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: 10/25/2023
Aquatics ID No.: 142974
Team: SWRO
Valid Request: 10/25/2023

This Section 401 Water Quality Certification (WQC) Request form identifies information needed in order to review and process a Section 401 WQC Request. Please see Department of Ecology's (Ecology) webpage for more information about the Section 401 WQC Request process.

Submit this Section 401 WQC Request form along with a Joint Aquatic Resources Permit Application (JARPA) and supporting information[1] to ecyrefedpermits@ecy.wa.gov and copy the federal permitting agency.

A. Federal Permit or License Reference Number, if known: _____

Department of Ecology (Ecology) Aquatics ID Number, if known: 142974

Project Name: Sanderling Park PUD Phases 4-7 **County**: Clark

B. Project Proponent Name: Pahlisch Homes at Sanderling Park

C. Documentation showing that the Pre-Filing Meeting Request was submitted at least 30 days prior to submitting this Section 401 WQC Request. Attach either of the following:

- ■ E-mail acknowledgement of receipt from Ecology
- ■ Copy of previously submitted Pre-Filing Meeting Request Form

D. A completed, signed, and dated JARPA should be submitted with this form.

Did you attach a JARPA? ■ Yes ☐ No

E. The following is a list of documents needed for Ecology's WQC review, along with a brief explanation. Depending on the project, additional information may be requested.

Please let us know what information you are submitting with this WQC request form.

Required for all projects:

1. State Environmental Policy Act (SEPA) determination and/or checklist:
   - ■ Final SEPA determination attached
   - ☐ SEPA determination pending
   - ☐ Exempt from SEPA (see SEPA Guidance)
   - ☐ SEPA is not required (e.g., federal agency projects)

[1] To submit documents over 25MB, e-mail ecyrefedpermits@ecy.wa.gov to request a secure 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

2. Project drawings attached:
   - ☒ Vicinity map
   - ☒ Plan view
   - ☒ Cross-section(s)
   - ☒ Plan set
   - ☐ Other:_____

3. Best management practices and construction methodology, provided in the attached:
   - ☒ JARPA
   - ☐ Water Quality Monitoring and Protection Plan (WQMPP)
   - ☒ Project drawings, sheets:_____
   - ☐ Mitigation Plan pages:_____
   - ☐ Other document(s): _____

   Notes:
   - This is needed for in-water work (below ordinary high water mark), including wetlands.
   - Describe best management practices to be implemented to protect water quality.
   - Describe construction sequencing and methodology.

4. Water quality monitoring, provided in the attached:
   - ☐ Water Quality Monitoring Plan (WQMP).
   - ☐ Water Quality Monitoring and Protection Plan (WQMPP is similar to WQMP, but includes best management practices).
   - ☐ Other (please identify location, such as JARPA, Part 8):_____

   Notes:
   - Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
   - A plan is needed when conducting work in a waterbody (e.g., creek, ditch, river, lake, pond, marine, estuarine).
   - Include water quality parameters such as turbidity, oil sheen, pH (e.g., poured in-place concrete, concrete demolition), etc.
   - See State Water Quality Standards for Surface Waters (Chapter 173-201A-200 or -210 WAC)
   - If needed, templates are available.

Required depending on the project type:

5. Erosion and sediment control for upland work (above ordinary high water mark) that addresses stormwater during construction and long-term:

   This information is included in the attached:
   - ☒ JARPA
   - ☐ Project drawings, sheets:_____
   - ☐ Stormwater Pollution Prevention Plan, pages:_____
   - ☐ Mitigation Plan, pages:_____
   - ☐ Other document(s): _____

6. Wetland report, including the attached:
   - ☒ Wetland delineation report
   - ☒ Delineation data sheets
   - ☒ Wetland rating forms

Notes:

- Needed when there is a discharge (dewatering, excavation or fill) to wetlands.
- Report needs to include both a wetland delineation and rating.
- Include delineation data sheets and rating forms.
- For more information see wetland delineation resources and hiring a qualified wetland professional.
- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.

7. Mitigation, avoidance and minimization
   - ☒ Wetland avoidance and minimization checklist
   - ☒ Other aquatic resource avoidance and minimization demonstration
   - ☒ Mitigation Plan
   - ☐ Other:_____

   Notes:
   - Wetland avoidance and minimization webpage.

8. Mitigation plan, provided in the attached:
   - ☒ Riparian Planting and Monitoring Plan (Needed when riparian vegetation is removed or modified)
   - ☐ Wetland or stream/other aquatic resource Mitigation Plan
   - ☒ Wetland Mitigation Bank Use Plan (use when proposing mitigation bank use)
   - ☐ In-Lieu Fee (ILF) Use Plan (use when proposing ILF mitigation)
   - ☐ Project drawings, sheets:_____
   - ☐ Other:_____

   Notes:
   - Needed to offset impacts to wetland, stream, marine, or other aquatic habitat.
   - Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
   - For more information, see wetland compensatory mitigation.

9. Dredging
   - ☐ Dredging Plan attached
   - ☐ Suitability Determination attached

   Notes:
   - Needed when sediments will be dredged for maintenance, navigation, or other purposes.
   - Covers in-water disposal and sediment anti-degradation.
   - Dredging Plan should include dredge footprint and depth, dredge type, best management. practices, disposal plan, off-loading plan for upland disposal, etc.
   - Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
   - For informationon suitability determinations, see Dredged Material Management Office.

10. Dewatering
    - ☒ Dewatering Plan attached

    Notes:
    - Needed for complex in-water work or management of excavated/dredged material.

- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- May also be required for some excavation projects.

F. 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.

Initial SR

The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

Initial SR

Signature: Stacey Reed Digitally signed by Stacey Reed Date: 2023.10.22 09:42:52 -07'00' Date: _____

Print Name: Stacey Reed

Section 401 Request Form Signed 10/25/2023

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: 10/24/2023 MFT Link
Section 401 Request Form Not Signed

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]
Sanderling Park PUD Phases 4–7

Part 2–Applicant

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

2a. Name (Last, First, Middle)			
Mike Morse			
2b. Organization (If applicable)			
Pahlisch Homes at Sanderling Park LLC			
2c. Mailing Address (Street or PO Box)			
210 SW Wilson Avenue, Suite 100			
2d. City, State, Zip			
Bend, OR 97702			
2e. Phone (1)	**2f.** Phone (2)	**2g.** Fax	**2h.** E-mail
			mikem@pahlisch.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)			
Stacey Reed, PWS			
3b. Organization (If applicable)			
AKS Engineering & Forestry, LLC			
3c. Mailing Address (Street or PO Box)			
9600 NE 126th Avenue, Suite 2520			
3d. City, State, Zip			
Vancouver, WA 98682			
3e. Phone (1)	**3f.** Phone (2)	**3g.** Fax	**3h.** E-mail
(360) 882-0419			staceyr@aks-eng.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)			
4b. Organization (If applicable)			
4c. Mailing Address (Street or PO Box)			
4d. City, State, Zip			
4e. Phone (1)	**4f.** Phone (2)	**4g.** Fax	**4h.** E-mail

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]

23115 NW Hillhurst Road

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

Ridgefield, WA 98642

5d. County [help]

Clark

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

¼ Section	Section	Township	Range
NW	33	4N	1E

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)

45.788492 / -122.697808

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

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

Parcel 216690000

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)
See Attachment C		

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

Two wetlands, referred to as Wetland A (Category II Depressional and Slope) and Wetland B (Category III Slope) were delineated within the project area. Wetland A is a palustrine emergent (PEM) wetland with an open water component associated with an artificial dam impoundment at the downstream end of the wetland. Wetland B is a PEM wetland adjacent to Type F Tributary 1 delineated downstream of the dam impoundment. Both wetlands have a continuous surface water connection to perennial Tributary 1, which is a tributary to Gee Creek.

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

Two Washington Department of Natural Resources (DNR) Type F (fish-bearing) waterbodies referred to as Tributary 1 and 2 and two DNR Type Ns (Seasonal non-fish-bearing) waterbodies, referred to as Type Ns Drainages 1 and 2, were delineated in the project area. Tributaries 1 and 2 are unnamed perennial tributaries to Gee Creek. Gee Creek is a relatively permanent tributary to the Columbia River (a traditional navigable waterway). Therefore, Tributaries 1 and 2 are likely to be considered waters of the United States (WOTUS).

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]

The site is undeveloped with Wetland A/Tributary 1 located in the central portion of the site. Wetland A is an impounded farm pond. The vegetation adjacent to the pond consists mainly of Himalayan blackberry (*Rubus armeniacus*; FAC) and non-native grasses and weedy forbs. South of the impoundment, Tributary 1 flows northerly at the bottom of a small, forested ravine dominated by Douglas-fir (*Pseudotsuga menziesii*, FACU), Western red cedar (*Thuja plicata*; FAC), big-leaf maple (*Acer macrophyllum*, FACU), and red alder (*Alnus rubra*; FAC). The understory is dominated by Himalayan blackberry (*Rubus armeniacus*, FAC), salmonberry (*Rubus spectabilis*; FAC), beaked hazelnut (*Corylus cornuta*; FACU), pineland sword fern (*Polystichum munitum*; FACU), and stinging nettle (*Urtica dioica*; FAC).

The open fields on the eastern portion of the site are vegetated with non-native grasses, including orchard grass (*Dactylis glomerata*; FACU), tall false rye grass (*Schedonorus arundinaceus*; FAC), a bentgrass species (*Agrostis* spp.; assumed FAC), and a barley species (*Hordeum* spp.; assumed FAC), along with weedy herbaceous species such as canola (*Brassica rapa*; FACU) and wild radish (*Raphanum sativus*; NOL).

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

The western portion of the property is under construction for Phases 1–3 of the project. The fields in the eastern portion of the site are harvested for hay.

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

Surrounding land uses are mostly rural residential and include farmland. The project area is located at the southern end of the City of Ridgefield Urban Growth Area (UGA). Residential subdivisions and View Ridge Middle School are located to the west of the site.

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

Two stormwater facilities are present in the western portion of the site. These facilities were constructed during Phase 1 of the subdivision. A gravel farm road is present on the existing dam impoundment providing access to the undeveloped eastern portion of the site. No buildings are present in the project area.

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

From Interstate Highway 5 (I-5) going north, turn off onto the NE 170th Street exit. Turn onto NE 170th Street heading west onto NE Delfel Road. Stay on NE Delfel Road as it turns into NW 209th Street, then turn north onto NW 31st Avenue. Shortly after NW 31st Avenue turns into NW Hillhurst Road, the project area will be on the right-hand and eastern side.

Part 6–Project Description

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

The project consists of Phases 4–7 of the Sanderling Park Planned Unit Development PUD, which is a multi-phased residential subdivision. The subdivision was approved by the City of Ridgefield in 2019 under City File PLZ-18-0085 (formerly referred to as Kennedy Farms East PUD). Phases 1–3 are under construction and did not require jurisdictional wetland or non-wetland water impacts. Per the 2019 City approval, Phases 4–7 will provide attached and detached residential units, a public park, and a network of public trails. The following necessary project elements require wetland and non-wetland water impacts: a new public collector road crossing; replacement of an existing dam impoundment fish barrier with a fish passage structure; and an internal public road (S 48th Avenue).

The project requires a total of ±0.17 acres of direct permanent Category II wetland impacts, ±0.02 acres of short-term temporary (can be restored to pre-impact conditions within 6 months or within same growing season of impact) Category II wetland impacts, ±0.06 acres of direct long-term temporary (can be restored to pre-impact conditions within two years of impact) Category II Wetland impacts, ±0.15 acres of indirect impacts to Category II wetland, and 244 square feet of direct permanent non-wetland water impacts. The total cumulative ±0.40 acres of temporary and permanent wetland and water impacts meet threshold requirements for review by the US Army Corps of Engineers (USACE) under Nationwide Permit #29 for Residential Developments. The site plan is illustrated on attached Figures 5A–5C.

The required new public collector road crossing requires direct permanent Category II wetland impacts, long-term temporary Category II wetland impacts (will be restored within two years) for geotechnical required surcharge, and indirect Category II wetland impacts due to loss of functions associated with a new crossing. The collector road crossing is required by the City of Ridgefield and is consistent with the City's 2019 Capital Facilities Plan. Wetland A spans the entire length of the site requiring a crossing to access the developable area to the east. Retaining walls have been incorporated to minimize wetland impact, along with a 12-foot-wide open-bottom fish passage culvert to allow fish passage to upstream habitat.

A former gravel farm road/dam impoundment was installed in the 1950s to create an irrigation pond to support a former dairy farm on the site. The impoundment is in line with a DNR-mapped Type F tributary to Gee Creek, creating a fish passage barrier. Gee Creek, located over 500 feet downstream of the project area, has documented occurrences of anadromous summer steelhead trout and coho salmon. This project will remove the existing fish barrier culverts and install a 12-foot-diameter open-bottom fish passage structure meeting Washington Department of Fish and Wildlife's (WDFW's) current fish passage criteria. The reconstructed

crossing will be utilized as a required pedestrian crossing. The culvert replacement will require temporary short-term impact (will be restored to pre-impact conditions within one year of impact) within Category II wetland. To reduce the risk for downstream sediment, beaver dam analogs (BDAs) and log sediment structures will be installed within upstream areas of Wetland A to reduce water velocities associated with the breached dam and to reduce upstream long-term indirect hydrologic wetland impacts. Details for BDAs and sediment logs is shown on attached Figure 8B. The log sediment retention structures will be placed within the central lowest elevational areas of Wetland A, in the vicinity of the expected low flow channel. The entirety of Wetland A will be planted with native willow live stakes to restore a native wetland vegetation community.

As approved under City File PLZ-18-0085, S 48th Avenue requires crossing Type Ns Drainage 2. Drainage 2 is located at the bottom of a small ravine with an ephemeral flow regime (only flows in response to rainfall). Grading to establish the road grade for the S 48th Avenue crossing requires the loss of 244 linear feet of non-wetland water impacts, which will be mitigated for through riparian enhancement adjacent to Tributary 2 and by replacing the existing fish passage barrier at the old farm road dam impoundment with a fish passage structure. Groundwater mats will be installed to maintain groundwater movement into Wetland A to minimize indirect wetland hydrologic functional loss. Direct permanent and indirect Category II wetland impacts will occur to support grading associated with S 48th Avenue and the City-required pedestrian trail. A retaining wall has been incorporated into the site design to minimize wetland impacts. Permanent fencing will be installed adjacent to the pedestrian trail to minimize human intrusion into the remaining wetland.

Stormwater for the impervious area associated with the project will be treated within two existing stormwater treatment and retention ponds located in the northern portion of the site. These stormwater treatment facilities were designed by Sterling Design Inc and constructed within Phases 1–3. The Sterling Design February 2020 *Final Technical Information Report* (TIR) *for Kennedy Farms East PUD Subdivision* and the AKS Sanderling Park Phase 4–7 Preliminary Stormwater TIR, March 2023 are included as Attachment A. Washington State Department of Ecology's (ECY's) Section 401 Water Quality Certification (WQC) pre-filing email confirmation (for ECY File 141235) and Request for Section 401 WQC form are included in Attachment B.

Remaining wetland and riparian buffers will be set aside in protected tracts. Over 4-acres of on-site wetland buffer and +/-1.02 acres of on-site riparian buffer will be enhanced by removing all non-native invasive vegetation followed by densely planting native trees and shrubs. The existing condition of the buffer enhancement areas can be described as being in *degraded* ecological condition, lacking tree canopy and native woody vegetation. The buffer enhancement will provide a net ecological benefit to Wetland A and Type F Tributaries 1 and 2. The buffer enhancement areas are shown on attached Figure 5A.

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

Project purpose: To provide residential housing within the City of Ridgefield, including a public collector road to allow access to the eastern portion of the City's Carty Road Subarea Plan.

Project Need: Ridgefield has established a need for affordable housing to support its growing population, which averaged between 6 and 8 percent in annual growth between 2013 and 2015, making Ridgefield one of the fastest-growing cities in the state. The City's Comprehensive Plan set a target of six residential units per net acre. The project will provide 283 single-family detached homes and cottages over Phases 4–7, while restoring native migratory fish passage and enhancing and protecting almost 14-acres of critical area habitat on the site.

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 wetland impacts for this project will be constructed in three phases. The first phase will consist of long-term temporary wetland impacts to surcharge the collector road crossing, followed by construction of the collector road and fish passage culvert (permanent wetland impacts) and installation of the downstream fish passage culvert (short-term temporary wetland impacts).

Construction Phase 1: According to a geotechnical recommendation, surcharge loading for engineered structural fill placement in the vicinity of the collector road crossing within Wetland A is necessary to ensure proper settling of structural fill to support the future collector road. Surcharge loading material will be placed within Wetland A for over one-year duration (referred to as a long-term temporary impact). After the surcharge material has settled, it will be removed from the wetland and disposed of off-site. The temporary long-term wetland impact surcharge footprint is slightly larger than the final collector road footprint. The work within wetland will be isolated per the recommendations listed below. Bypass culverts will be temporarily installed to maintain flow around the isolated work area.

Construction Phase 2: The second phase will consist of the construction of the collector road crossing and installation of the 12-foot-diameter open-bottom culvert which will be constructed during the same construction season as the surcharge removal. The work area isolation measures will already be in-place.

Construction Phase 3: The third phase will consist of the replacement of existing dam impoundment and culverts with a single span 12-foot-diameter open-bottom culvert. This work will be constructed within the same construction season as the in-water portion of the collector road construction. To remove the existing dam impoundment and install new fish passage culvert, upslope ponded areas will be drawn down using a sump pump. The clean water will be pumped around the work area to discharge into a dissipation pad downstream of the work area adjacent to Tributary 1. After the upslope areas have been dewatered, the work area will be further isolated using a bypass culvert and sandbag dam. In-water work isolation measures as described below. The temporary work isolation measures placed within wetland will be removed within the same construction season and will be removed from within wetland within a 6-month window.

In-Water Work Isolation Plan: Surface water within wetland will be isolated with sandbag coffer dams. Sump pumps will be used upstream and downstream of work areas (for both collector road and dam impoundment) to remove water within work areas and to manage seepage throughout the duration of construction. Water will be pumped to discharge within upland at least 50 feet from the edge of wetland in existing vegetated areas to

allow for sufficient filter of sediment prior to filtration into downstream wetland and water areas. A minimum of 36-inch-diameter gravity-fed bypass culverts will be placed on the soil surface to convey flow around the work areas. The work isolation details are included as Sheets 9 and 10 of the WDFW Hydraulic Project Approval (HPA) submittal included in Attachment I. According to WDFW area habitat biologists, there are not likely any native fish present within the project area.

Erosion and sediment control will be implemented by installing silt fencing and straw wattles downslope of direct and indirect wetland impact areas prior to ground disturbance. The Preliminary Erosion and Sediment Control Plan (ESCP) is included as Figures 7A–7C. Additional best management practices (BMPs) will be implemented based on site conditions directed by the Certified Erosion & Sediment Control Lead (CESCL) inspector during construction.

Sediment logs and beaver dam analogs will be installed within Wetland A during the initial drawdown of Phase 3, prior to the installation of the bypass culverts. Mechanical equipment used to install sediment logs will be located from the adjacent upland area. No mechanicalized equipment will occur within wetland. Beaver dam analogs will be installed by hand and hand operated equipment. These sediment erosion control measures will be in place prior to the removal of downstream sandbag coffer dams.

There is not a 100-year floodplain mapped on or immediately adjacent to the project site.

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: June 2024 End Date: September 2026 ☐

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

NA

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

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

☐ Yes ☒ No ☐ Don't know

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

ECY's Wetland Avoidance and Minimization Checklists are included in Attachment D to demonstrate that avoidance and minimization measures were considered for the project. A more detailed discussion on direct and indirect wetland impacts is provided in the Mitigation Bank Use Plan (Attachment E).

Public Collector Road

Avoidance: The City requires a collector road crossing. Wetland A spans the entire length of the site, making a realignment that avoids wetland impact impossible. The project team reviewed a bridge crossing to avoid wetland impact. A bridge was not determined to be practical as a gravity sewer crossing is required at this location. To suspend a gravity sewer line under the bridge deck at this location would require a bridge greater than 100 feet in length and at least 50 feet wide with tall abutment-style retaining walls and footings. Due to existing topographic constraints, there is not sufficient available bridge approach length to accommodate a bridge crossing of this size.

Minimization: The alignment of the public collector crossing was positioned at a narrower wetland area to minimize impact. The applicant received a variance from the City to reduce the improved road width to 42 feet at the wetland crossing. Per City's safety requirements, the collector road must support two travel lanes and a

5-foot-wide sidewalk on one side. Any further reductions would create safety issues. A 12-foot-diameter open-bottom fish passage culvert will be installed to maintain hydrological connectivity and provide fish and wildlife passage. To minimize grading in the wetland, ±10-foot-tall retaining walls have been incorporated into the site design.

Fish Passage Culvert Installation

Avoidance: Replacing the existing crossing with a bridge would result in significant downstream flooding and erosion. Installing a fish passage structure provides upstream passage to native fish, while restoring native wetland conditions. The existing dam structure will be replaced with a slightly narrower structure and avoids permanent and indirect loss of wetland and non-wetland waters functional loss.

A retaining wall will be added adjacent to Wetland A to avoid permanent wetland impacts. No grading will occur within Wetland A to replace the existing culverts with a single span fish passage culvert. Sediment retention logs and environmental restoration techniques, such as beaver dam analogs and dense native willow plantings, will be installed within remaining upstream wetland to minimize hydrologic conversion with wetland and to trap sediment within wetland.

S 48th Avenue/Pedestrian Trail

Avoidance: The City has required a pedestrian trail along the backsides of lots. Grading for the trail requires direct permanent and indirect impacts to the upper extent of the Category II Wetland A finger. There are no design alternatives that avoid impacts. The S 48th Avenue alignment is fixed and approved under the City's 2019 land use decision for the PUD. Grading for S 48th Avenue requires full impact to the Type Ns drainage. Due to this grading, removal of residential lots would not result in less impact to the Type Ns drainage or within wetland. Due to site topography behind the lots, a bridge spanning this area would not avoid wetland impact. Grading would still be required for placement of the bridge. Originally, a total of 435 residential lots were approved by the City for the Kennedy Farms East PUD (now referred to as Sanderling Park PUD). The revised application reduces the total units to 383 lots by increasing open space, including maximizing wetland buffer and riparian habitat on the site.

Minimization: To minimize wetland impact, retaining walls behind the lots have been incorporated into the design. The trail width in this area was also reduced to 5 feet. To minimize indirect wetland impact, the fill slope will be planted with woody vegetation. Signage and fencing will be installed along the trail to prevent human and pet intrusion into the wetland and buffer. Lighting on homes on Lots 223–226 will not be directed toward the remaining wetland. Enhancement of the remaining buffer in this area will significantly improve wetland functions. The existing condition of the buffer is dominated by dense Himalayan blackberry, lacking closed tree canopy and native woody structure necessary to support wetland and wildlife functions.

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 Included as Attachment F

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 Included in Appendix E of Attachment F

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

The unavoidable direct permanent, long-term temporary, and indirect (secondary) wetland impacts will be mitigated through purchase of wetland mitigation bank credits from the East Fork Lewis Wetland Mitigation Bank. The *Sanderling Park PUD Phases 4–7 Mitigation Bank Use Plan* is included as Attachment E. The project's goal is to provide necessary housing to the City of Ridgefield. Due to site topography, there was not opportunity on-site to provide sustainable wetland creation mitigation. The purchase of wetland mitigation bank credits was determined to provide higher success of environmental benefit. Wetlands at the mitigation bank are higher-functioning existing wetlands; therefore, purchase of wetland mitigation bank credits provides no net loss of wetland functions in the watershed. In addition, remaining Wetland A will be densely planted with native scrub-shrub species (willow species) to enhance existing on-site wetland functions. The remaining wetland and buffer will be set aside in tracts to provide long-term protection from future disturbance. The tracts will be maintained by the homeowners' association (HOA).

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

The unavoidable wetland impacts associated with the project and compensation to ensure no-net loss of wetland functions are described below.

Direct Permanent Wetland Impacts: The ±0.17 acres of unavoidable direct permanent impact to Category II PEM wetland will be mitigated by purchasing a total of ±0.20 credits from the East Fork Lewis Wetland Mitigation Bank. The project is located within the approved service area for the East Fork Lewis Wetland Mitigation Bank (see Figure 2). The *Sanderling Park PUD Phases 4–7 Mitigation Bank Use Plan* is included as Attachment E, providing details on how the project impacts have been avoided and minimized to the greatest extent practical and how the purchase of wetland mitigation bank credits will ensure no net loss of wetland function within the watershed.

Long-Term Temporary Wetland Impacts: The ±0.06 acres of long-term temporary Category II wetland impacts are required for the collector road surcharge, sandbag coffer dams work placement to isolate the work area around the collector road, and the riprap outfall dissipation associated with the bypass dewatering culverts at the collector road. All long-term temporary wetland impacts will be restored to pre-project ground surface elevations to restore the wetland hydroperiod and planted with native emergent wetland vegetation within the same growing season as the removal of the surcharge. No permanent functional loss of wetland conditions are expected. Functional loss associated with long-term temporary wetland impacts will not last longer than one year but will be restored within two-years; therefore, purchase of 0.01 credits (at one-quarter the ratio required for permanent Category II impacts) from the East Fork Lewis Wetland Mitigation Bank is recommended to mitigate for the temporary long-term functional loss.

Indirect Wetland Impacts: A total of +/-0.15 acres of indirect impacts to Category II Wetland A will occur due to the partial wetland fill for the pedestrian path behind Lots 224 and 225 and for the Williams Road new collector road crossing. The full buffer width required for Category II wetlands within high land use intensity is 100 feet. However, through City land use approval conditions, wetland buffer encroachments will be mitigated for through on-site enhancement of remaining wetland buffer. The buffer adjacent to Wetland A generally lacks closed native tree canopy and is dominated by non-native invasive Himalayan blackberry. As part of this project, all non-native invasive vegetation will be removed followed by densely planting native trees and shrubs, which will provide a significant functional increase to Wetland A. Therefore, it is our best professional judgment that a 50-foot (half the required standard buffer width) indirect wetland impact for buffer loss is adequate to mitigate for indirect functional loss. A 12-foot-wide bottomless arch culvert will maintain hydrologic connectivity with wetland habitat upstream of the road crossing as well as support wildlife passage. Therefore, wildlife and hydrologic functions will not be lost. The installation of log sediment structures, BDAs, and native willow plantings will remediate the likelihood for downstream sedimentation into jurisdictional waters. Functional loss associated with indirect wetland impacts will be mitigated through the purchase of credits from the East Fork Lewis Wetland Mitigation Bank at one-half the ratio required for permanent Category II impacts.

Short-Term Temporary Wetland Impacts: The ±0.02 acres of short-term Category II Wetland A wetland impacts are necessary for the replacement of the dam impoundment with a fish passage culvert. The short-term impacts will be restored to pre-project ground surface elevations within six months of impact. No removal or fill will occur for the short-term impacts. The wetland hydroperiod (seasonally inundated/saturated) will be restored and the area will be planted with native emergent wetland vegetation species to restore wetland functions. No additional mitigation is proposed for the short-term temporary wetland impacts.

Wetland	Wetland Category	Type of Impact	Impact Amount (acres)	Compensation ratio	Ratio multiplier for type of impact	Compensation bank credits needed
Wetland A	II	Direct Permanent	0.17	1.2:1	1.2	0.20
Wetland A	II	Long-term temporary	0.06	1.2:1	0.25	0.01
Wetland A	II	Indirect	0.15	1.2:1	0.50	0.09
Total Wetland Bank Credits Required to Mitigate for Functional Loss						**0.30**

The applicant will submit any proposed changes to the project or mitigation plan to Ecology and USACE for review and approval prior to implementation. This requirement only applies to significant changes to the project or plan, such as changes to: the amount, location, or design of mitigation; the goals, benchmarks, or performance standards; the monitoring or adaptive management provisions. Minor changes, such as slight alterations in the species listed in the planting plan, will not be required to be pre-approved but will be documented in the as-built report.

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 (sq. ft. or Acres)	Duration of impact[3]	Proposed mitigation type[4]	Wetland mitigation area (sq. ft. or acres)
Fill and Excavate	Wetland A	PEM/Cat II	0.17 Acres	Permanent	B Mitigation Bank	N/A
Fill and Removal	Wetland A	PEM/Cat II	0.06 Acres	Long-Term Temporary	B Mitigation Bank	N/A
Fill and Removal	Wetland A	PEM/Cat II	0.02 Acres	Short-Term Temporary	R Re-establishment	0.02 Acres

[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)

Page number(s) for similar information in the mitigation plan, if available: N/A

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]

A total of ±6,995 cubic yards of clean fill material consisting of gravel, structural fill, stream bed materials, and large wood will be permanently placed within ±0.17 acres of Category II PEM Wetland A to accommodate the construction of the collector road, fish passage culvert, and subdivision utilities. A 12-foot-diameter open-bottom arch culvert will be placed at existing grade within wetland over the road crossing to maintain hydrologic connectivity on the site. A typical cross section for the open-bottom arch culvert is included as Figure 8A. A total of ±315 cubic yards of long-term temporary fill consisting of surcharge fill, temporary riprap dissipation pads, and sandbag coffer dam will be temporarily placed within Category II Wetland A for no longer than a two-year span to surcharge wetland soils prior to installation of the collector road. A total of 5 cubic yards of temporary fill for sandbag coffer dam and bypass riprap dissipation pad will be placed within Category II Wetland A for less than 6 months to replace the existing culverts/dam impoundment with single span fish passage structure. A table listing all removal and fill volumes within wetland is included as Figure 6F.

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]

A total of ±405 cubic yard of native soil will be permanently removed from within ±0.17 acres of Category II Wetland A for construction of the collector road and fish passage culvert replacement at dam impoundment. The permanent removal of sediment at the dam impoundment will not result in loss of wetland functions. Sediment removal from within Wetland A will be disposed of off-site at an approved facility.

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 will require ±244 square feet/linear feet of direct permanent impact to a Type Ns drainage. The drainage has an ephemeral flow regime, providing minimal functions and values to the watershed. Fill to this drainage is necessary to accommodate S 48th Avenue, which is a fixed local road. Drainage mats will be incorporated into construction methods to ensure continued groundwater discharge in this area into downstream Wetland A. On-site riparian enhancement is proposed to offset the minimal functional loss to Type Ns drainage.

The project will also require ±50 square feet/linear feet of short-term temporary impacts within Type F Tributary 1 to blend the new channel downstream of the new fish passage culvert to the existing channel. Impacts will be restored within a six-month duration to pre-project contours. The remaining portions of

Tributary 1 downstream of the existing culverts to be removed under the dam impoundment will continue to convey flow from the stormwater outfall facilities.

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

A separate non-wetland waters mitigation plan has not been prepared. To offset the minor functional loss associated with 244 square feet of permanent impacts within Type Ns Drainage 2, riparian enhancement will occur adjacent to Type F Tributary 2 in the northeastern portion of the site (see Figure 5A). As discussed below, it is our Best Professional Judgment (BPJ), Drainage 2 can be described as providing "lower" functional value to the local watershed. The riparian enhancement will offset the minor functional loss associated with Type Ns Drainage 2 through enhancement of riparian buffer adjacent to Type F Tributary 2.

Existing Hydrologic Functions: The flow regime for this feature is temporary on steep slope, lacking floodplain connectivity and surface water storage.

Existing Geomorphic Functions: The sediment continuity within this channel is limited. Some sorting of sediments occurs to flush out fine sediment before entering Wetland A.

Existing Biological Functions: Existing riparian area dominated mainly by invasive Himalayan blackberry. Few scattered Douglas-fir trees provides limited structural diversity within riparian habitat. No in-channel habitat or pool-riffle complexes.

Existing Chemical and Nutrient Functions: Limited opportunity to provide nutrient cycling. Since riparian dominated mostly by Himalayan blackberry, minimal thermal regulation opportunity.

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]

Functional loss of ±244 square feet of Type Ns impacts will be mitigated through enhancement of a minimum of +/-1.02 acres of on-site riparian buffer adjacent to Type F Tributary 2 in the northeastern corner of the site (location shown on Figure 5A). Tributary 2 within the project site is mapped as Category 5 303(d) water with impairments for bacteria. Gee Creek downstream of the project site is mapped as a Category 5 303(d) listed water for temperature, bacteria, dissolved oxygen, and bioassessment impairment. The project removes agricultural and cattle use on the site, and detains and treats stormwater runoff prior to discharge into drainages, thus improving the water quality within the Gee Creek watershed. Enhancement and protection of the riparian area will provide a net ecological benefit to the Gee Creek local stream basin.

To ensure no net loss of stream functions in the watershed, riparian buffer enhancement includes removing all existing invasive and noxious weeds followed by densely planting native trees and shrubs. The existing riparian buffer is dominated mostly by non-native invasive Himalayan blackberry. The riparian enhancement mitigation area will be maintained and monitored for a minimum of five growing seasons to ensure mitigation success. Mitigation monitoring reports will be submitted annually to ECY and USACE by November 30. Native trees will be planted 10 feet on center; native shrubs will be planted 5 feet on center. Any mortality of plantings will be replanted in the original number of plants to achieve densities described above. Species substitutions based on stock availability is acceptable; however, species must be listed on the Clark County Native Plant List and have similar site tolerance conditions (soil drainage, sunlight, etc.) as original recommended species. A recommended list of species and quantities for the riparian enhancement area is included in Attachment J.

The riparian enhancement mitigation area will be set aside and protected within Tract V. A conservation covenant protecting Tract V from future development will be established to protect this area into perpetuity. The riparian enhancement area will be demarcated with permanent fencing to deter people from entering the mitigation area.

Non-wetland waters Mitigation Objectives and Performance Standards:

Mitigation Objective 1: Remove all non-native invasive vegetation followed by dense native tree and shrub plantings.

Objective 1 Performance Standards:

- 100 percent survival of all planted trees and shrubs after Years 1 and 2
- A minimum of 80 percent survival of all planted trees and shrubs during Years 3–5
- Less than 20 percent cover by non-native invasive woody vegetation throughout Years 1–5

Mitigation Objective 2: Protect riparian area through installation of permanent fencing and conservation covenant.

Objective 2 Performance Standards: Document installation of fencing and recorded conservation covenant during Year 1 monitoring report.

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]	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
Fill	Type Ns Drainage 2	Within	Permanent	180	244 SF
Removal	Type Ns Drainage 2	Within	Permanent	20	244 SF
Fill	Tributary 1	Within	Short-term temporary	5	50 SF

[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]

Approximately 180 cubic yards of structural fill and gabion rock (drainage mat) will be permanently placed below the ordinary high water (OHW) of Type Ns Drainage 2. A cross section illustrating the permanent fill is shown in Figure 6C.

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]

A total of ±20 cubic yards of native channel bed will be removed from below the OHW of Drainage 2 (see cross section in Figure 6C).

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
City of Ridgefield Planner	Shana Lazzarini	360-887-6077	June 2023
WDFW Habitat Biologist	Issac Holowatz	360-696-6211	August 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

DNR Type F Tributary 2 in the project site is mapped as Category 5 303(d) water with impairments for bacteria. Gee Creek downstream of the project site is mapped as a Category 5 303(d) listed water for temperature, bacteria, dissolved oxygen, and bioassessment impairment. The project will eliminate existing agricultural and cattle use on the site and detain and treat stormwater runoff prior to discharge into drainages, thus improving the water quality within the Gee Creek watershed.

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.

17080003 – Lower Columbia-Clatskanie HUC 8

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 #.

Lewis River Basin WRIA 27

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: _____

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: Ecology's 2005 Stormwater Management Manual for Western Washington

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

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

☐ Yes ☒ No

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

Historically the site has been used as a dairy farm. An existing gravel farm road impounds Wetland A and Tributary 1. Former non-jurisdictional manure lagoons on the site were decommissioned during development of Sanderling Park PUD Phases 1–3.

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

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

☒ Yes ☐ No Included as Attachment G. No artifacts were documented.

9l. 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]

According to a US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database query, there are no known documented occurrences of any state or federally Endangered Species Act (ESA)-listed species on the project site. According to IPaC, the following species have the potential to occur within Clark County. As documented below, there is no suitable habitat for any of these species on the project site. There are no USFWS critical habitats mapped on the project site.

Yellow-billed cuckoo (threatened species): Yellow-billed cuckoos historically nested in the lower Columbia River near Ridgefield, in deciduous riparian habitats with clearings and shrubby vegetation. The project site is largely non-native grassland with minimal shrubby vegetation. Areas along Wetland A and Tributary 1 lack the scrub-shrub species that yellow-billed cuckoo prefer to nest and forage in (e.g. willows and black cottonwood [*Populus tremuloides*]). As a result, the project site has been determined to not provide suitable habitat for yellow-billed cuckoos. The project will have no effect on this species.

Monarch butterfly (candidate species): The project site is dominated by non-native grasses, with very few flowering plants present that can provide food to monarchs. There are no milkweeds on-site that can provide habitat for monarchs. As a result, the project site has been determined to not provide suitable habitat for monarch butterflies. The project will have no effect on this species.

Bull Trout (threatened species): Bull trout have more specific habitat requirements compared to other salmonids. They require cold water to survive and are seldom found where water temperatures exceed 59 degrees Fahrenheit. They also require stable stream channels with clean spawning and rearing gravel with complex and diverse cover. There is no suitable habitat for bull trout within the project area. The project is not expected to have an adverse effect on this species.

Nelson's Checkermallow (*Sidalcea nelsoniana)* (threatened species): Nelson's checkermallow is typically found in open remnant prairie along the margins of streams, sloughs, ditches, roadsides, fences, and drainage swales in fallow fields. The project site has been determined to not provide suitable habitat for Nelson's checkermallow. The project will have no effect on this species.

Off-site Downstream ESA No Effect: According to WDFW's Washington State Distribution and Fish Passage Online mapping, a tributary to Gee Creek, located ±1,600 feet downstream of the project site, is mapped as having habitat for ESA-listed anadromous summer steelhead trout and coho salmon. No potential ESA-listed fish presence is mapped within the project area. According to WDFW fish passage online mapping, a partial barrier (culvert) is mapped on NW Carty Road. Though work area isolation and erosion and sediment measures are proposed and will be in place prior to the onset of any in-water earthwork within Wetland A/Tributary 1, small increases in suspended sediment and associated turbidity may occur. The greatest single increase in turbidity is likely to occur immediately after introducing flow into the previously isolated work area, when a large pulse of suspended sediment is expected to occur. The zone of effect for this construction component includes the dewatered area and the associated 500-foot zone of turbidity downstream. Because ESA-listed fish are not present within 500 feet downstream of the project, the proposed in-water work and subsequent local and temporary increase in turbidity levels will have no effect on potential presence for ESA-listed fish that are mapped greater than 1,500 feet/0.25 miles downstream of the project site in tributary to Gee Creek. The Sanderling Park Phases 4-7 stormwater management plan includes ECY's stormwater best management practices, including biofiltration, to minimize the risk of ESA-habitat degradation due to pollutants associated with impervious surfaces.

9m. 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]

No priority habitats or species will be impacted by the project. The project preserves an individual priority Oregon white oak tree. Additional Oregon white oaks will be planted in the wetland buffer to enhance the existing habitat on the site.

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. Attachment H

☐ A SEPA determination is pending with (lead agency). _____.

☐ 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 auth DS MM e agent named in Part 3 of this application to act on my behalf in matters related to this application. _____ (initial)

By initialing here, I state DS MM ave the authority to grant access to the property. I also give my consent to the permitting agencies ent e property where the project is located to inspect the project site or any work related to the project. _____ (initial)

Mike Morse	DocuSigned by: Mike Morse D2C46970769545E...	10/20/2023 | 8:51 AM PDT
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.

Stacey Reed	Stacey Reed	10/23/2023
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 C: Adjacent Property Owner Addresses

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: Sanderling Park PUD Phases 6-7

Location Name (if applicable): Ridgefield, Clark County

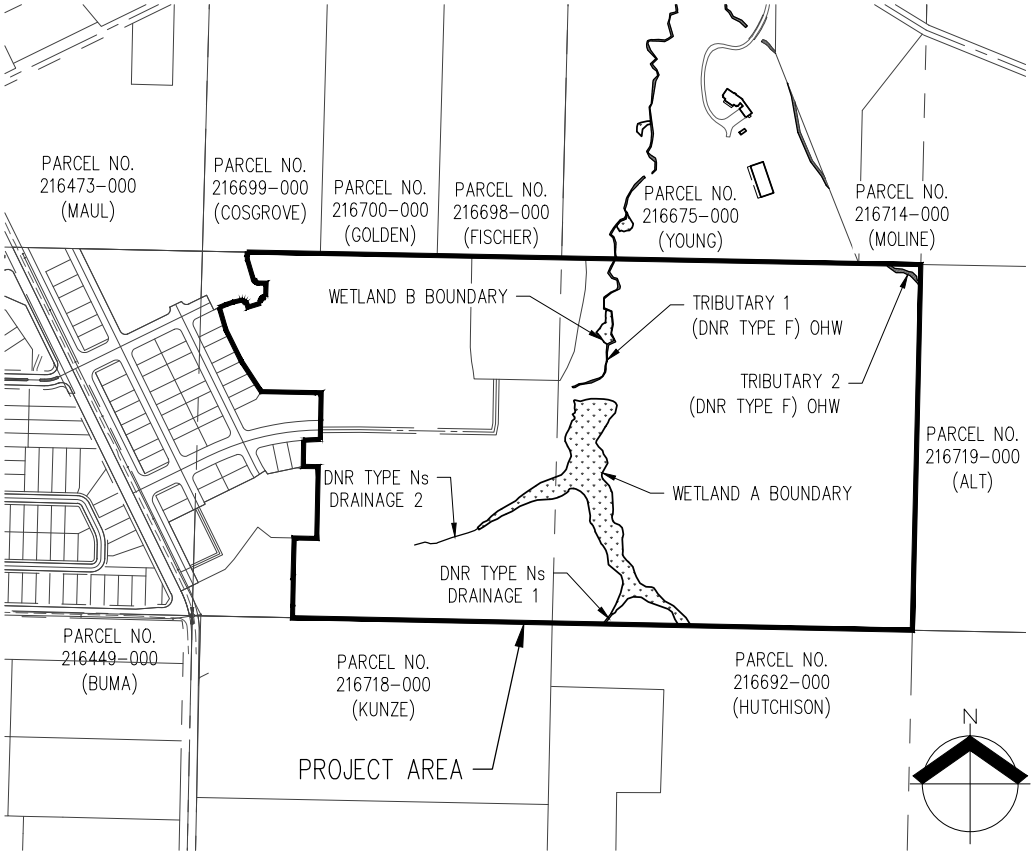
Attachment C: Contact information for adjoining property owners. [help]

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)
James and John Maul	PO Box 488, Ridgefield, WA 98642	216473000
John and Jennifer Alton	4500 Tate Avenue, Gillette, WY 82718	216719000
Clinton E. Hutchinson	22305 NW 31st St, Ridgefield, WA 98642	216692000
Kunze, Waldo F. and Fran E.	P.O. Box 313, Dayton, OR 97114	216718000
Richard Young and Wendy Higgins	2307 NW Carty Road, Ridgefield, WA 98642	21667500
Thomas and Sherry McCarthy	PO Box 845, Ridgefield, WA 98672	216717000
Gregory Fischer	31805 NE Clearwater Dr, Yacolt, WA 98675	216698000
Anthony Golden	2825 NW Carty Rd, Ridgefield, WA 98642	216700000
Rober James and Heather Cosgrove	6405 NE 116th Ave #105, Vancouver, WA 98662	216699000

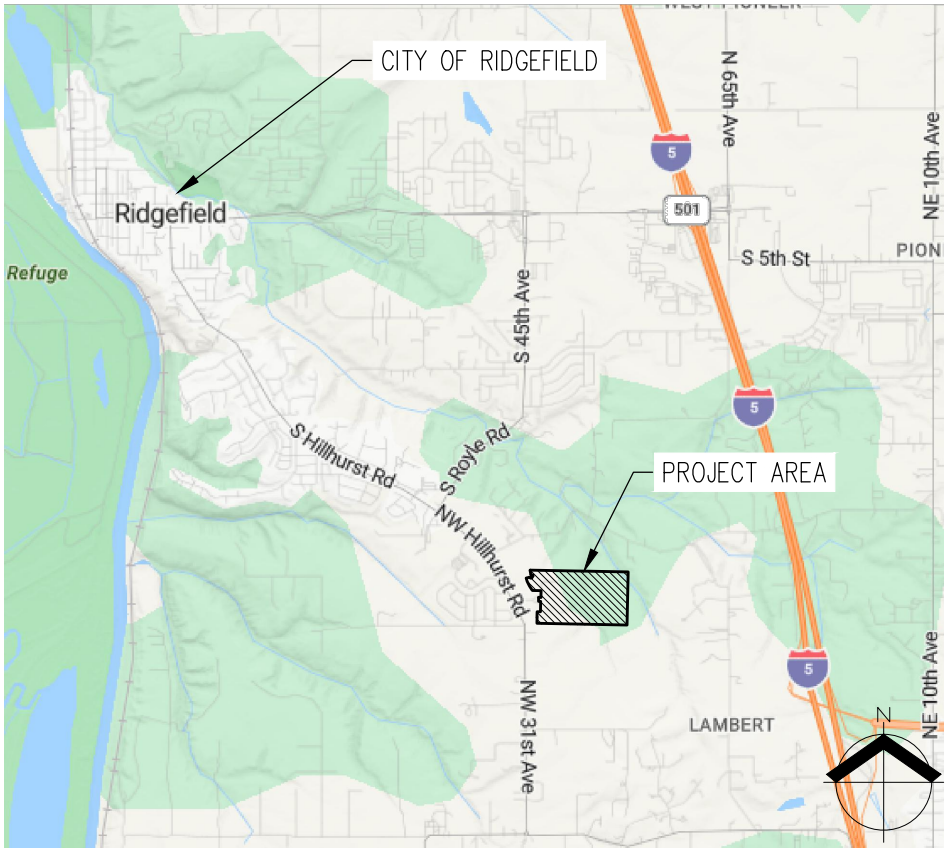


SITE MAP

1"=700 FEET

SCALE: 1"= 700 FEET

700 0 700



VICINITY MAP

N.T.S.

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
ADJACENT PROPERTY: MAUL/216473000, COSGROVE/216699000, GOLDEN/216700000, FISCHER/216698000, HIGGINS & YOUNG/216675000, MCCARTHY/216717000, MOLINE/216714000, ALT/216719000, HUTCHISON/216692000, KUNZE/216718000, SANDERLING PARK OWNERS ASSOCIATION/986061901/986061902, PAHLISCH HOMES AT SANDERLING PARK LP /98606185/986061894/986061892/986061891/986061890 /986061889/98606188/986061887/986061886/986061885/986061884/986061883 /216452000

LAT/LONG: 45.788492 N/-122.697808 W
IN: WETLAND A, DRAINAGE 2(TYPE N), TRIBUTARY 1 TO GEE CREEK
CITY: RIDGEFIELD
COUNTY: CLARK COUNTY
STATE: WA
SHEET: 1 OF 20
DATE: 10/04/2023

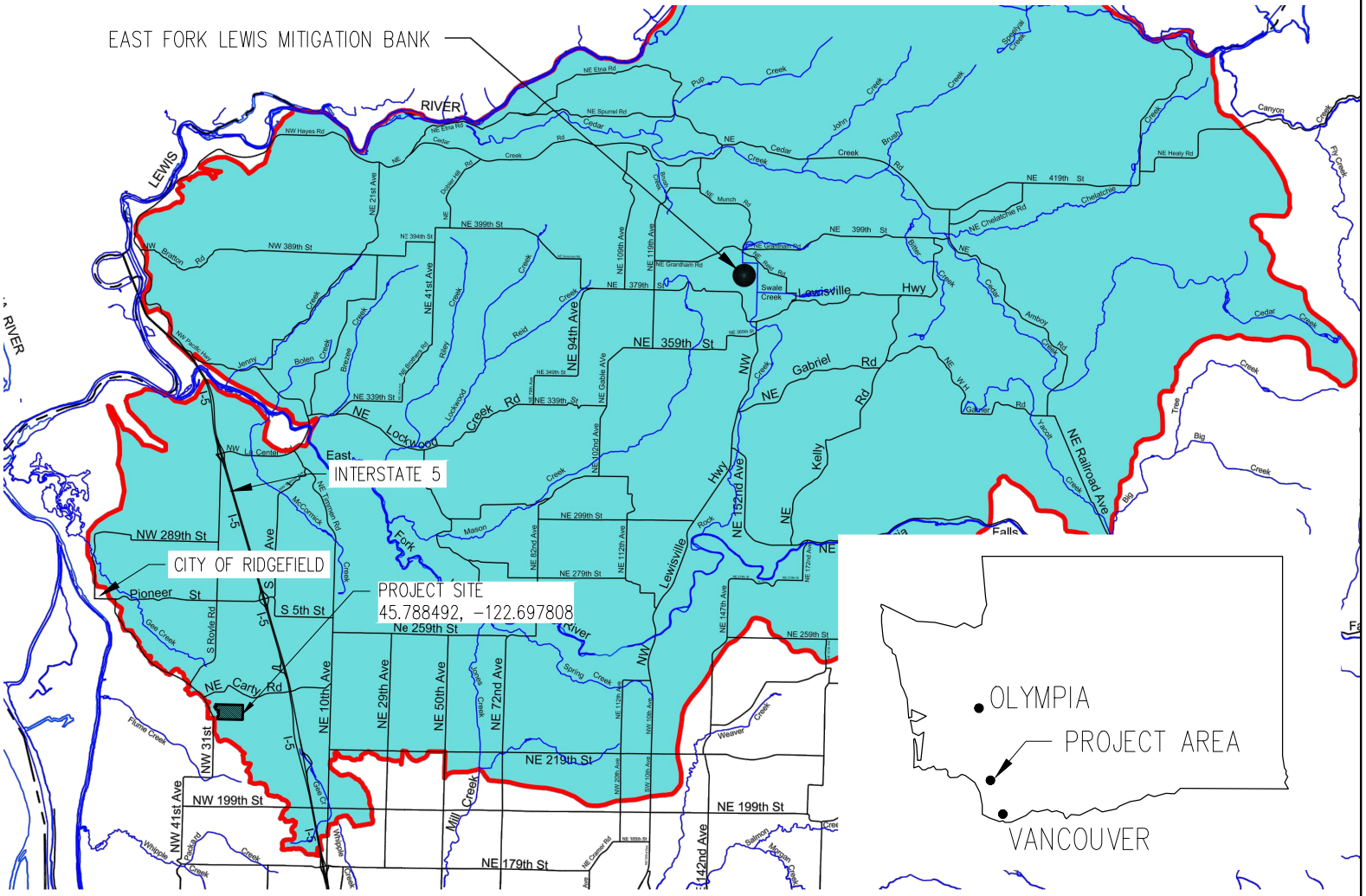
10/16/2023

VICINITY MAP
SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 1

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



LEGEND:

- SERVICE AREA
- COUNTY AND STATE BOUNDARY
- MAJOR ROADS
- MAJOR RIVERS AND STREAMS

N

SCALE: 1= 50000

50000 0 12500 25000 50000

ORIGINAL PAGE SIZE: 8.5" X 11"

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 2 OF 20

10/16/2023

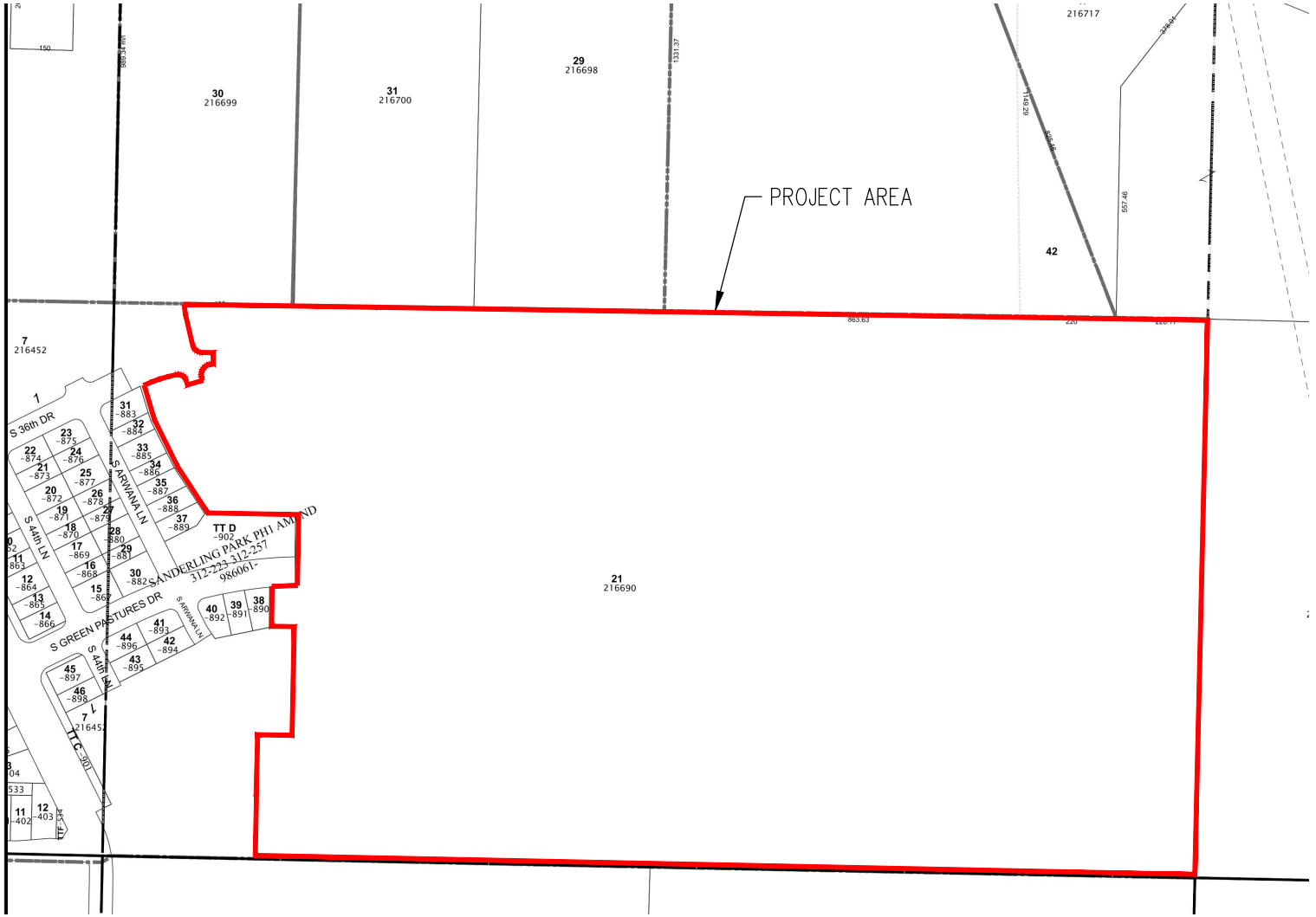
MITIGATION BANK

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 2

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



CLARK COUNTY
NW QTR OF SEC. 33, T. 4N., R. 1E., W.M.
PARCEL NO. 216690

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 3 OF 20

SCALE: 1"= 400 FEET

400 0 80 200 400

ORIGINAL PAGE SIZE: 11"x8.5"

N

10/16/2023

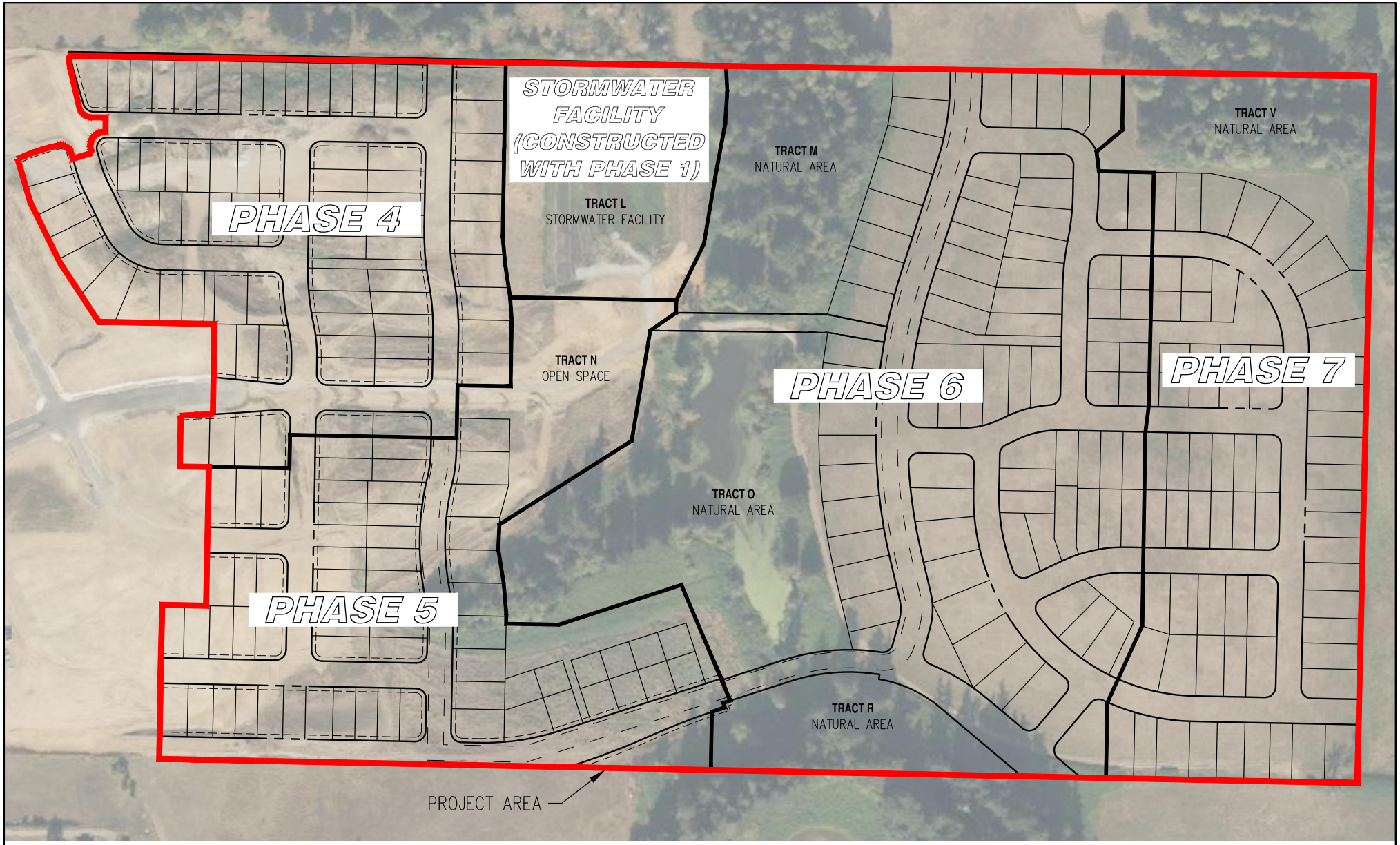
PARCEL MAP

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 3

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



MICROSOFT BING AERIAL IMAGERY, 2023

10/16/2023

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 4 OF 20

SCALE: 1"= 250 FEET

250 0 50 125 250

ORIGINAL PAGE SIZE: 11"x8.5"

N

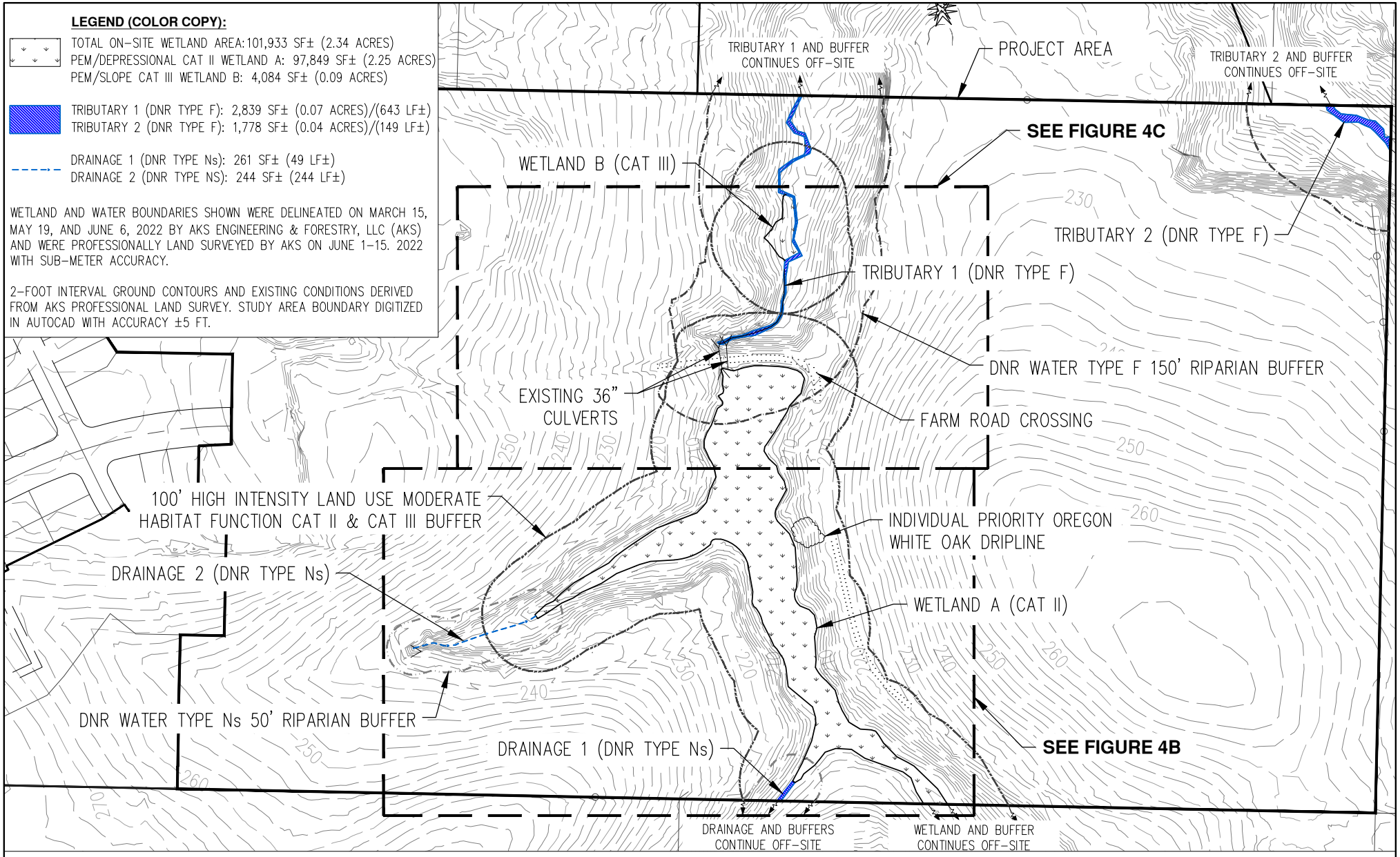
AERIAL IMAGERY & PHASING PLAN

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 4

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 5 OF 20

SCALE: 1"= 250 FEET

250 0 50 125 250

ORIGINAL PAGE SIZE: 11"x8.5"

N

10/16/2023

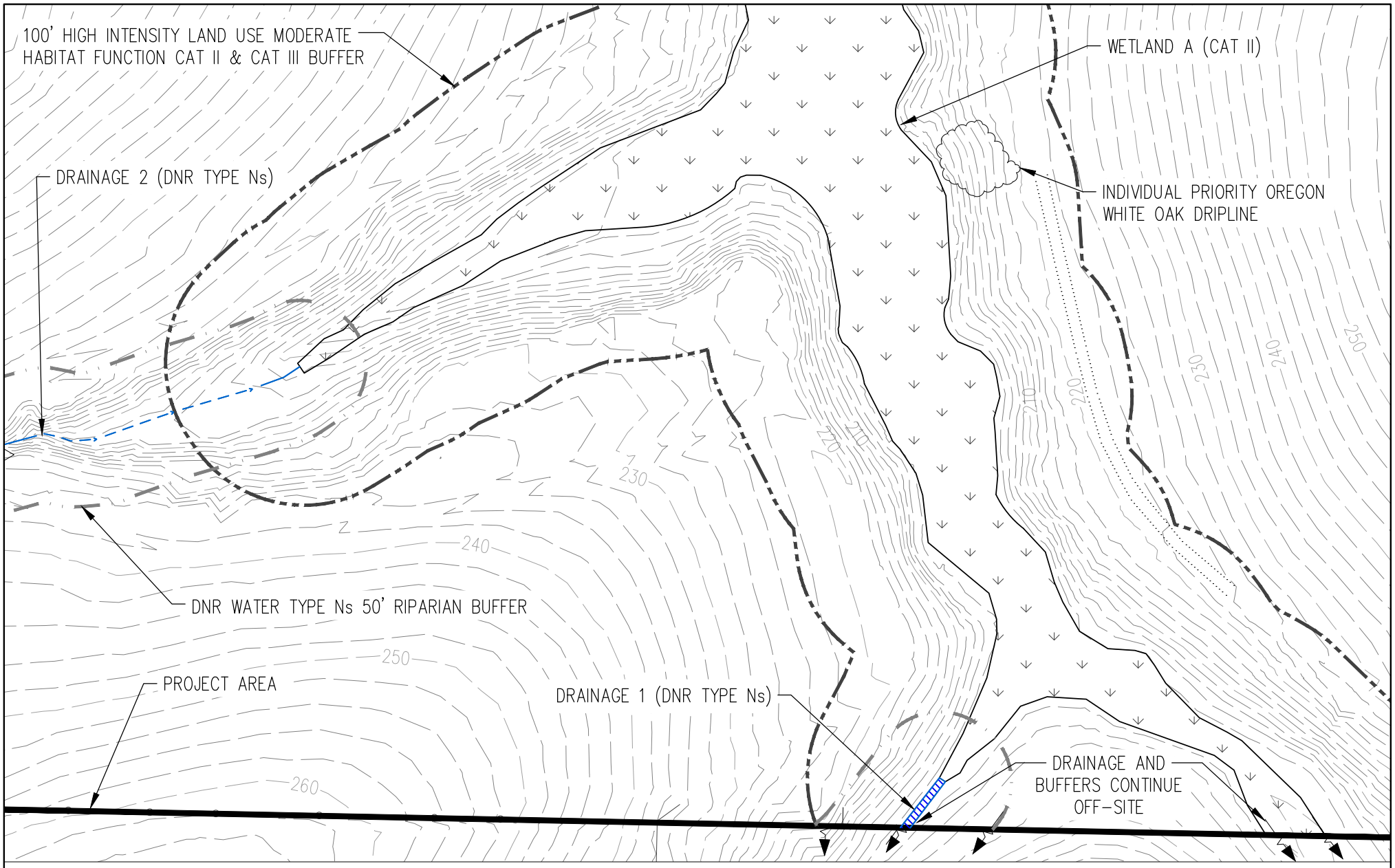
EXISTING CONDITIONS OVERVIEW

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 4A

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 6 OF 20

N

SCALE: 1"=100 FEET

100 0 20 50 100

ORIGINAL PAGE SIZE: 11"x8.5"

10/16/2023

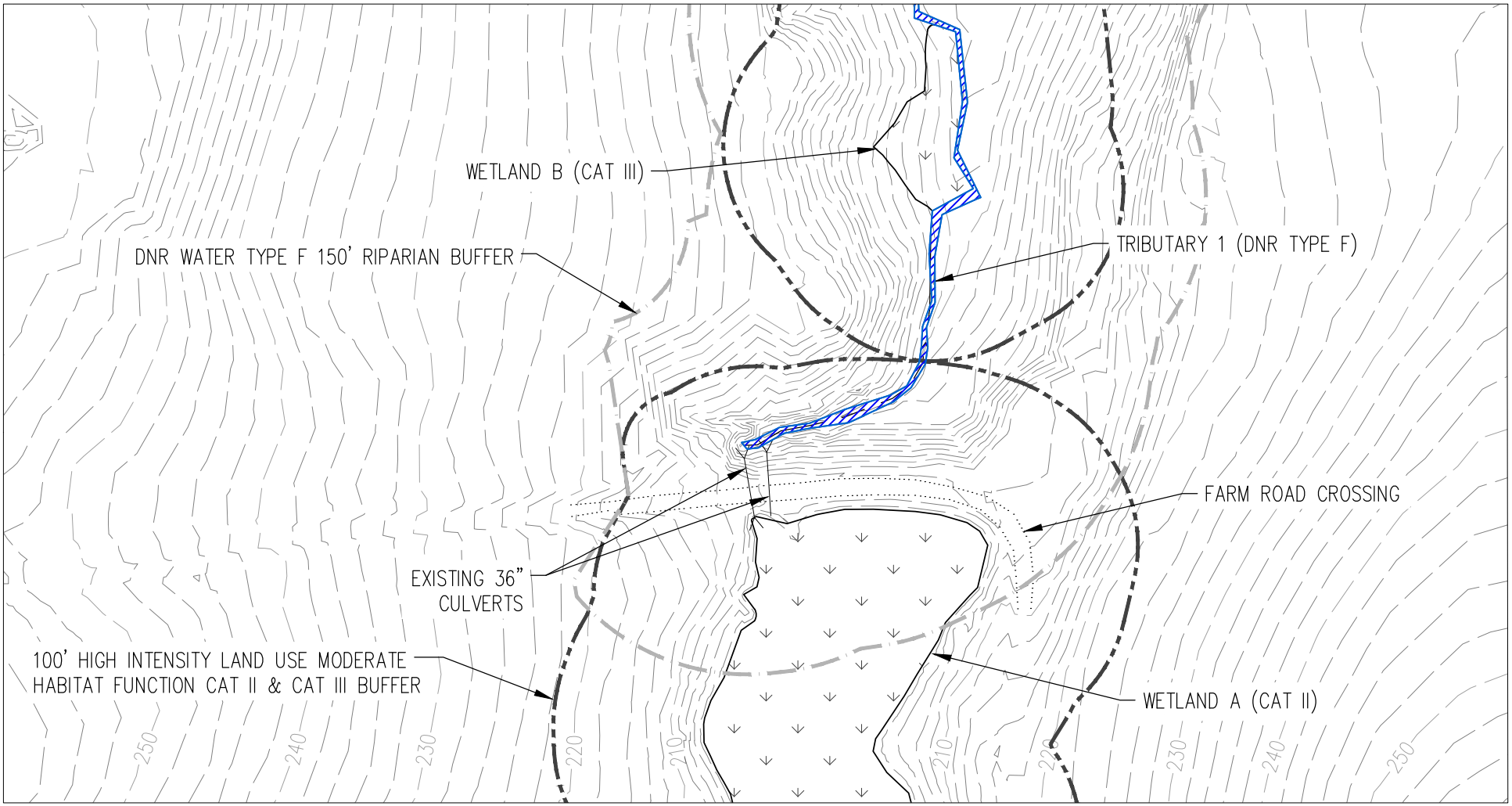
EXISTING CONDITIONS

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE **4B**

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 7 OF 20

N

SCALE: 1"=100 FEET

100 0 20 50 100

ORIGINAL PAGE SIZE: 11"x8.5"

10/16/2023

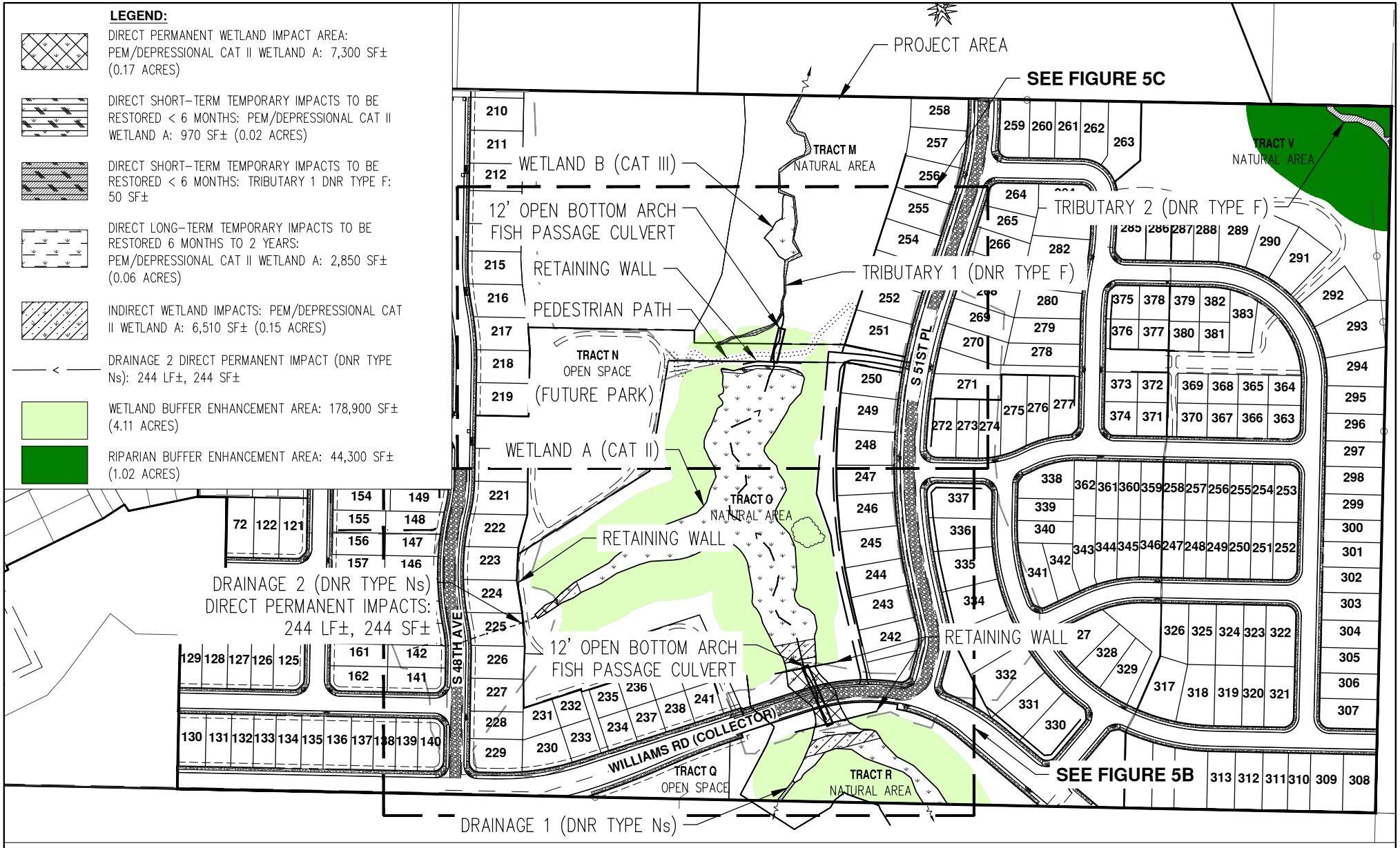
EXISTING CONDITIONS

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE **4C**

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 8 OF 20

SCALE: 1"= 250 FEET

250 0 50 125 250

ORIGINAL PAGE SIZE: 11"x8.5"

N

10/16/2023

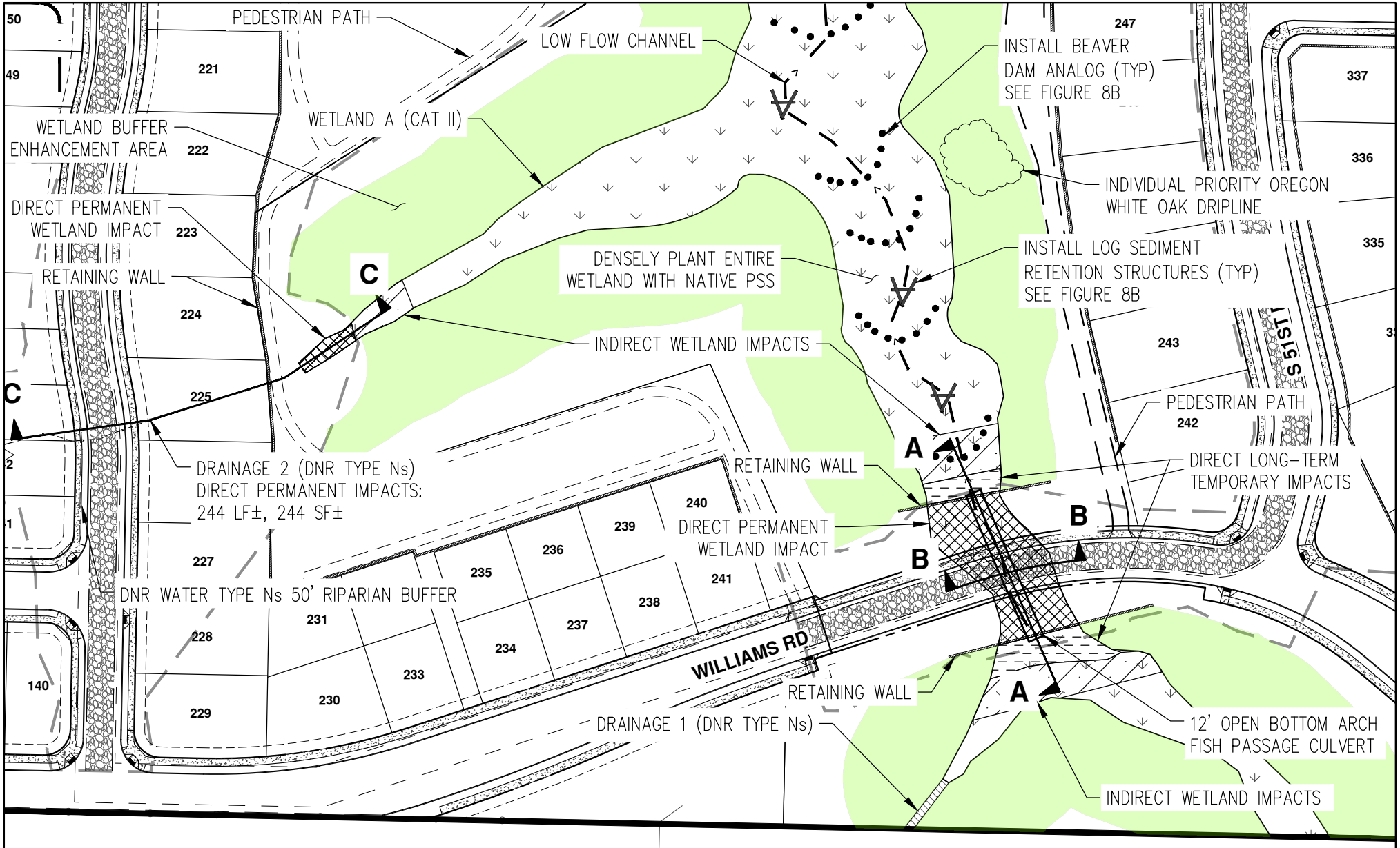
SITE PLAN OVERVIEW

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 5A

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 9 OF 20

N

SCALE: 1"=100 FEET

100 0 20 50 100

ORIGINAL PAGE SIZE: 11"x8.5"

10/16/2023

SITE PLAN

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 5B

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 10 OF 20

N

SCALE: 1"=100 FEET

100 0 20 50 100

ORIGINAL PAGE SIZE: 11"x8.5"

10/16/2023

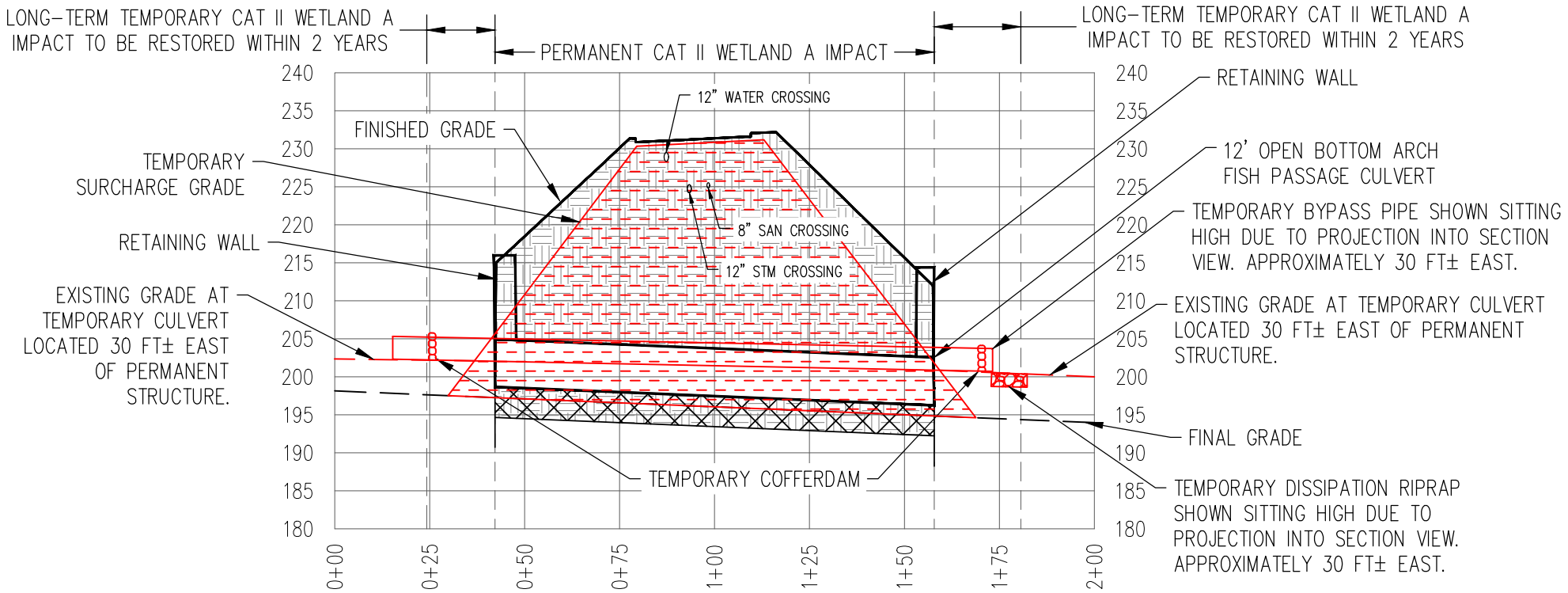
SITE PLAN

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 5C

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



SECTION A-A

HORZ. SCALE: 1"= 40'
VERT. SCALE: 1"= 20'

PERMANENT WETLAND CAT II REMOVAL

PERMANENT WETLAND CAT II FILL

TEMPORARY SURCHARGE WETLAND CAT II FILL AND REMOVAL. TO BE RESTORED WITHIN 2 YEARS

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 11 OF 20

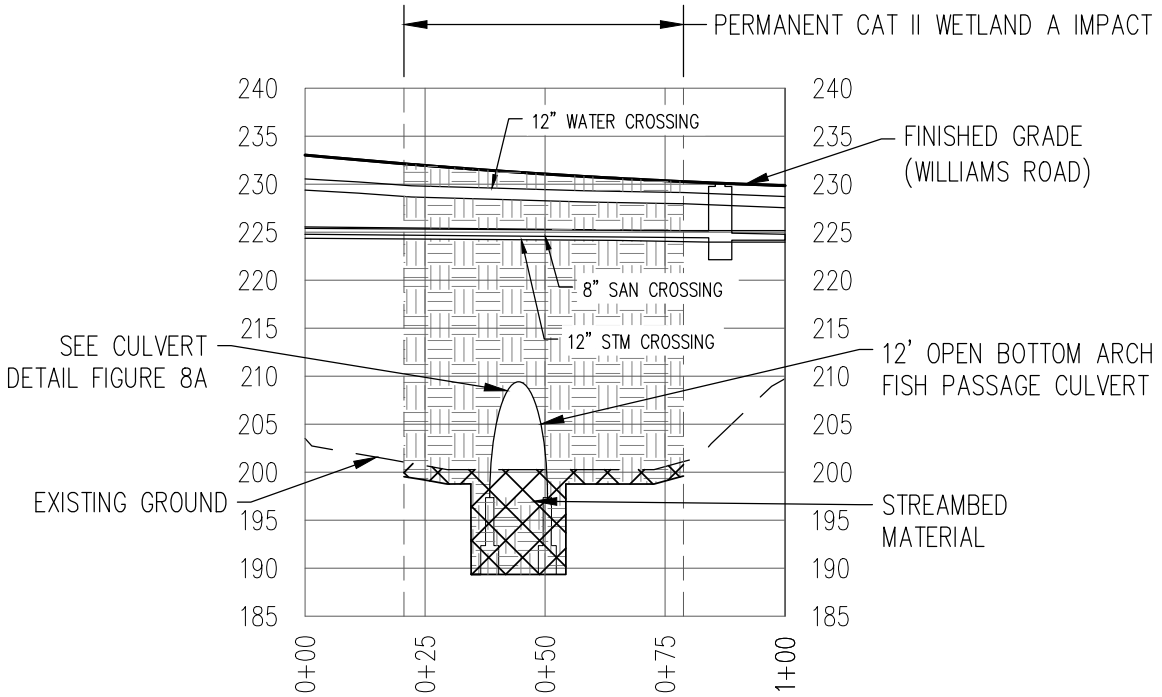
10/16/2023

CROSS-SECTION A-A
SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE **6A**

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



SECTION B–B

HORZ. SCALE: 1"= 40'

VERT. SCALE: 1"= 20'

PERMANENT WETLAND CAT II REMOVAL

PERMANENT WETLAND CAT II FILL

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000

REFERENCE: ECY FILE 142974

APPLICANT: PAHLISCH HOMES AT SANDERLING PARK

PROPOSED PROJECT: RESIDENTIAL SUBDIVISION

SHEET: 12 OF 20

10/16/2023

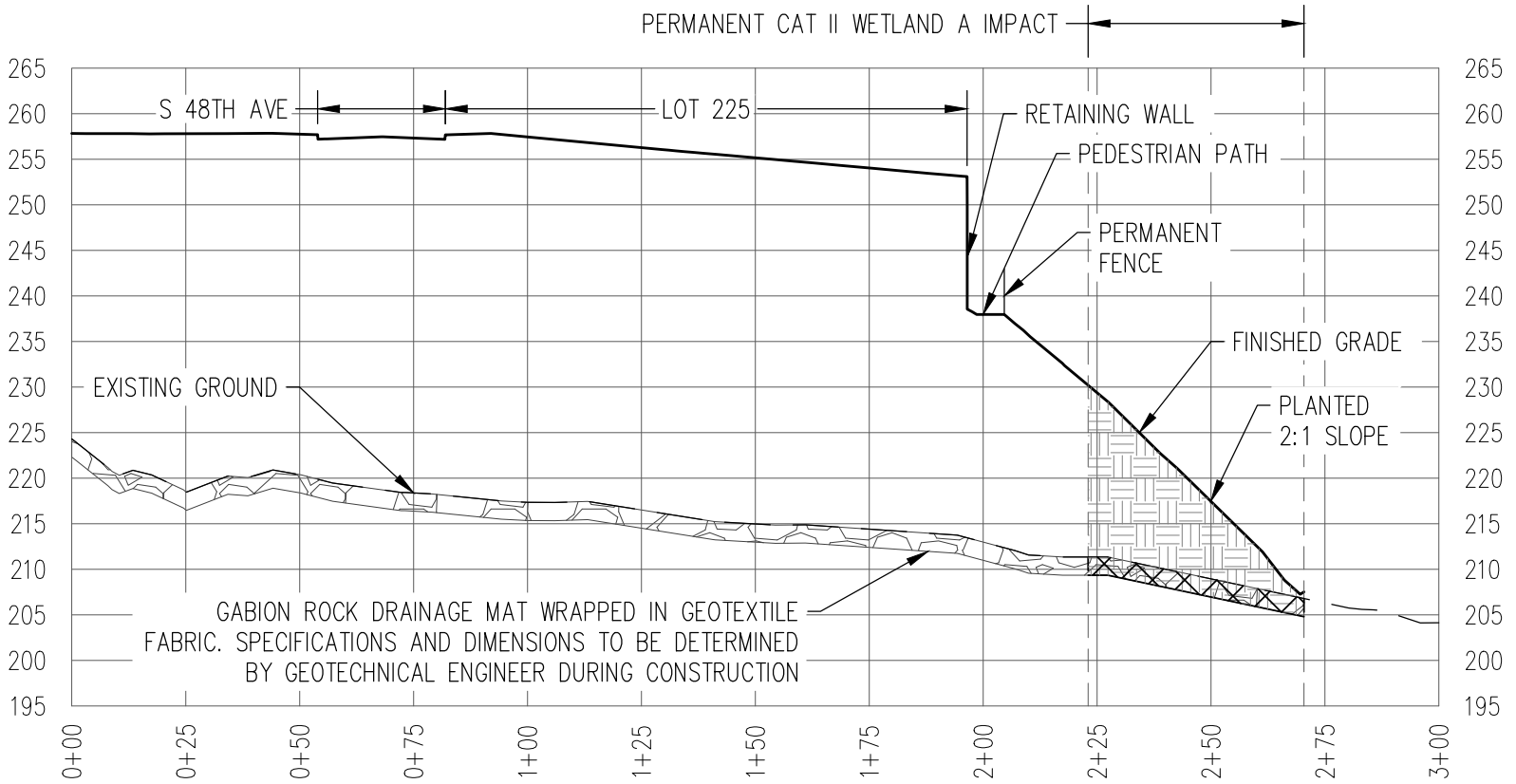
CROSS-SECTION B-B

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE **6B**

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



SECTION C–C

HORZ. SCALE: 1"= 40'

VERT. SCALE: 1"= 20'

PERMANENT WETLAND CAT II REMOVAL

PERMANENT WETLAND CAT II FILL

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 13 OF 20

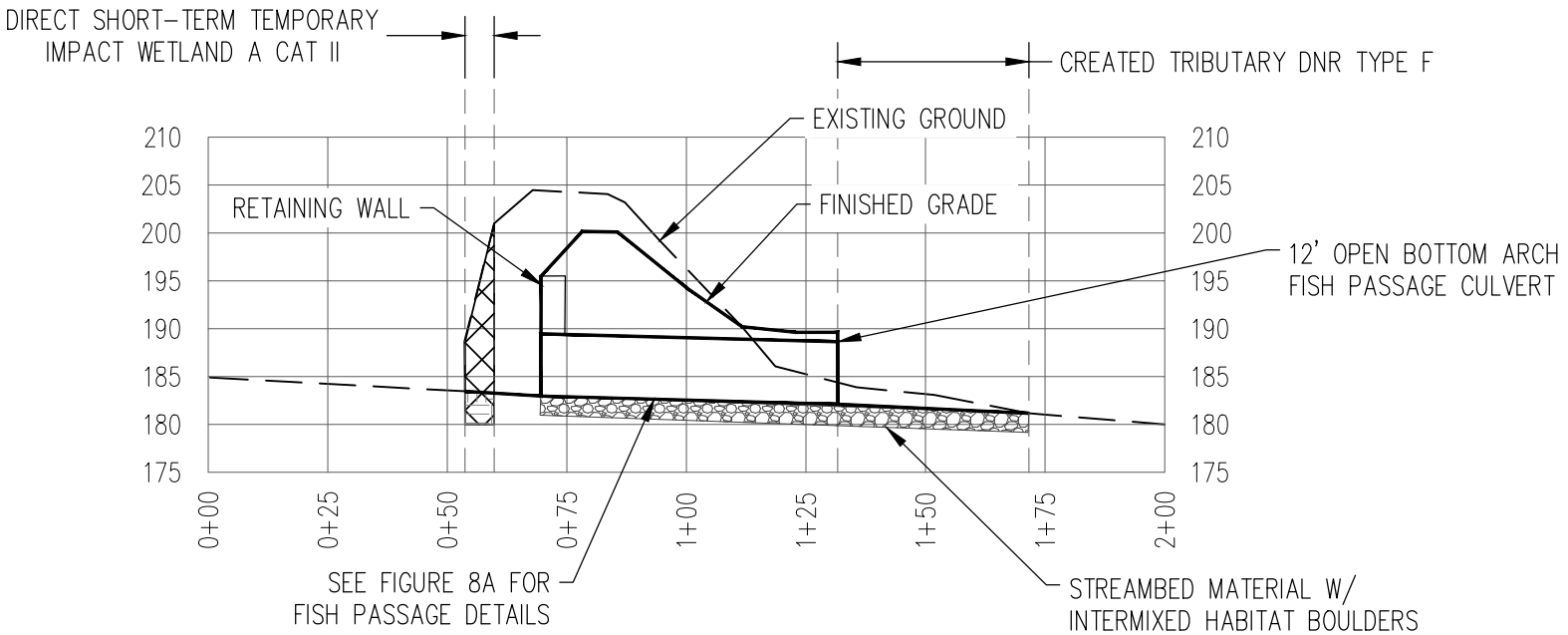
10/16/2023

CROSS-SECTION C-C
SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE **6C**

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



SECTION D-D

HORZ. SCALE: 1"= 40'

VERT. SCALE: 1"= 20'

PERMANENT WETLAND CAT II REMOVAL

PERMANENT WETLAND CAT II FILL

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 14 OF 20

10/16/2023

CROSS-SECTION D-D
SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE **6D**

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939

WETLAND AND WATERS REMOVAL/FILL SUMMARY TABLE			
IMPACTED WETLAND	AREA (SF)	REMOVAL (CY)	FILL (CY)
DIRECT PERMANENT WETLAND A (CAT II) IMPACT –PERMANENT REMOVAL AND FILL FOR COLLECTOR ROAD, PEDESTRIAN PATH, FISH PASSAGE CULVERT AND SUBDIVISION UTILITIES	7,300	405	6995
DIRECT LONG–TERM TEMPORARY IMPACTS WETLAND A (CAT II): TO BE RESTORED 6 MONTHS TO 2 YEARS –WETLAND SURCHARGE FILL, SANDBAGS FOR ISOLATION AND DIVERSION, TEMPORARY RIPRAP OUTFALLS	2,850	0	315
DIRECT SHORT–TERM TEMPORARY IMPACTS WETLAND A (CAT II): TO BE RESTORED WITHIN 6 MONTHS –TEMPORARY FILL/REMOVAL FOR NEW RETAINING WALL AND FISH PASSAGE CULVERT	970	0	70
DRAINAGE 2 DIRECT PERMANENT IMPACT (DNR TYPE Ns) –PERMANENT FILL FOR COLLECTOR ROAD	240	20	180
DIRECT SHORT–TERM TEMPORARY IMPACTS TRIBUTARY 1 DNR TYPE F: TO BE RESTORED WITHIN 6 MONTHS –TEMPORARY FILL/REMOVAL FOR TEMPORARY BYPASS PIPE OUTFALL RIP RAP AND SAND BAG COFFERDAMS	50	0	5
TOTALS	**11,410**	**425**	**7,565**

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 15 OF 20

10/16/2023

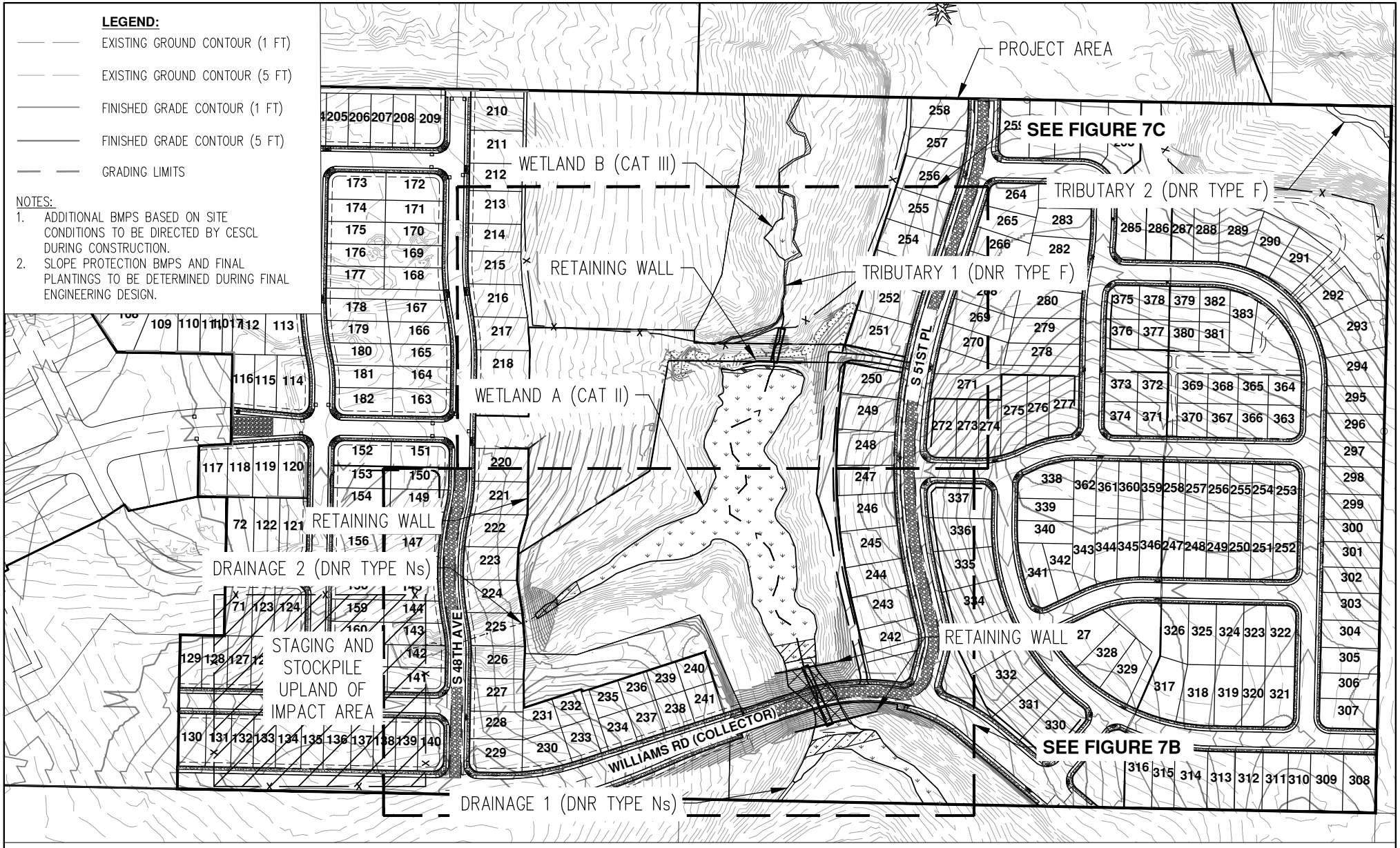
SUMMARY TABLE
SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE **6F**

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939

DWG: 8939 JARPA FIGURE 6_XSEC | TABLE



LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 16 OF 20

SCALE: 1"= 250 FEET

250 0 50 125 250

ORIGINAL PAGE SIZE: 11"x8.5"

N

10/16/2023

GRADING & EROSION CONTROL OVERVIEW

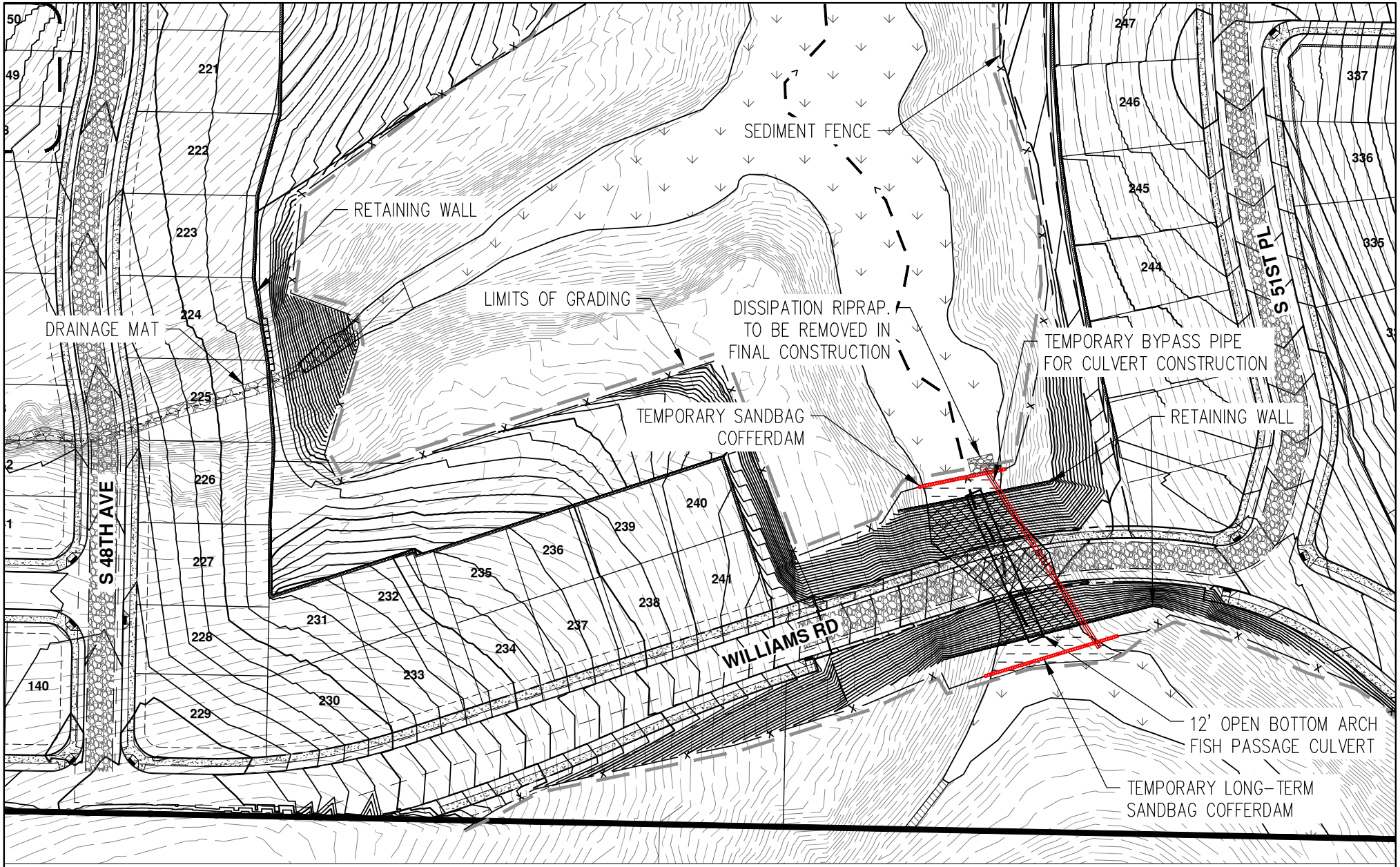
SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 7A

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939

DWG: 8939 JARPA FIGURE 7_GRADE_OVW | FIGURE 7A



LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 17 OF 20

N

SCALE: 1"=100 FEET

100 0 20 50 100

ORIGINAL PAGE SIZE: 11"x8.5"

10/16/2023

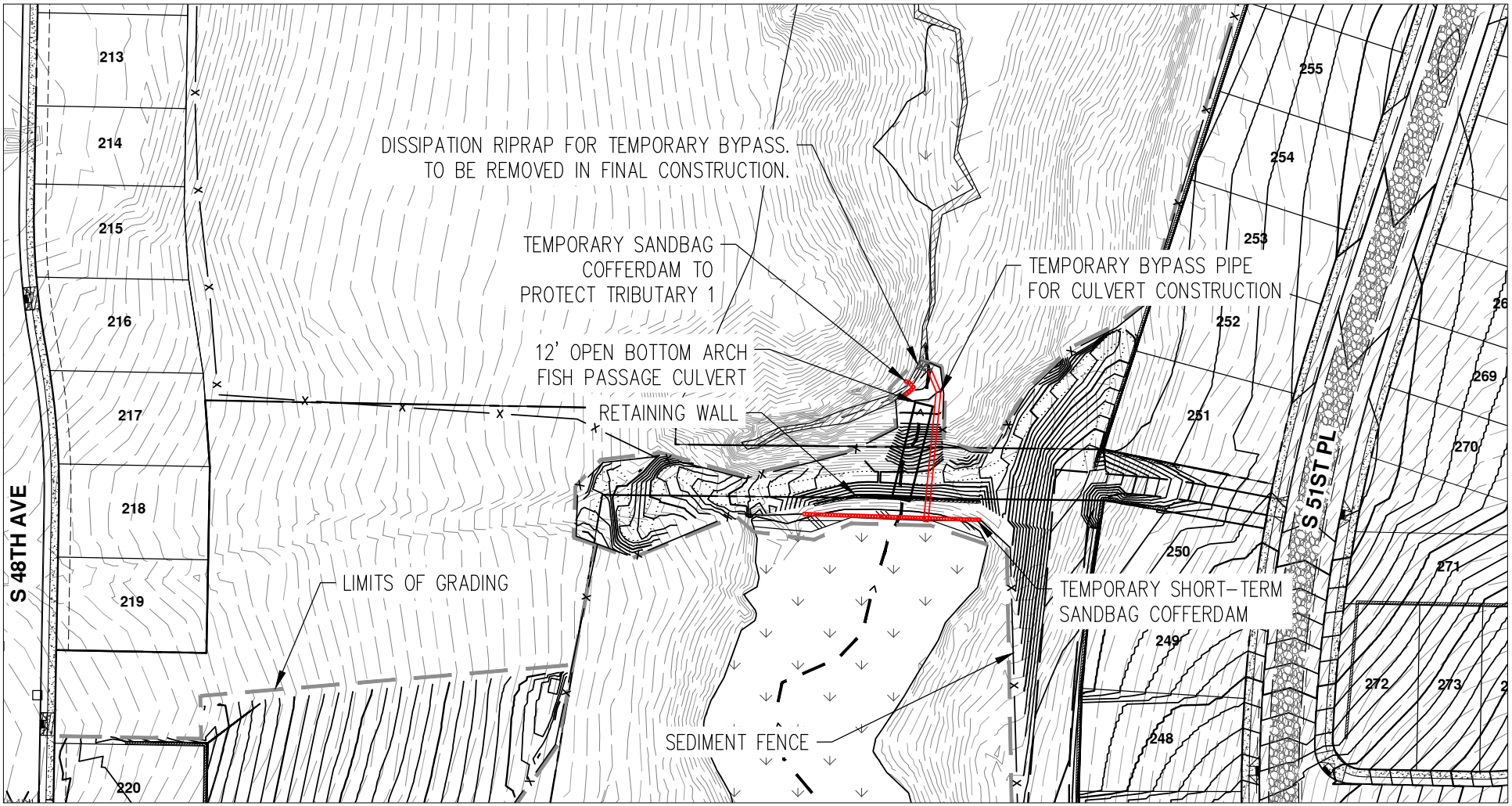
GRADING & EROSION CONTROL

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 7B

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
AKS JOB: 8939



LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 18 OF 20

N

SCALE: 1"=100 FEET

100 0 20 50 100

ORIGINAL PAGE SIZE: 11"x8.5"

10/16/2023

GRADING & EROSION CONTROL

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE 7C

AKS ENGINEERING & FORESTRY, LLC
9600 NE 126TH AVE, STE 2520
VANCOUVER, WA 98682
360.882.0419 WWW.AKS-ENG.COM

DRWN: BGZ
CHKD: SRR
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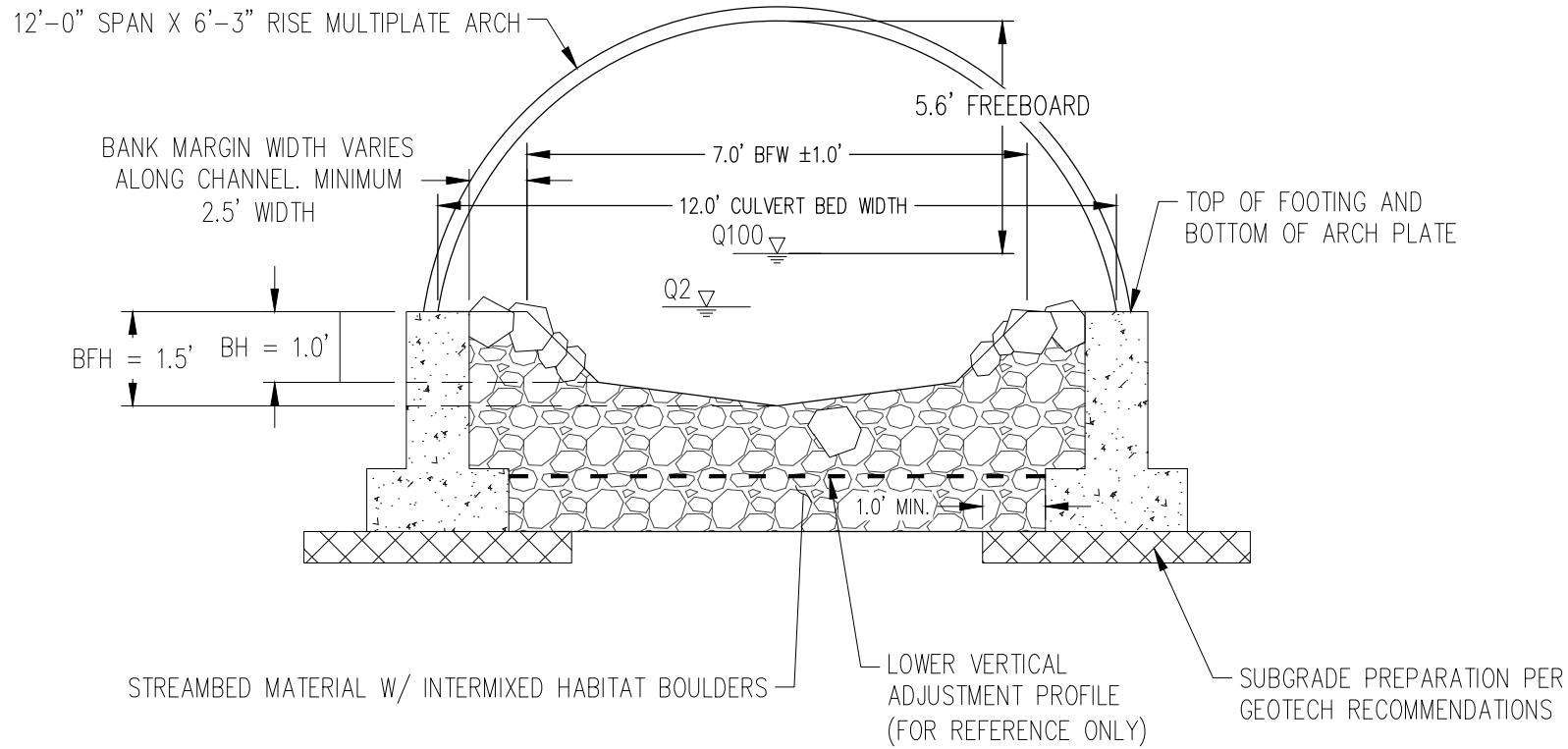

12' OPEN BOTTOM ARCH FISH PASSAGE CULVERT DETAIL

(NOT TO SCALE)

NOTE: STRUCTURE SIZE PER WDFW STREAM SIMULATION METHOD, WITH INITIAL CONCURRENCE FROM WDFW BIOLOGIST. DIMENSIONS OF CHANNEL CONSTRUCTION TO BE CONFIRMED BY WDFW DURING THEIR REVIEW OF THE HPA.

LOCATION: NORTHEAST CORNER OF NW HILLHURST RD & NW 229TH ST/ PARCEL 216690000
REFERENCE: ECY FILE 142974
APPLICANT: PAHLISCH HOMES AT SANDERLING PARK
PROPOSED PROJECT: RESIDENTIAL SUBDIVISION
SHEET: 19 OF 20

SCALE: 1"= 250 FEET

250 0 50 125 250

ORIGINAL PAGE SIZE: 11"x8.5"

N

10/16/2023

DETAILS
SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE **8A**

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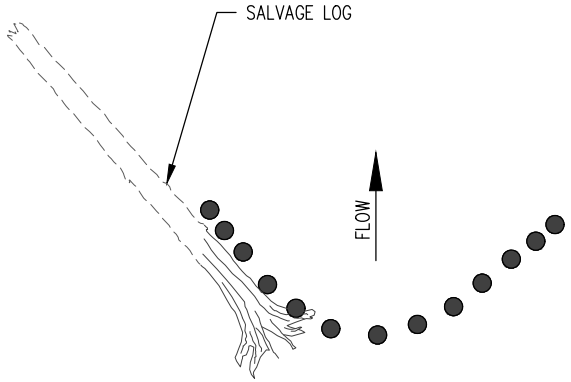
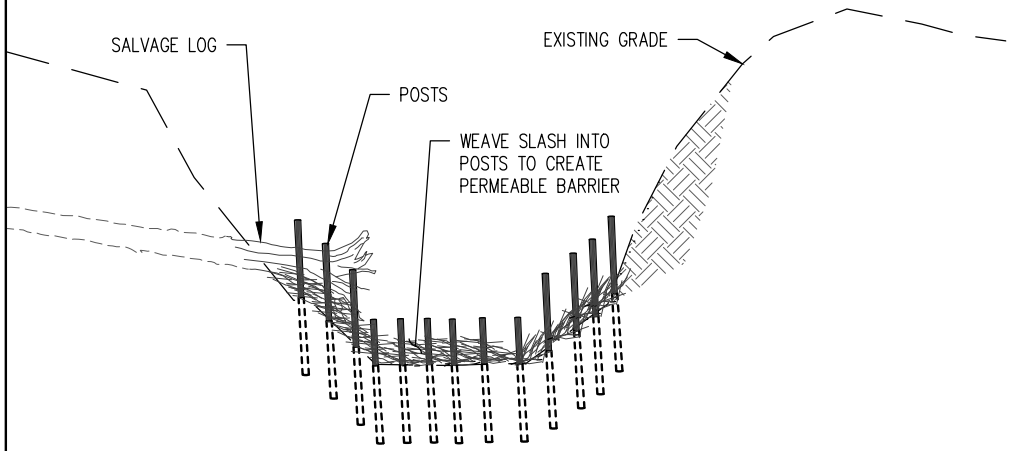


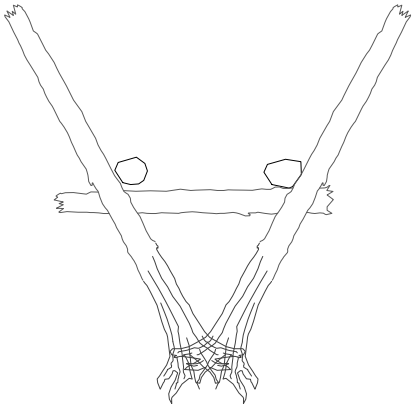
BEAVER DAM ANALOG - PLAN VIEW

(NOT TO SCALE)



BEAVER DAM ANALOG - SECTION VIEW

(NOT TO SCALE)



LOG SEDIMENT RETENTION STRUCTURE - PLAN VIEW

(NOT TO SCALE)

LARGE WOOD (LW) TO BE SIZED PER THE 2012 WDFW STREAM HABITAT RESTORATION GUIDELINES. TECHNIQUE 7, TABLE 1

Table 1. Key piece volume matrix including the minimum length and volume of wood to qualify as a key piece according to the TFW monitoring protocols (Schuett-Hames et al.[1]).

Min Log Diameter (m)	Bankfull Width 0 to 5m	Bankfull Width 5 to 10m	Bankfull Width 10 to 15m	Bankfull Width 15 to 20m
	Minimum Length (m)			
0.50	6	13	31	---
0.55	5	11	26	---
0.60	4	9	22	32
0.65	3	8	19	28
0.70	3	7	19	24
0.75	3	6	14	21
Min Volume (m^3)	1.0	2.5	6.0	9.0

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250 0 50 125 250

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DETAILS

SANDERLING PARK PUD PHASES 4-7 - JARPA

FIGURE **8B**

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