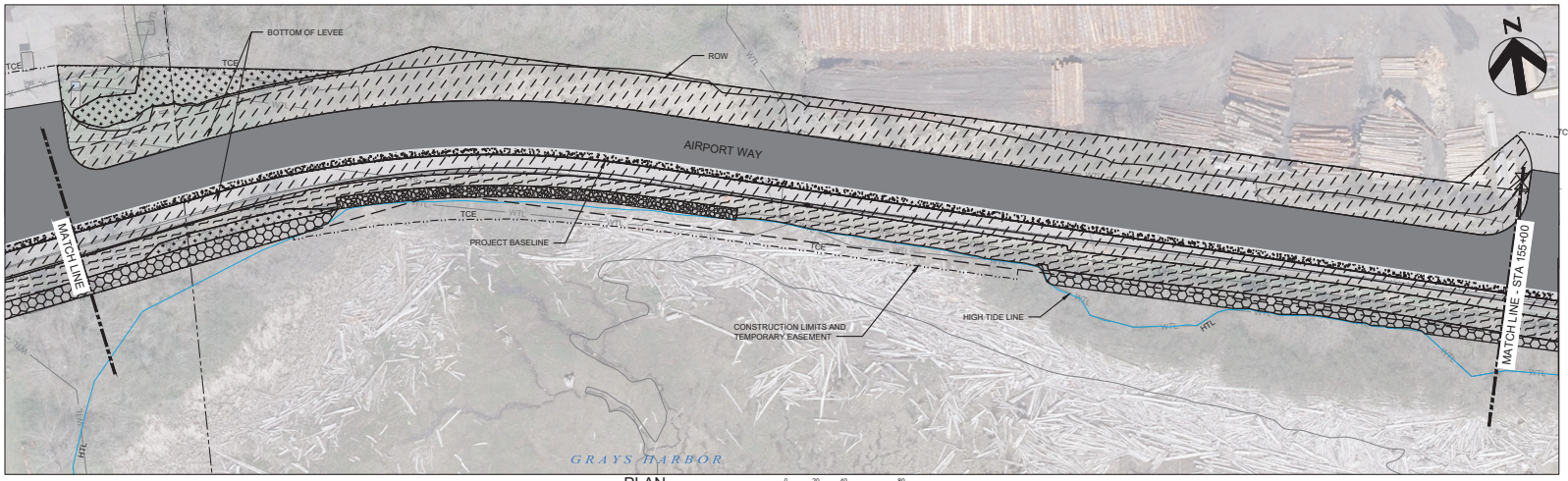
DATE: 4/5/2024



PLAN

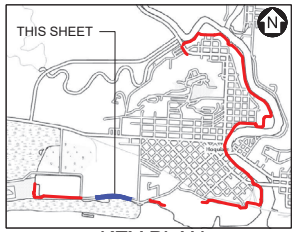
SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	1.7
	UPLAND FOREST MIX	.23



PLAN

SCALE IN FEET



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
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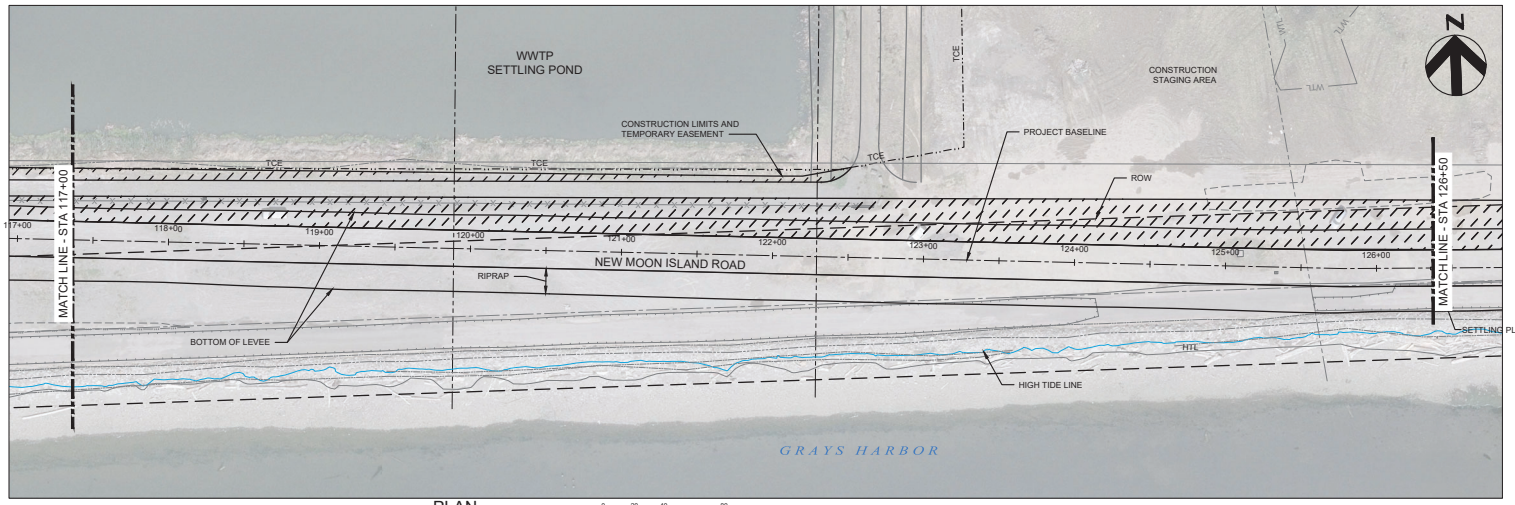
PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 56 of 60

DATE: 4/5/2024

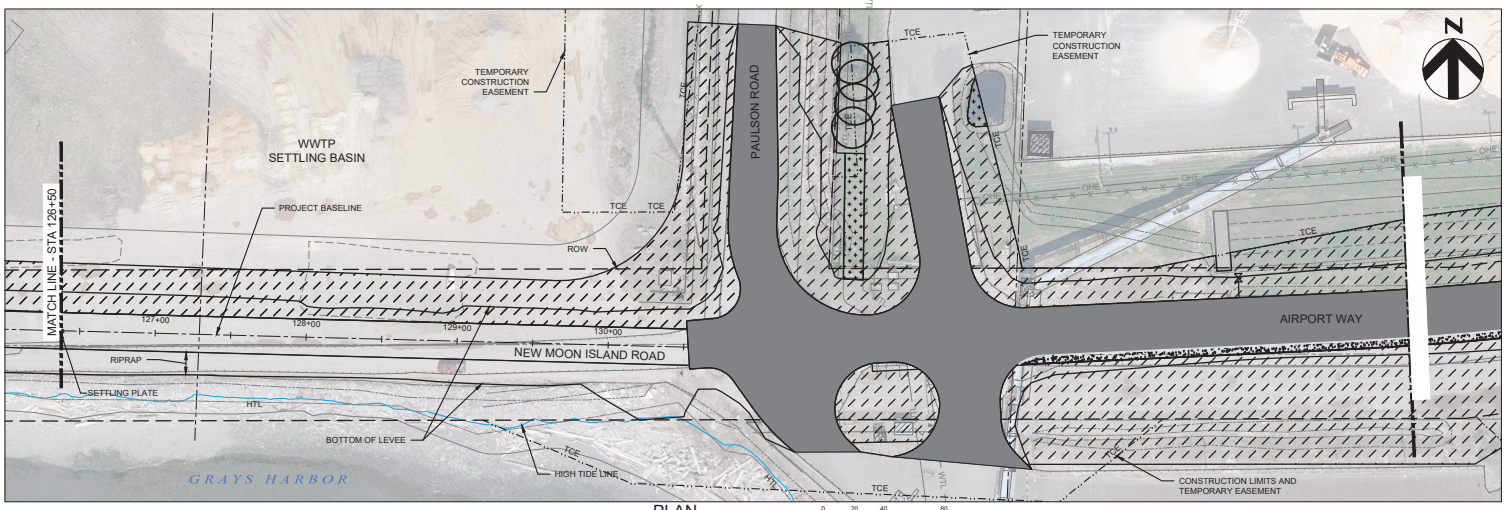
\\bel-srv03\gisdata\Projects\Washington\City_of_Hoquiam_004419\T05_NS_Levee_10315330\Map_Docs\Hoquiam\JARPA\NSLW_JARPA_New_3.aprx



PLAN

SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	1.35
	DAMP NATIVE SEED MIX	.04
	TIDAL SEED MIX	.14
	WETLAND FOREST MIX	.04



PLAN

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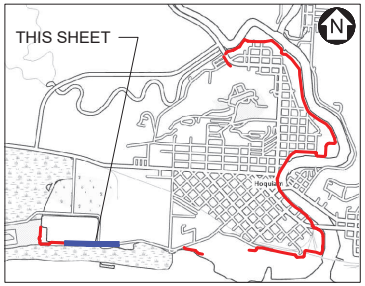

KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
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Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
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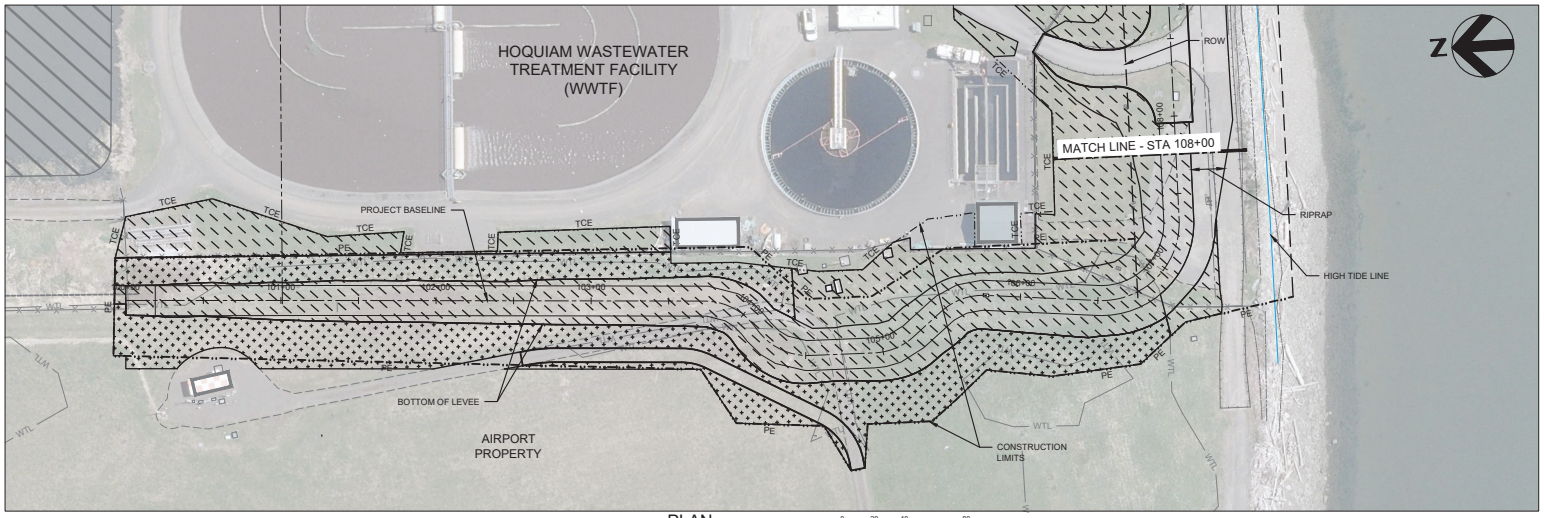
PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 57 of 60

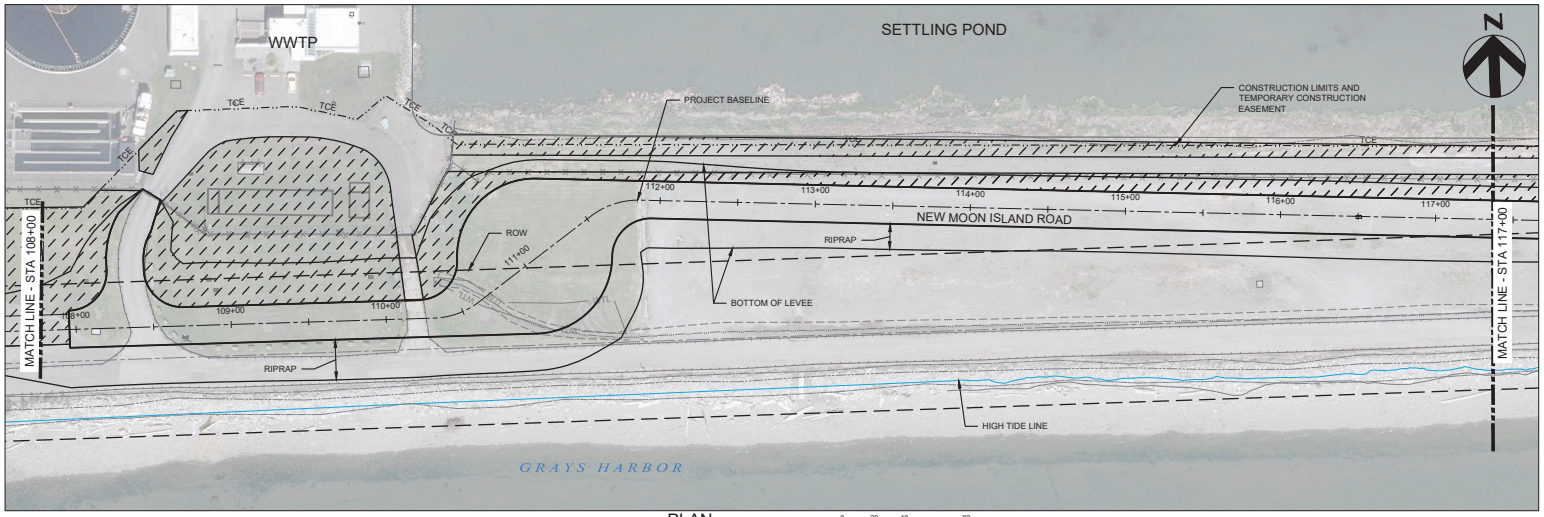
DATE: 4/5/2024



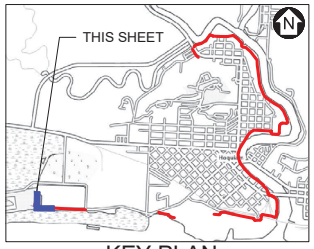
PLAN

SCALE IN FEET

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	2.77
	DAMP NATIVE SEED MIX	.13
	TIDAL SEED MIX	.31
	WETLAND FOREST MIX	.2
	UPLAND FOREST MIX	.09



PLAN



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
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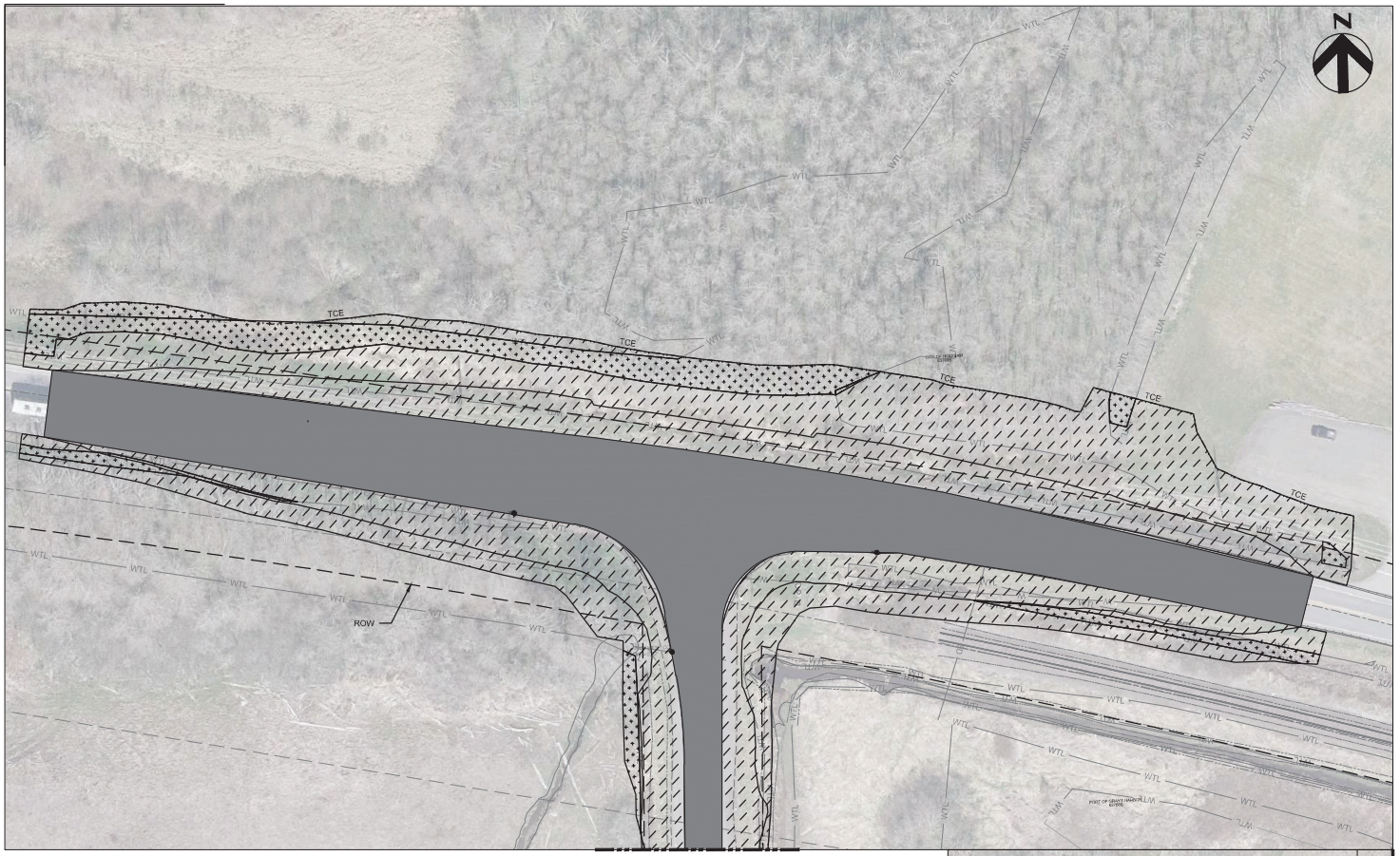
PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 58 of 60

DATE: 4/5/2024

\\bel-srv03\gisdata\Projects\Washington\City_of_Hoquiam_004419\T05_NS_Levee_10315330\Map_Docs\Hoquiam\JARPA\NSLW_JARPA_New_3.aprx



PLAN

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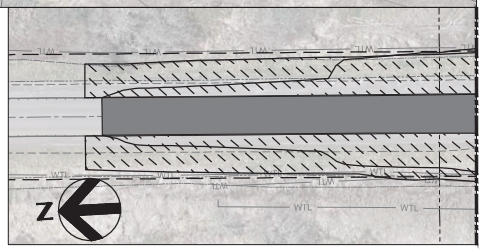
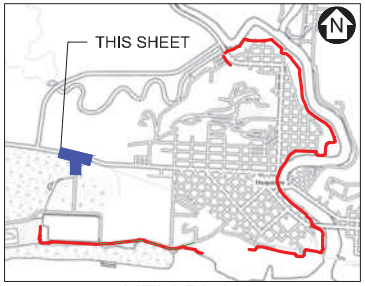
SCALE IN FEET



MATCHLINE STA 18+00,
SEE BELOW RIGHT

RESTORATION & QUANTITY TABLE (THIS SHEET ONLY)		
SYMBOL	DESCRIPTION	ACRES
	DRY UPLAND SEED MIX	1.74
	DAMP NATIVE SEED MIX	.58



KEY PLAN

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

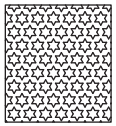
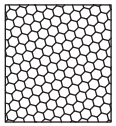
PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

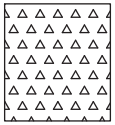
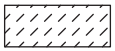
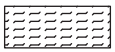
NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 59 of 60

DATE: 4/5/2024

PLANT SCHEDULE

PLANT MIXES	BOTANICAL NAME	COMMON NAME	AREA % OF SF	SPACING	SIZE
SHORELINE SHRUB MIX  TOTAL AREA: 0.18 ACRES	TREES				
	AMELANCHIER ALNIFOLIA	SERVICEBERRY	10%	4' OC	15" HT
	GAUTHERIA SHALLON	SALAL	10%	4' OC	15" HT
	HOLODISCUS DISCOLOR	OCEAN SPRAY	10%	4' OC	15" HT
	MYRICA CALIFORNICA	WAX MYRTLE	10%	4' OC	15" HT
	ROSA NUTKANA	NOOTKA ROSE	10%	4' OC	15" HT
	SAMBUCUS RACEMOSA	RED ELDERBERRY	10%	4' OC	15" HT
	SALIX SCOLERIANA	SCOULERS WILLOW	15%	4' OC	36" LIVE STAKE
	SALIX SITCHENSIS	SITKA WILLOW	15%	4' OC	36" LIVE STAKE
	SYMPHORICARPUS ALBUS	SNOWBERRY	10%	4' OC	15" HT
	EMERGENT				
	ABRONIA LATIFOLIA	COSTAL SAND VERBENA	25%	2' OC	PLUG
	ARMERIA MARITIMIA	SEA THRIFT	25%	2' OC	PLUG
	FRAGARIA CHILOENSIS	COASTAL STRAWBERRY	25%	2' OC	PLUG
	LEYMUS MOLLIS	DUNEGRASS	25%	2' OC	PLUG
LOW / WETLAND FOREST MIX  TOTAL AREA: 1.50 ACRES	TREES				
	ALNUS RUBRA	RED ALDER	10%	20' OC	1" CAL
	FRAXINUS LATIFOLIA	OREGON ASH	20	12' OC	1" CAL
	PICEA SITCHENSIS	SITKA SPRUCE	15%	12' OC	4' HT
	POPULUS TRICHOCARPA	BLACK COTTONWOOD	20%	12' OC	1" CAL
	RHAMNUS PURSHIANA	CASCARA	10%	20' OC	1" CAL
	SALIX LUCIDA VAR LASIANDRA	SITKA SPRUCE	20%	12' OC	1" CAL
	THUJA PLICATA	WESTERN RED CEDAR	15%	12' OC	4' HT
	SHRUBS				
	CORNUS SERICEA	RED-TWIG DOGWOOD	15%	4' OC	36" LIVE STAKE
	CRATAGEGUS DOUGLASII	BLACK HAWTHORNE	5%	4' OC	15" HT
	LONICERA INVOLUCRATA	TWINBERRY	10%	4' OC	15" HT
	PHYSOCARPUS CAPITATUS	NINEBARK	10%	4' OC	15" HT
	ROSA NUTKANA	NOOTKA ROSE	10%	4' OC	15" HT
	ROSA PISOCARPUS	CLUSTERED ROSE	15%	4' OC	15" HT
	RUBUS SPECTABILIS	SALMONBERRY	5%	4' OC	15" HT
	SALIX SCOULERIANA	SCOULERS WILLOW	15%	4' OC	36" LIVE STAKE
	SALIX SITCHENSIS	SITKA WILLOW	15%	4' OC	36" LIVE STAKE
	EMERGENT				
	LYSICHITON AMERICANUM	SKUNK CABBAGE	50%	2' OC	PLUG
	OANATHE SARMENTOSA	WATER PARSLEY	50%	2' OC	PLUG
NATIVE SHRUB MIX  TOTAL AREA: 0.06 ACRES	SHRUBS				
	ACER CIRCINATUM	VINE MAPLE	5%	4' OC	15" HT
	CORYLUS CORNUTA	BEAKED HAZELNUT	10%	4' OC	15" HT
	HOLODISCUS DISCOLOR	OCEAN SPRAY	10%	4' OC	15" HT
	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	15%	4' OC	15" HT
	MALUS FUSCA	PACIFIC CRABAPPLE	5%	4' OC	15" HT
	OEMLERIA CERASIFORMIS	INDIAN PLUM	10%	4' OC	15" HT
	RIBES SANGUIENUM	RED FLOWERING CURRANT	10%	4' OC	15" HT
	ROSA NUTAKA	NOOTKA ROSE	10%	4' OC	15" HT
	RUBUS PARVIFLORUS	THIMBLEBERRY	5%	4' OC	15" HT
	SYMPHORICARPOS ALBUS	SNOWBERRY	15%	4' OC	15" HT

PLANT MIXES	BOTANICAL NAME	COMMON NAME	AREA % OF SF	SPACING	SIZE
NATIVE SHRUB MIX (CONTINUED)	GROUNDCOVERS				
	GAULTHERIA SHALLON	SALAL	10%	4' OC	15" HT
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	10%	4' OC	15" HT
UPLAND FOREST MIX  TOTAL AREA: 1.57 ACRES	TREES				
	ACER MACROPHYLLUM	BIG-LEAF MAPLE	20%	12' OC	1" CAL
	ALNUS RUBRA	RED ALDER	10%	12' OC	1" CAL
	POPULUS TRICHOCARPA	BLACK COTTONWOOD	10%	12' OC	1" CAL
	POPULUS TREMULOIDES	QUAKING ASPEN	5%	12' OC	1" CAL
	PRUNUS EMARGINATA	BITTER CHERRY	10%	12' OC	1" CAL
	PSUEDOTSUGA MENZIESII	DOUGLAS FIR	20%	12' OC	4' HT
	QUERCUS GARRYANA	GARRY OAK	5%	12' OC	1" CAL
	THUJA PLICATA	WESTERN RED CEDAR	20%	12' OC	4' HT
	SHRUBS				
	ACER CIRCINATUM	VINE MAPLE	10%	4' OC	4' HT
	AMELANCHIER ALNIFOLIA	SERVICEBERRY	5%	4' OC	15" HT
	CORYLUS CORNUTA	BEAKED HAZELNUT	5%	4' OC	15" HT
	HOLODISCUS DISCOLOR	OCEAN SPRAY	5%	4' OC	15" HT
	OEMLERIA CERASIFORMIS	INDIAN PLUM	10%	4' OC	15" HT
	ROSA GYMNOCARPA	BALDHIP ROSE	15%	4' OC	15" HT
	ROSA NUTKANA	NOOTKA ROSE	15%	4' OC	15" HT
	ROSA PISOCARPA	CLUSTERED ROSE	15%	4' OC	15" HT
	RUBUS PARVIFLORUS	THIMBLEBERRY	10%	4' OC	15" HT
	SYMPHORICARPOS ALBUS	COMMON SNOWBERRY	10%	4' OC	15" HT
DRY UPLAND SEED MIX  TOTAL AREA: 27.83 ACRES	LOW-GROW, DRY GRASS SEED BLEND				
WETLAND SEED MIX  TOTAL AREA: 2.06 ACRES	WET, EMERGENT GRASS SEED BLEND				
TIDAL SEED MIX  TOTAL AREA: 1.49 ACRES	WET, SALT-TOLERANT GRASS SEED BLEND				

SITE RESTORATION PLAN

APPLICANT: City of Hoquiam
REFERENCE #: NWS-2022-144
ADJACENT PROPERTY OWNERS:
See JARPA Attachment C

NOTES:

Project Name: North Shore Levee West
DATUM: North American Datum 1983
LAT/LONG:
Northern Project Terminus: 46.992717 N lat. / -123.893686 W long.
Western Project Terminus: 46.981925 N lat. / -123.917947 W long.

PROPOSED PROJECT: Construct Flood Protection Levee and Floodwall

NEAR/AT: Hoquiam
COUNTY: Grays Harbor
STATE: Washington

SHEET: 60 of 60

DATE: 4/5/2024

WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) [help]

US Army Corps of Engineers ®
Seattle District

AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

_____

_____

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): _____

_____

Attachment A:
For additional property owner(s) [help]

Use this attachment only if you have more than one property owner. Complete one attachment for each additional property owner impacted by the project.

Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Anderson and Middleton Properties			
2. Mailing Address (Street or PO Box)			
PO Box 240			
3. City, State, Zip			
Hoquiam, WA, 98550-0140			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
56400600201, 56400800001, 56400900100			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-012 rev. 10/2016

WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) [help]

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Seattle District

AGENCY USE ONLY

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Tax Parcel #(s): _____

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Attachment A:
For additional property owner(s) [help]

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): _____

_____

Use this attachment only if you have more than one property owner. Complete one attachment for each additional property owner impacted by the project.

Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Aniram Properties LLC			
2. Mailing Address (Street or PO Box)			
PO BOX 307			
3. City, State, Zip			
Aberdeen, WA, 98520			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
51807000003, 51807000005, 56400300100, 56401500101, 56401500300			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) [help]

US Army Corps of Engineers ®
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TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West___

Location Name (if applicable): _____

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For additional property owner(s) [help]

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Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Anthony Cemelich			
2. Mailing Address (Street or PO Box)			
4507 NW Lincoln Ave			
3. City, State, Zip			
Vancouvar, WA, 98663			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
56400900302, 56401800202			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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WASHINGTON STATE
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US Army Corps of Engineers ®
Seattle District

AGENCY USE ONLY

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Agency reference #: _____

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Attachment A:
For additional property owner(s) [help]

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): _____

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Use this attachment only if you have more than one property owner. Complete one attachment for each additional property owner impacted by the project.

Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Coastal Harvest			
2. Mailing Address (Street or PO Box)			
PO Box 616			
3. City, State, Zip			
Hoquiam, WA, 98550			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100132005			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) [help]

US Army Corps of Engineers ®
Seattle District

AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

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Attachment A:
For additional property owner(s) [help]

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): _____

_____

Use this attachment only if you have more than one property owner. Complete one attachment for each additional property owner impacted by the project.

Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Darryl and Carol Druzianich			
2. Mailing Address (Street or PO Box)			
49 Wenzel Slough Road			
3. City, State, Zip			
Elma, WA, 98541			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100133001			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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Location Name (if applicable): _____

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Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Debra A Dowse & Carol B McFall			
2. Mailing Address (Street or PO Box)			
607 Fir St.			
3. City, State, Zip			
Hoquiam, WA, 98550			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
54800101101			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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WASHINGTON STATE
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Project Name: North Shore Levee West___

Location Name (if applicable): _____

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Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Druzianich Family Foundation			
2. Mailing Address (Street or PO Box)			
Darryl Druzianich			
3. City, State, Zip			
Aberdeen, WA, 98520			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100133013			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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WASHINGTON STATE
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US Army Corps of Engineers ®
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Project Name: North Shore Levee West

Location Name (if applicable): _____

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Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
G H County			
2. Mailing Address (Street or PO Box)			
310 W Spruce Street, Suite 100			
3. City, State, Zip			
Montesano, WA, 98563			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
56401800302, 517100132008			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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TO BE COMPLETED BY APPLICANT [help]

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Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Hoquiam River RV Park LLC			
2. Mailing Address (Street or PO Box)			
1050 Rangley Drive			
3. City, State, Zip			
Colorado Springs, CO, 80921			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100221001, 518103543002			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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Seattle District

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Tax Parcel #(s): _____

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Attachment A:
For additional property owner(s) [help]

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): _____

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Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Immanuel Baptist Church			
2. Mailing Address (Street or PO Box)			
PO Box 703			
3. City, State, Zip			
Hoquiam, WA, 98550			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100132006			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Jan Danby and Carol Trust			
2. Mailing Address (Street or PO Box)			
5433 Sunstone Ave			
3. City, State, Zip			
Rancho Cucamonga, CA, 91701			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100221005, 517100221020			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Kevin Coleburn			
2. Mailing Address (Street or PO Box)			
1262 State Rout 6			
3. City, State, Zip			
Raymond, WA, 98577			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
54403100100			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Liikane Mart			
2. Mailing Address (Street or PO Box)			
C/O Mart Liikane			
3. City, State, Zip			
Everett, WA, 98203			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
56401800501, 517100244002			
Signature of Property Owner			

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

_____ _____

Printed Name Signature

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-012 rev. 10/2016

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Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Little Hoquiam Shipyard, Inc			
2. Mailing Address (Street or PO Box)			
Attn – Phil Christopherson			
3. City, State, Zip			
Hoquiam, WA, 98550			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100211005, 517100212001, 518103543001, 56402200202			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Paul Willis			
2. Mailing Address (Street or PO Box)			
PO Box 457			
3. City, State, Zip			
Oakville, WA, 98568			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100132009, 517100214002, 56402200201			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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_____

_____

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): _____

_____

Attachment A:
For additional property owner(s) [help]

Use this attachment only if you have more than one property owner. Complete one attachment for each additional property owner impacted by the project.

Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Port of Grays Harbor			
2. Mailing Address (Street or PO Box)			
PO Box 660			
3. City, State, Zip			
Aberdeen, WA, 98520			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
56400400100, 56400600102, 56400600103, 56400800002, 56401000101, 56401000400, 564010008015640110020 3, 56401200100, 517100331007			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-012 rev. 10/2016

WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) [help]

US Army Corps of Engineers ®
Seattle District

AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

_____

_____

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West___

Location Name (if applicable): _____

_____

Attachment A:
For additional property owner(s) [help]

Use this attachment only if you have more than one property owner. Complete one attachment for each additional property owner impacted by the project.

Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
State of Washington			
2. Mailing Address (Street or PO Box)			
Olympia			
3. City, State, Zip			
Olympia, WA, 98501			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
54600100100, 54600102600, 56401800301			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

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Tax Parcel #(s): _____

_____

_____

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West___

Location Name (if applicable): _____

_____

Attachment A:
For additional property owner(s) [help]

Use this attachment only if you have more than one property owner. Complete one attachment for each additional property owner impacted by the project.

Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Sunset West Inc			
2. Mailing Address (Street or PO Box)			
1621 Olympic Street			
3. City, State, Zip			
Aberdeen, WA, 98520			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100221011			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-012 rev. 10/2016

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Joint Aquatic Resources Permit Application (JARPA) [help]

US Army Corps of Engineers ®
Seattle District

AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

_____

_____

Attachment A:
For additional property owner(s) [help]

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): _____

_____

Use this attachment only if you have more than one property owner. Complete one attachment for each additional property owner impacted by the project.

Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
Timberland Bank			
2. Mailing Address (Street or PO Box)			
624 Simpson Ave			
3. City, State, Zip			
Hoquiam, WA, 98550			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
56401800400			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-012 rev. 10/2016

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AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

_____

_____

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West___

Location Name (if applicable): _____

_____

Attachment A:
For additional property owner(s) [help]

Use this attachment only if you have more than one property owner. Complete one attachment for each additional property owner impacted by the project.

Signatures of property owners are not needed for repair or maintenance activities on existing rights-of-way or easements.

Use black or blue ink to enter answers in white spaces below.

1. Name (Last, First, Middle) and Organization (if applicable)			
USA			
2. Mailing Address (Street or PO Box)			
911 NE 11th Avenue			
3. City, State, Zip			
Portland, OR, 97232			
4. Phone (1)	**5.** Phone (2)	**6.** Fax	**7.** E-mail
Address or tax parcel number of property you own:			
517100331005			
Signature of Property Owner			
I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.			
_____ Printed Name		_____ Signature	

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-012 rev. 10/2016

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Seattle District

AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

_____

_____

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): Offsite Mitigation Site

Attachment B:
For additional project location(s) [help]

Use this attachment only if you have more than one project location.

Use a separate form for **each** additional location.

Use black or blue ink to enter answers in white spaces below.

1. Indicate the type of ownership of the property. (Check all that apply.) [help]

☒ Private
☐ Federal
☐ Publicly owned (state, county, city, special districts like schools, ports, etc.)
☐ Tribal
☐ Department of Natural Resources (DNR) – managed aquatic lands (Complete JARPA Attachment E)

2. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 16) [help]

The offsite mitigation area is located at 1000 Alameda Street, Hoquiam WA 98550.

3. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]

Hoquiam, WA, 98550

4. County [help]

Grays Harbor

5. Provide the section, township, and range for the project location. [help]

¼ Section	Section	Township	Range
	35	18N	10W

6. Provide the latitude and longitude of the project location. [help]

- Example: 47.03922 N lat. / -122.89142 W long (Use decimal degrees - NAD 83)

46.997200 N lat. / -123.883738 W long.

7. List the tax parcel number(s) for the project location. [help]

- The local county assessor's office can provide this information.

518103544001

8. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [help]

Name	Mailing Address	Tax Parcel # (if known)
See JARPA Attachment C.		

9. List all wetlands on or adjacent to the project location. [help]

1. Wetland M1
2. Wetland M2
3. Wetland M3
4. Wetland M4
5. Wetland M5
6. Wetland M6

10. List all waterbodies (other than wetlands) on or adjacent to the project location. [help]

East Fork Hoquiam River

11. Is any part of the project area within a 100-year flood plain? [help]

☒ Yes ☐ No ☐ Don't know

The northern portion of the site is located within Flood Zone AE (EL 14 ft).

12. Briefly describe the vegetation and habitat conditions on the property. [help]

Existing vegetation conditions on the mitigation site include early colonizing and disturbance tolerant species, including red alder, Himalayan blackberry, various grasses. Estuarine wetlands on or adjacent to the mitigation site are similar to those encountered elsewhere on the project. The estuarine wetlands are typically vegetated with Lyngbye's sedge and saltgrass. Palustrine wetlands on the mitigation site are vegetated by red alder, Pacific willow, Sitka willow, salmonberry, creeping buttercup, and soft rush.

Aquatic habitat in the East Fork Hoquiam River is similar to that found in the Hoquiam River. Flow along the East Fork Hoquiam River is generally slow and highly turbid in the reaches within the project area. Estuarine wetlands are present along the banks of the Hoquiam River. Vegetation within the estuarine wetlands consists of coastal saltgrass, Lyngbye sedge, tufted hair grass, and silverweed. The banks above the HTL are steep and are vegetated with tufted hair grass, reed canary grass, Lyngby Sedge, slough sedge, and Himalayan blackberry. The wetland substrate generally consists of silt, and the riverbed gradually slopes outwards from the foot of the steep banks. Riparian vegetation along the river includes red alder, willow species, Sitka spruce, and western red cedar.

13. Describe how the property is currently used. [help]

The property is currently vacant industrial land.

14. Describe how the adjacent properties are currently used. [help]

Adjacent properties are used for single-family residential. The neighboring parcels to the north are zoned as industrial.

15. Describe the structures (above and below ground) on the property, including their purpose(s). [help]

There are currently no above-ground structures on the property. Remnants of asphalt roads, parking lots, and historical building footprints occur throughout the property.

No visible evidence of underground storage tanks or other underground structures was observed. No underground utilities are known to exist on the property.

16. Provide driving directions from the closest highway to the project location, and attach a map. [help]

From US 101 in Hoquiam, Washington, turn north on 16th Street/Broadway Avenue. Continue north on Broadway Avenue for approximately 1.6 miles, then turn left (west) on Alameda Street. Continue on Alameda Street for 0.1 mile, and park. See Sheet 1 for a map showing the location of the mitigation site in relation to the northern and western project termini.

WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) [help]

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Seattle District

AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

_____

_____

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): Offsite Mitigation Site

Attachment B:
For additional project location(s) [help]

Use this attachment only if you have more than one project location.

Use a separate form for **each** additional location.

Use black or blue ink to enter answers in white spaces below.

1. Indicate the type of ownership of the property. (Check all that apply.) [help]

☒ Private
☐ Federal
☐ Publicly owned (state, county, city, special districts like schools, ports, etc.)
☐ Tribal
☐ Department of Natural Resources (DNR) – managed aquatic lands (Complete JARPA Attachment E)

2. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 16) [help]

The offsite mitigation area is located at 1000 Alameda Street, Hoquiam WA 98550.

3. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]

Hoquiam, WA, 98550

4. County [help]

Grays Harbor

5. Provide the section, township, and range for the project location. [help]

¼ Section	Section	Township	Range
	35	18N	10W

6. Provide the latitude and longitude of the project location. [help]

- Example: 47.03922 N lat. / -122.89142 W long (Use decimal degrees - NAD 83)

46.997200 N lat. / -123.883738 W long.

7. List the tax parcel number(s) for the project location. [help]

- The local county assessor's office can provide this information.

518103544001

8. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [help]

Name	Mailing Address	Tax Parcel # (if known)
See JARPA Attachment C.		

9. List all wetlands on or adjacent to the project location. [help]

1. Wetland M1
2. Wetland M2
3. Wetland M3
4. Wetland M4
5. Wetland M5
6. Wetland M6

10. List all waterbodies (other than wetlands) on or adjacent to the project location. [help]

East Fork Hoquiam River

11. Is any part of the project area within a 100-year flood plain? [help]

☒ Yes ☐ No ☐ Don't know

The northern portion of the site is located within Flood Zone AE (EL 14 ft).

12. Briefly describe the vegetation and habitat conditions on the property. [help]

Existing vegetation conditions on the mitigation site include early colonizing and disturbance tolerant species, including red alder, Himalayan blackberry, various grasses. Estuarine wetlands on or adjacent to the mitigation site are similar to those encountered elsewhere on the project. The estuarine wetlands are typically vegetated with Lyngbye's sedge and saltgrass. Palustrine wetlands on the mitigation site are vegetated by red alder, Pacific willow, Sitka willow, salmonberry, creeping buttercup, and soft rush.

Aquatic habitat in the East Fork Hoquiam River is similar to that found in the Hoquiam River. Flow along the East Fork Hoquiam River is generally slow and highly turbid in the reaches within the project area. Estuarine wetlands are present along the banks of the Hoquiam River. Vegetation within the estuarine wetlands consists of coastal saltgrass, Lyngbye sedge, tufted hair grass, and silverweed. The banks above the HTL are steep and are vegetated with tufted hair grass, reed canary grass, Lyngby Sedge, slough sedge, and Himalayan blackberry. The wetland substrate generally consists of silt, and the riverbed gradually slopes outwards from the foot of the steep banks. Riparian vegetation along the river includes red alder, willow species, Sitka spruce, and western red cedar.

13. Describe how the property is currently used. [help]

The property is currently vacant industrial land.

14. Describe how the adjacent properties are currently used. [help]

Adjacent properties are used for single-family residential. The neighboring parcels to the north are zoned as industrial.

15. Describe the structures (above and below ground) on the property, including their purpose(s). [help]

There are currently no above-ground structures on the property. Remnants of asphalt roads, parking lots, and historical building footprints occur throughout the property.

No visible evidence of underground storage tanks or other underground structures was observed. No underground utilities are known to exist on the property.

16. Provide driving directions from the closest highway to the project location, and attach a map. [help]

From US 101 in Hoquiam, Washington, turn north on 16th Street/Broadway Avenue. Continue north on Broadway Avenue for approximately 1.6 miles, then turn left (west) on Alameda Street. Continue on Alameda Street for 0.1 mile, and park. See Sheet 1 for a map showing the location of the mitigation site in relation to the northern and western project termini.

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AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

TO BE COMPLETED BY APPLICANT [help]

Project Name: North Shore Levee West

Location Name (if applicable): _____

Attachment C:
Contact information for adjoining property owners. [help]

Use this attachment only if you have more than four adjoining property owners.

Use black or blue ink to enter answers in white spaces below.

1. Contact information for all adjoining property owners. [help]

Name	Mailing Address	Tax Parcel # (if known)
City of Hoquiam	609 8th St Hoquiam, WA 98550	051806200001 055401800001 056400400201 056400900500 056401000201 056401000301 056401100100 056401100202 056401500203 517100211006 517100213003 517100224005
A&M Investment Holdings LLC	18231 Southeast 128th St, Renton, WA 98059	056400900203
Adams Street Hoquiam LLC	PO Box 293 Hoquiam, WA 98550	056401000600
Anderson and Middleton Properties	PO Box 240 Hoquiam, WA 98550	056400800004 056400600202 056400700200 056400900400 518103541001
Aniram Properties LLC	PO Box 307 Aberdeen, WA	051806800800
Boora, James E and Christina	711 Levee St Hoquiam, WA 98550	056401800201
Blue, Kenneth H	1933 Panama Ave Hoquiam, WA 98550	056201100100
BNSF Railway Corporation	PO Box 961089 Fort Worth, TX 76161	056201400001
Byron, Patrick H and Robert E	1102 Simpson Hoquiam, WA 98550	051806900800

Dietel, Jeffrey M	1010 Alameda St Hoquiam, WA 98550	056201200201
D & S Properties – Hoquiam LLC	5206 Sunset Dr NW Olympia, WA 98502	053400200100
Dziechiasz, Paul	13320 Hwy 99 Space #100 Everett, WA 98204	056201000100
Elliott D Lise Y	605 Kuhn Ave Hoquiam, WA 98550	054800101103
G H County	310 W Spruce St Suite 100 Montesano, WA 98563	056600741502
Graham, Susan A	C/O Corder, Keith L PO Box 297 Hoquiam, WA 98550	056401100201
Gray, Dennis A	C/O Maria Davidson 3504 107th Ave SW Olympia, WA 98512	054800101102
Grigsby, Patrick A	PO Box 806 Hoquiam, WA 98550	054600100400
Hoquiam School District #28	305 Simpson Ave Hoquiam, WA 98550	517100331003 517100331008 517100343002
Immanuel Baptist Church	PO Box 703 Hoquiam, WA 98550	517100132010
Liikane, Mart	C/O Mart Liikane 6126 Colby Ave Everett, WA 98203	056401800502 517100244001
Little Hoquiam Shipyard, Inc.	Attn: Phil Christopherson 825 Queen Ave Hoquiam, WA 98550	055400400100
MK Land LLC	PO Box 8 Hoquiam, WA 98550	056400900201 056400900202
Pauley, Brandon & Emily S	2025 Panama Ave Hoquiam, WA 98550	056201000300
Port of Grays Harbor	PO Box 660 Aberdeen, WA 98520	056401000302 056401000501 517100434000 517100443001 517101012001 517101021001
Public Utility District 1	PO Box 480 Aberdeen, WA 98520	056401000701 517100433003
Smith, Anthony L	525 Duck Lake Dr NE Ocean Shores, WA 98569	517100433001
Smith, Steven JR	991 Val Vista Dr Montesano, WA 98563	054800101104
Sunset West Inc.	1621 Olympic St Aberdeen, WA 98520	517100221014
Thieme Cliff H Deborah L Trust	110 Artic Rd Cosmopolis WA 98537	054600102500
Thieme Family Trust	C/O Cliff and Deborah Thieme 110 Artic Rd Cosmopolis WA 98537	517100221006
Timberland Bank	624 Simpson Ave Hoquiam, WA 98550	517100244003
United States of America	911 NE 11th Ave Portland, OR 97232	056401000102 517100433002 517100544004
Walczyk, Greg and Karen	1925 Panama Ave Hoquiam, WA 98550	056201101100 056201100900
Walczyk, Karen M	1925 Panama Ave Hoquiam, WA 98550	056201100700
Willis Enterprises Inc.	PO Box 457 Oakville, WA 98568	056402200201
Willis, Paul	PO Box 457 Oakville, WA 98568	517100214004
Winter, Darrell L & Sherian	2014 Panama Ave Hoquiam, WA 98550	056201000600