MEMORANDUM

To: City of Bellingham Parks Dept., Applicant

From: Molly Porter, PWS, Northwest Ecological Services (NES)

Date: June 19, 2024

RE: Mitigation Feasibility Memo for Bakerview Neighborhood Park

BACKGROUND

Northwest Ecological Services, LLC (NES) was retained to complete a conceptual mitigation design/ feasibility study for proposed development within the property known as Bakerview Neighborhood Park. The project site is owned by the City of Bellingham (COB) Parks department and is located in the King Mountain Neighborhood, in the northern extent of the City limits. The 29.33-acre parcel (380318 366480) is located south of East Bakerview Road (Section 18, Township 38N, Range 03E, W.M.) (Figure 1).

NES prepared past wetland delineations and critical areas assessment for portions of this site on two occasions. The eastern forested acreage was reviewed in 2003. The western pasture area was reviewed in 2016. These assessments were updated in January of 2024 but reflagging and a new survey of wetland boundaries was not included at that time. A number of wetlands and streams are located onsite, as described below and shown in Figure 2.

NES has worked with the design team and Parks to review multiple development scenarios. The current proposed site design is included in Figure 3. The intent of this memo is to quantify critical area impacts and identify the amount and placement of onsite mitigation areas that may be required to permit this current site design. A complete mitigation plan and impact analysis will be provided at a future date.

EXISTING CONDITIONS SUMMARY

Wetlands

During the 2024 assessment, 14 wetlands and one wetland mosaic (Wetlands D, M, N, O, P) were identified onsite (Figure 3). Site wetlands are summarized in Table 1. Please refer to the critical areas reports for additional details.

Table 1. Wetland Summary

Wetland	Hydrogeomorphic Class	Cowardin Classification	WDOE Category	Regulated Buffer *
A1	Riverine	PFO/ PSS	II	75
A2	Slope	PEM	III	80
B	Depressional	PFO	III	60
C	Depressional	PFO	III	60
D, M, N, O, P Mosaic	Depressional	PSS	IV	25
E	Depressional/Slope	PFO	III	60
F	Riverine	PFO/PSS	II	75
G	Slope	PEM	III	80
H, J, K, L	Depressional	PEM	III	100
X	Depressional	PFO	III	50
Y	Depressional	PEM	III	80
Z	Depressional	PFO	IV	n/a

PFO: Palustrine Forested; PSS: Palustrine Scrub-Shrub; PEM: Palustrine Emergent
*Buffers based on variable intensity land uses- see critical area report for details

Habitat Conservation Areas (HCAs)

HCAs observed onsite included three streams (North Fork Baker, Cammack Creek, and Landon Creek) and three smaller drainages (Stream 1, 2, and 3), as shown in Figure 2.

The onsite portion of North Fork Baker Creek is mapped by Washington Department of Fish and Wildlife (WDFW) as a seasonal, fish-bearing stream with potential presence of multiple species of salmonids.

Cammack Creek is not currently mapped as fish bearing by WDFW, but it is connected to downstream fish bearing waters (Baker Creek) and contains channel morphology that would provide suitable fish habitat; and is therefore assumed to be fish bearing.

Landon Creek flows into the northwestern portion of the subject parcel from a culvert under East Bakerview Road, and within the property the creek is located in a buried culvert. The culvert daylights into Cammack Creek in the approximate location shown in Figure 2.

Three smaller drainages are present onsite, and all are small intermittent/ ephemeral outlets from various wetlands (C, G, and L). None are considered fish bearing.

Site streams summarized in Table 2. Please refer to the critical areas reports for additional details.

Table 2. Stream Summary

Feature	Type	Regulatory Authority				Regulated Buffer (ft)*
		COB	Corps	Ecology	WDFW	
North Fork Baker Creek	F	X	X	X	X	75
Cammack Creek	F	X	X	X	X	75
Landon Creek	Ns	X	X	X	X	50
Streams 1-3	Ns	X		X		50

F; Fish bearing, Ns: Non-fish bearing seasonal
* minimum buffers from Code Cited

Washington State Department of Fish and Wildlife (WDFW) mapping does not indicate any Priority wildlife species onsite. However, mapping includes the occurrence of big brown bat (*Eptesicus fuscus*) within the township. No obvious hibernacula were observed within the review area. Multiple large snags were observed within the forest on site that may be utilized for day roosts. Foraging habitat is present on site, primarily within the riparian corridors associated with Cammack and North Fork Baker Creek.

Aside from potential salmonids in the streams, no other state or federal Threatened, Endangered, or Candidate species or State Priority species are mapped, or were observed, within the subject parcel or immediate vicinity.

The Bellingham Habitat Restoration Technical Assessment (COB, 2015) maps portions of the site within forested block #157, which includes recommended restoration actions.

Regulatory Summary

All aforementioned critical areas are anticipated to be regulated by one more of the following agencies: City of Bellingham (COB), US Army Corps of Engineers (Corps), Washington State Department of Ecology (Ecology), and/or WDFW.

The COB requires a buffer around most regulated critical areas to protect functions. The buffer must remain naturally vegetated except where it can be enhanced to improve functions. Buffers are measured from the wetland edge or a stream ordinary high water mark (OHWM), and **buffer widths based on City Code are included in Tables 1 and 2 above**. Again, please refer to the NES Critical Area Update for additional details (NES, 2024).

PROPOSED PROJECT

The current site plan is included as Figure 3 and includes the following elements:

- Frontage Improvements. The project is anticipated to require frontage improvements along East Bakerview Road that include the addition of a curb, gutter, and sidewalk. This will require modifications or an extension to the Landon Creek culvert under the road. Any proposal for these modifications is anticipated to require permits from WDFW and upgrading the culvert under East Bakerview Rd to meet fish passage standards.
- Residential Development. The proposed project includes designating a portion of the site for future multi-family residential development. This development area is intended to meet the need for affordable housing within the City, and will be constructed at a future date by someone other than the Parks department. The residential project area is not shown on the current site plan but is located in the northwestern potion of the property, from the proposed access road to the north. Impacts associated with this development are considered in this memo as they will affect the onsite critical area impacts and mitigation.
- Park Amenities. Active park amenities are planned on the south side of Cammack Creek, which may include restrooms, a skate park, sports courts, picnic areas, and active play areas.
- Site Access. The park will be accessed via a new road extending from Woodbury Way at the western property line, extending southeast through the site. This will need to cross Cammack Creek, and parking will be provided south of the stream near the active park elements.
- Trails. Numerous multi-user trails are proposed throughout the remainder of the site. These span the open fields south of the active park areas and into the forest in the eastern portion of the site. The trails will connect south to Telegraph Road over the City stormwater detention dam. A future connection is anticipated along the eastern parcel boundary, extending east towards James Street but the exact alignment and potential critical area impacts associated with the offsite extent of this trail system are not included at this time.

  A number of nature viewing nodes/ platforms are located along the trail alignment, these are shown as dark orange polygons in Figure 3.
- Stormwater. Stormwater management shall be provided for all new impervious surfaces per the Washington Department of Ecology Stormwater Manual for Western Washington and the City Code.
- Wetland Stream Impacts and Mitigation. The proposed development is anticipated to result in wetland fill, indirect wetland impact, and wetland/ stream buffers impacts. Mitigation for all impacts is currently proposed onsite, as detailed below.

Mitigation is presented in the form of wetland creation, wetland enhancement and wetland/ stream buffer enhancement. This project also includes daylighting the onsite portion of Landon Creek as out of kind mitigation for a portion of the site impacts.

PROJECT AND PERMIT TIMING

The extent of some of the impacts will differ depending on the timing of activities in relation to phases of the project. For example, if the road improvements are permitted first the road widening will result in an indirect impact to Wetland Y, but if the residential component is permitted first then Wetland Y will be filled and no indirect wetland or buffer impact will occur.

Additionally, some elements of the proposed project will require only City permits, while others, particularly the proposed wetland fill and daylighting of Landon Creek will require additional permits from the Corps, Ecology, and WDFW.

In order to maximize the efficiency of permitting and minimize mitigation required, we recommend permitting all aspects of the project that require permits and coordination with the Corps, Ecology, and WDFW at one time.

The impacts and mitigation below are intended to include all project impacts but impacts and mitigation required may differ depending on if/ how the project is broken into phases. For the purposes of this assessment we assume the wetlands in the residential area will be filled prior to road improvements and Park elements, or they will be permitted simultaneously.

PROPOSED WETLAND/ STREAMS IMPACTS

The following section summarizes impacts associated with the proposed project. Total impacts are summarized below in Table 3.

Residential Component

Wetland Impact –

Fill- 0.17 acres of Category III wetland fill (all of Wetlands Y and G).
Indirect Wetland Impact – 0.03 acres of indirect Category III impact (Wetland A2).

Both the proximity of the residential development and discharge of the new Landon Creek channel into Wetland A2 are anticipated to result in a potential indirect impact to this wetland.

Streams- Fill of Stream 3- 35 linear feet or approx. 105 square feet (sq. ft.) (35 x 3 feet).

Buffer Impact- None

Park Amenities and Trails

Wetland Impact –

Fill- None.
Indirect Wetland Impact – 0.13 acres of indirect Category III impact (Wetlands L, J, K).

Indirect impacts result from the buffer being reduced beyond the maximum 25 percent allowed under City Code. A reduction beyond this amount is likely to result in an indirect wetland impact due to proximity of development. In these areas, the wetland will be retained and able to provide some wetland functions, but the functions may be reduced. These impacts are therefore presented as indirect wetland impact, rather than buffer impact. This is calculated by projecting the wetland buffer from the proposed development to the wetland and counting the area of wetland that overlaps and will be functionally a buffer for the remainder.

Indirect wetland impacts are not presented for trails, as trails are an allowed use in wetland buffers per BMC 16.55.320. Buffer impacts are included for these areas.

A boardwalk is proposed over Wetland L. The wetland is less than 10 feet wide at this point and it is assumed the boardwalk can span the entire wetland and no fill is required. Therefore, the boardwalk results in an indirect impact, rather than wetland fill.

Streams- Crossing Cammack Creek and Stream 2.

A culvert is anticipated over Cammack Creek to accommodate the access road. At this time, it is assumed the culvert will not be longer than 40 linear feet and will be designed to meet fish passage standards.

A boardwalk is proposed over Stream 2. The stream is less than two feet wide and it is assumed the boardwalk footings will span over the stream and no direct impact is proposed.

Buffer Impact-

Stream buffers – 0.31 acres of buffer impact.

Wetland Buffers- 0.32 acres of buffer impact.

No impacts are calculated for the trail that crosses the detention dam south to Telegraph Road, as this is existing infrastructure.

Table 3. Total Site Impacts

Impact Type	Acreage
Weland Fill – Cat III	0.17
Indirect Wetland Impact- Cat III	0.16
Stream Impact	105 sq. ft.
Cammack Creek Culvert	Size TBD
Stream Buffer Impact	0.31
Wetland Buffer Impact	0.32

COMPENSATORY MITIGATON

Mitigation has been presented for all proposed impacts. The proposed mitigation includes a combination of mitigation types, including wetland creation, wetland enhancement, wetland and stream buffer enhancement, and out of kind mitigation (stream channel creation) for a small portion of the wetland fill.

On-site mitigation was chosen as the most appropriate based on guidance in the COB CAO and best professional judgment. Many of the site wetlands in the field have been degraded by past land use, and wetlands and buffers onsite could benefit and result in functional improvements from the proposed enhancement work. Mitigation detailed below has been designed to meet the COB CAO and guidance in *Wetland Mitigation in Washington State–Part 1: Agency Policies and Guidance (Version 2)* (Ecology, Corps, EPA, 2021) to the greatest extent possible.

This document does not provide a detailed discussion of mitigation sequencing or assessment of wetland/ stream/ buffer functions and how they will be replaced through proposed mitigation, that detail will be provided in the final mitigation plan.

Conceptual mitigation areas are shown in Figure 5, Table 4, and are detailed below.

Table 4. Proposed Site Impacts and Mitigation Summary

Impact Type	Acreage	Mitigation Ratio Required	Wetland/ Stream Creation (acres)	Wetland Enhancement (acres)	Out of Kind- (Creek Daylighting)	Buffer Enhancement (acres)
Weland Fill – Cat III	0.13	2:1	0.26	-	-	-
	0.02	8:1	-	0.16	-	-
	0.017 (728 sf)	2:1	-	-	0.034 ac (1,455 sf)	-
Indirect Wetland Impact- Cat III	0.16	4:1	-	0.64	-	-
Stream Impact	105 sq. ft.	1:1	Daylight Landon Creek	-	-	-
Cammack Creek Culvert	Size TBD	-	Remove Existing Cammack Creek Culvert	-	-	-
Stream Buffer Impact	0.31	1:1	-	-	-	0.44 Cammack * 0.43 Landon*
Wetland Buffer Impact	0.32	1:1	-	-		0.36*
Mitigation Totals	**-**	**-**	**0.26 (wetland creation)**	**0.80**	**-**	**1.23**

*proposed mitigation area is larger than required based on impact for reasons stated below

The proposed mitigation includes the following elements:

- Wetland Creation. A minimum of 0.26 acres of creation is proposed. A small wetland creation area seems feasible between Wetlands H and B. Wetlands H and B appear to both have a perched water table over dense clayey subsoil. Excavation would be required to modify elevations and detain water in a constructed depression. Wetland hydrology would rely mainly on precipitation and surface runoff. The creation area would be planted with native vegetation upon completion.

  The creation area is within the portion of the site designated for trails, which is a low intensity land use. Adjacent wetlands (H and B) are Category III with low wildlife habitat points, and the Corps/ Ecology/ EPA guidance requires a 40-foot perimeter buffer on this category wetland, therefore a 40-foot perimeter buffer is proposed on the creation area, which is included in the mitigation design. Enhancement planting is proposed in portions of the perimeter buffer that lack woody vegetation.

  Wetland creation is intended to compensate for the majority, but not all of the proposed wetland fill.

- Wetland Enhancement. A total of 0.80 acres of wetland enhancement is proposed. Enhancement generally includes removal of invasive material and planting of native trees, shrubs, and/or emergent vegetation; and installation of habitat features such as large woody debris.

  Wetlands H, J, and K are currently dominated by non-native pasture grasses and enhancements will include planting native material. Indirect wetland impact is anticipated in the northern portion of Wetland J, and this area will be enhanced to protect and improve wetland functions. Based on the current design, there is approximately 50 feet between Wetland J mitigation and the active use zone. This is a reduction from the required 60-foot perimeter buffer required for moderate intensity land use. We are requesting a reduction in the perimeter buffer to a low intensity buffer (40 feet) as this is within a transitional area between low and moderate intensity land use onsite. Permitting agencies may require this perimeter buffer to be planted with trees and shrubs, which is not included in the current plan.

  Enhancements shall also occur in a portion of Wetland B. This area is either pasture grasses, or deciduous trees with an understory of Himalayan blackberry (*Rubus armeniacus*), an invasive species. Enhancement includes removal of blackberry and planting native plants.

  Wetland enhancement is intended to compensate for a portion of the proposed wetland fill and for all indirect wetland impacts.

- Landon Creek Daylighting. Landon Creek daylighting will occur in the northeastern portion of the property. Early conversations with City and WDFW staff have indicated that a minimum 30-foot buffer will be required on the stream. The current alignment includes this minimum buffer and a 10-foot area to accommodate a slightly meandering stream channel of between six and eight feet wide.

Daylighting the creek is proposed as mitigation for fill within Stream 3, which is a small intermittent stream that conveys water between Wetland G and A2. The primary function of this feature is conveyance.

The creek daylighting is also proposed as out of kind mitigation for a small amount (0.22 acres/ 728 sq. ft.) of direct wetland impact. The new stream channel provides aquatic habitat within the site, and a 2:1 mitigation ratio has been proposed (stream channel creation: wetland fill).

- Wetland Buffer Enhancement. A total of 0.36 acres of wetland buffer enhancement is proposed. Enhancement includes removal of blackberry and planting native plants in area currently dominated by pasture grass.

  The wetland buffer enhancement proposed is 0.04 acres more than required with a typical 1:1 (impact to mitigation) ratio. The additional area ensures a vegetated buffer on the creation area.

  Proposed wetland buffer enhancements provide mitigation for all proposed wetland buffer impacts and are concentrated in areas that would provide the most protection and functional uplift onsite.

- Stream Buffer Enhancement. A total of 0.87 acres of stream buffer enhancement is proposed. Enhancement includes removal of blackberry and planting native plants in area currently dominated by pasture grass.

  The stream buffer enhancement proposed is 0.56 acres more than required with a typical 1:1 (impact to mitigation) ratio. This provides enhancement plantings for all proposed buffer reductions on Cammack Creek. Plantings within the Cammack Creek buffer shall be a minimum of half of the retained buffer. This provides more than enough square footage to offset the proposed impacts at a 1:1 ratio, additional planting of the outer buffer is not proposed.

  The additional stream buffer mitigation planting areas are proposed due to the daylighting of Landon Creek, and creating a new stream system with a functional/ vegetated buffer that will protect and shade the stream.

- Additional Project Mitigation Elements. Additional project elements that are considered in the overall mitigation design include:
  - Boardwalks will be installed over Wetland L and Stream 2. These will minimize impacts and retain wetland/ stream functions and water conveyance in these areas.
  - An existing culvert on Cammack Creek will be removed.
  - The culverts under Bakerview Road and Cammack Creek will be designed to meet WDFW fish passage standards.

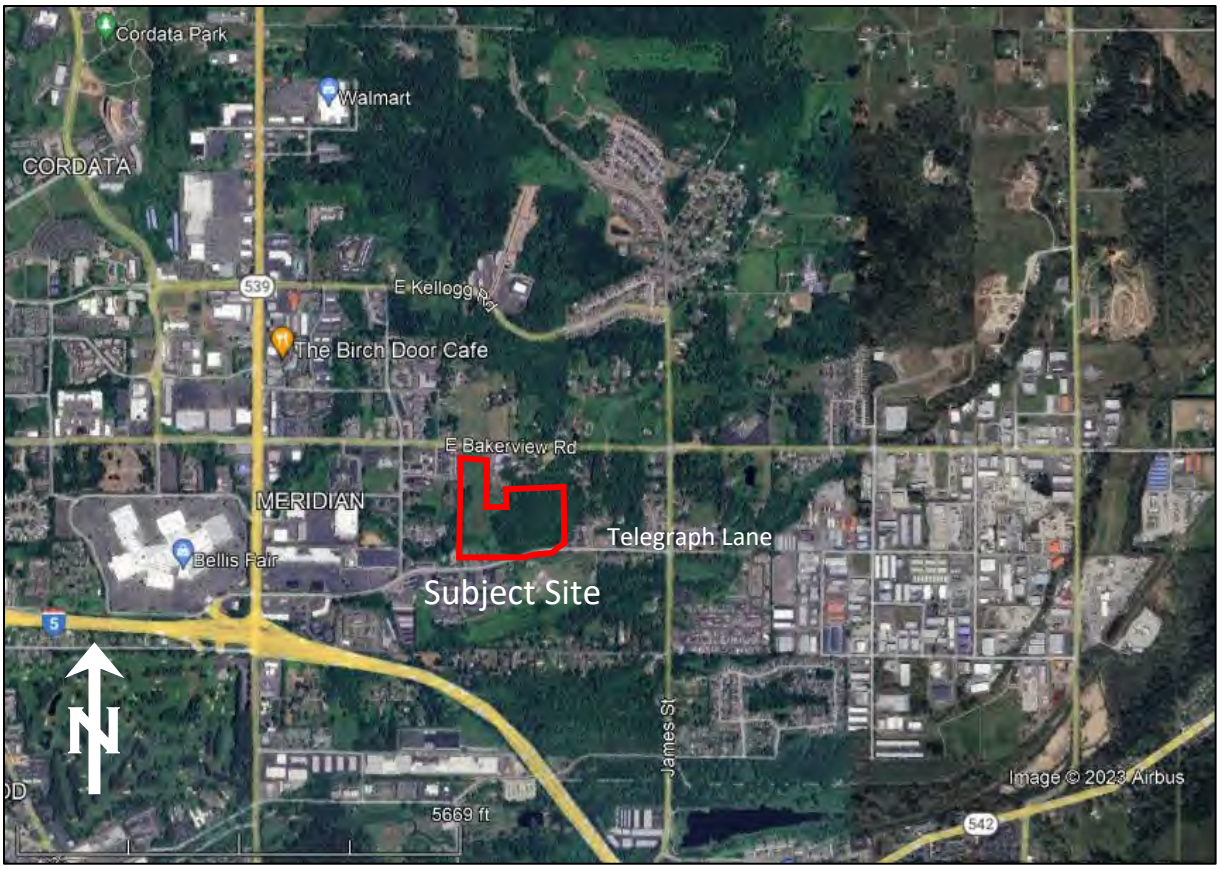
- On-Site Protection. Measures will need to be proposed to ensure permanent protection of the retained critical areas and mitigation sites. These may include a conservation easement and critical area signage. At this time fencing is not proposed but may be warranted on the southside of the active use zone. Site protection could include split rail or dimensional lumber fencing, or possibly a living hedge of thorny plants intended to limit access from the active park area to the south to encourage people and pets to stay on the designated trails.

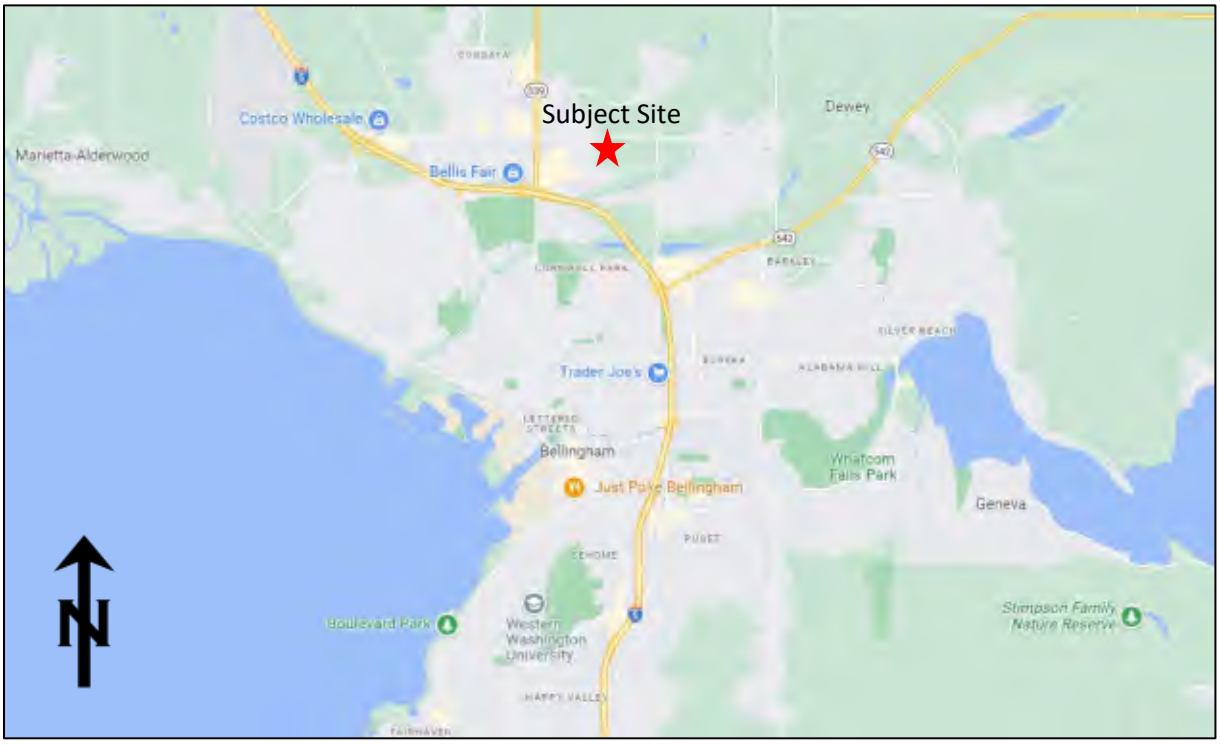
Again, a final mitigation plan will be provided upon request at a future date. The final mitigation plan is anticipated to include a discussion of mitigation sequencing, assessment of wetland/ stream/ buffer functions and how they will be replaced through proposed mitigation, and a monitoring and maintenance plan for a minimum of 10 years, along with project installation details.

ATTACHMENTS:

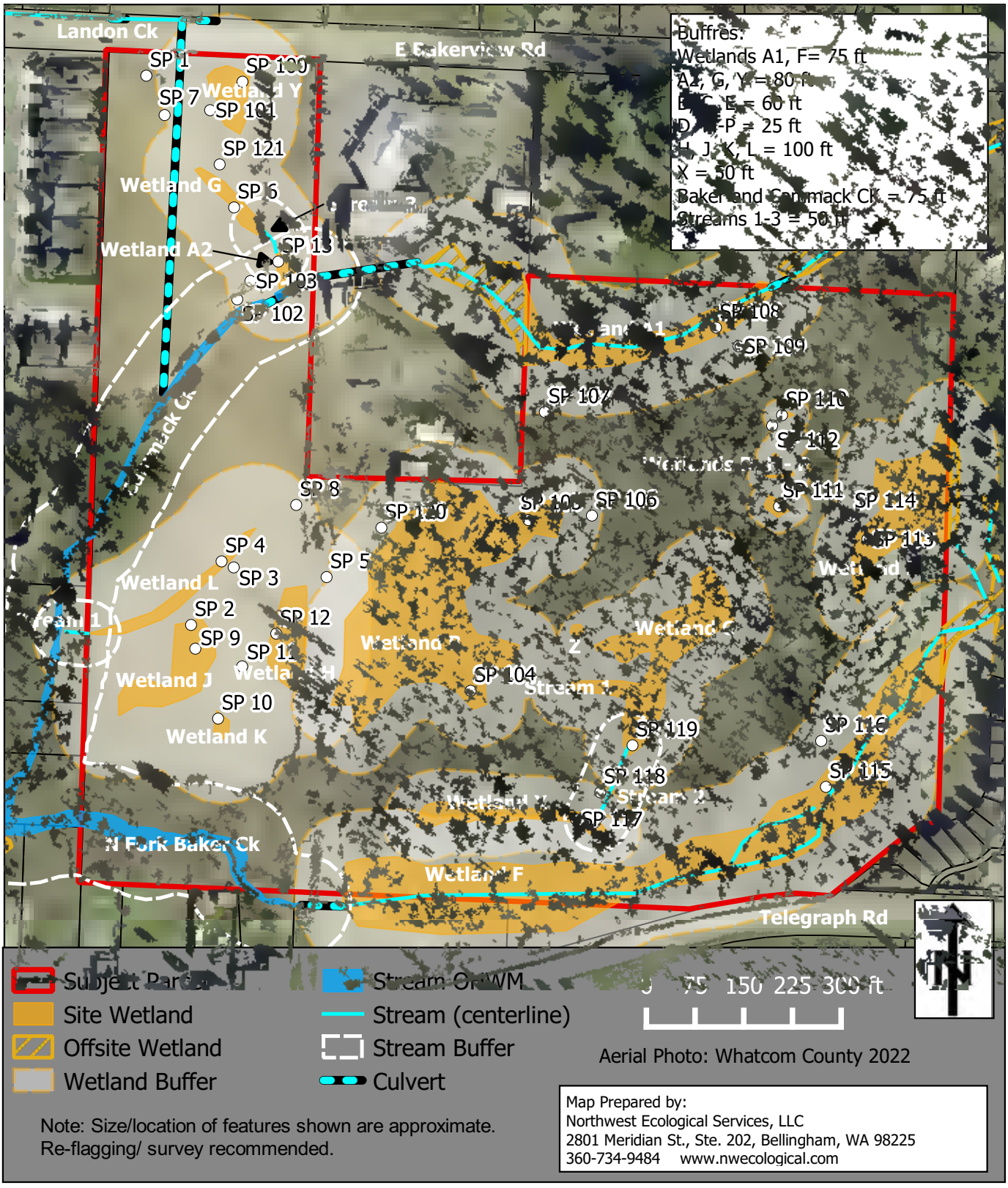
Figures

1. Vicinity Maps
2. Wetland/ Stream Map
3. Proposed Site Plan
4. Impact Map
5. Conceptual Mitigation Map





ECOLOGICAL NORTHWEST	**Vicinity Maps (Google Maps)** **Bakerview Neighborhood Park Mitigation Memo**	**Figure 1** **June 2024**

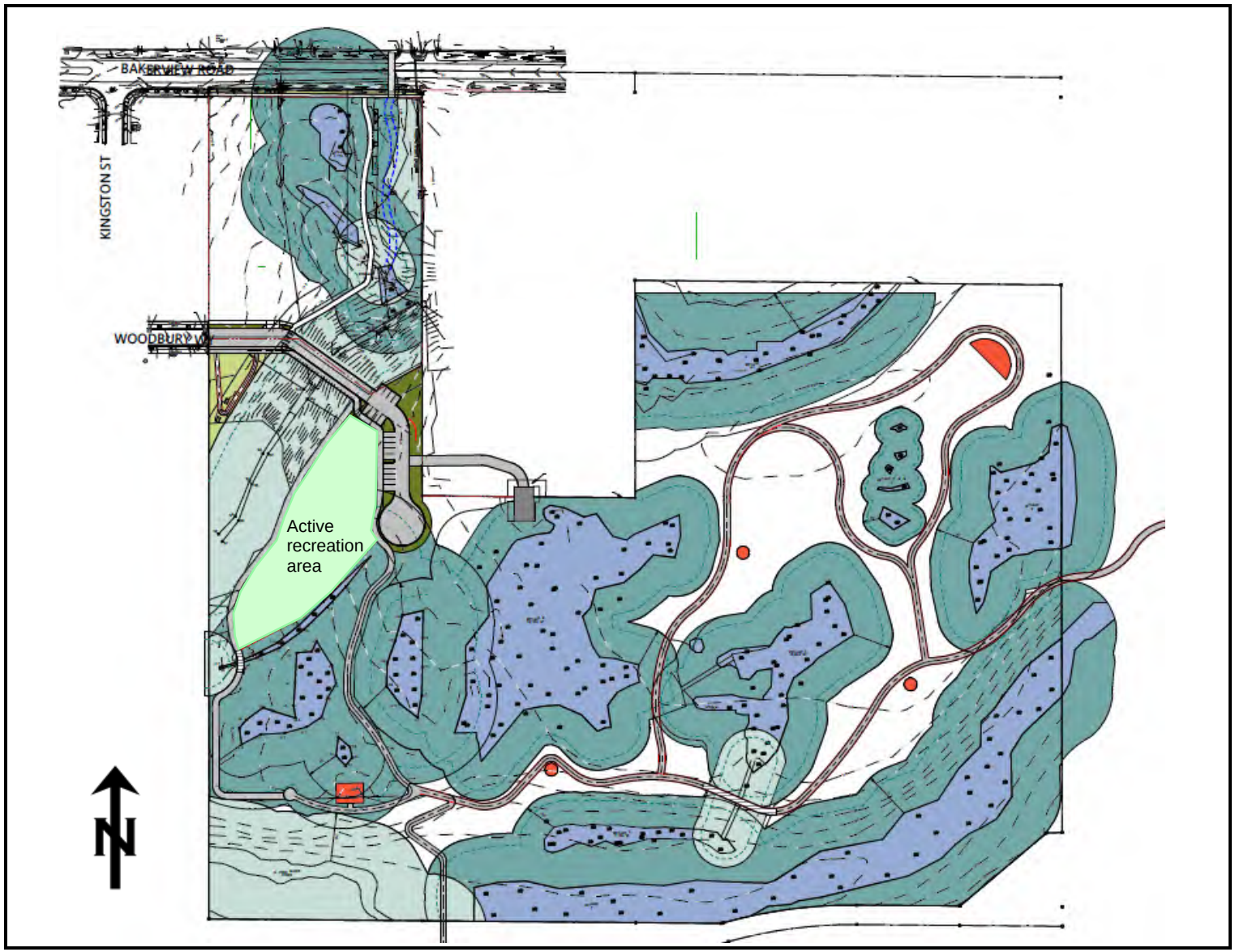


Aerial Photo: Whatcom County 2022

Note: Size/location of features shown are approximate.
Re-flagging/ survey recommended.

Map Prepared by:
Northwest Ecological Services, LLC
2801 Meridian St., Ste. 202, Bellingham, WA 98225
360-734-9484 www.nwecological.com

Ecological Northwest	**Wetland and Stream Map** **Bakerview Neighborhood Park Mitigation Memo**	**Figure 2** **JUNE 2024**



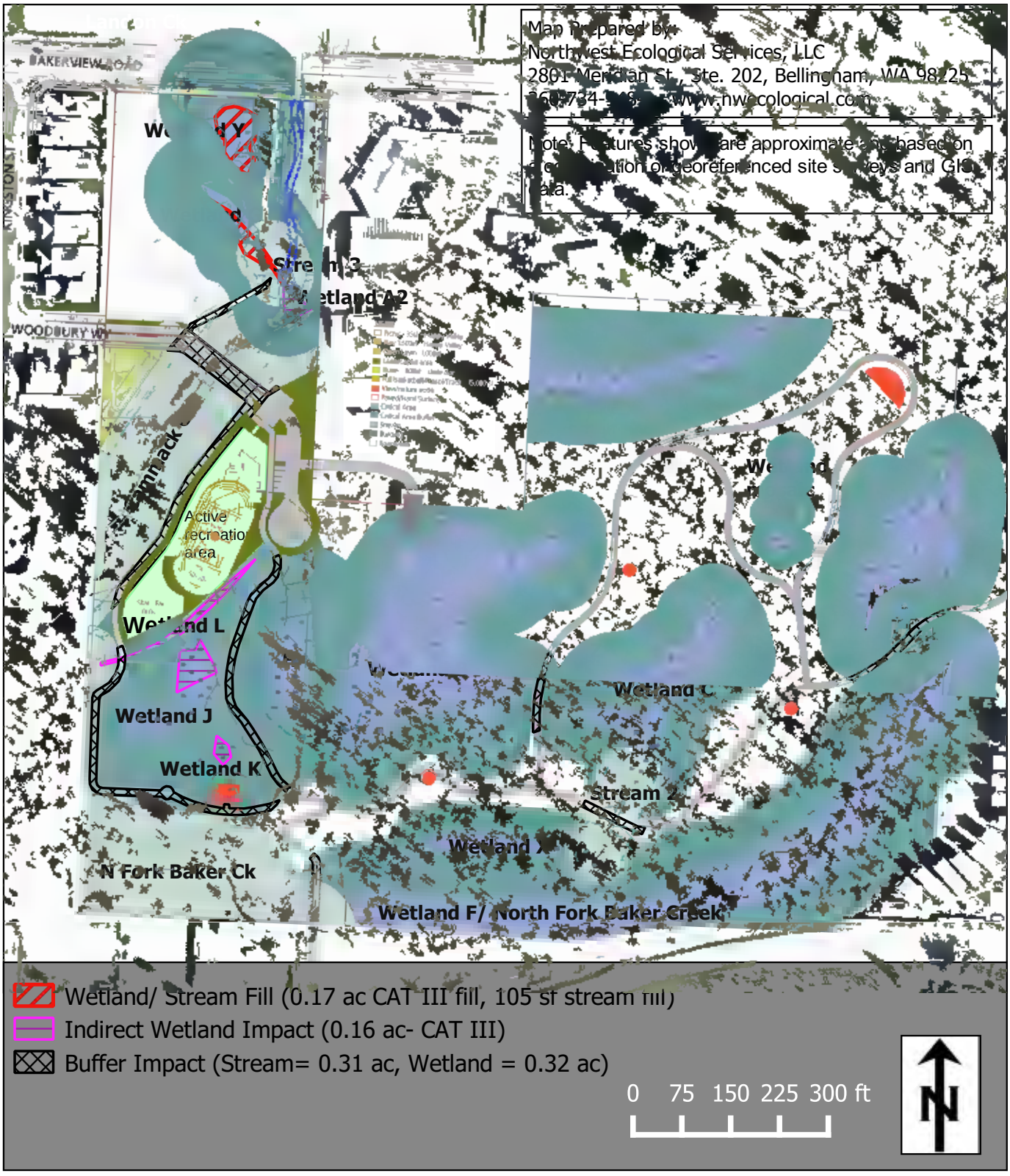
ECOLOGICAL NORTHWEST

Site Plan Concept
(Drawing by Board & Vellum)

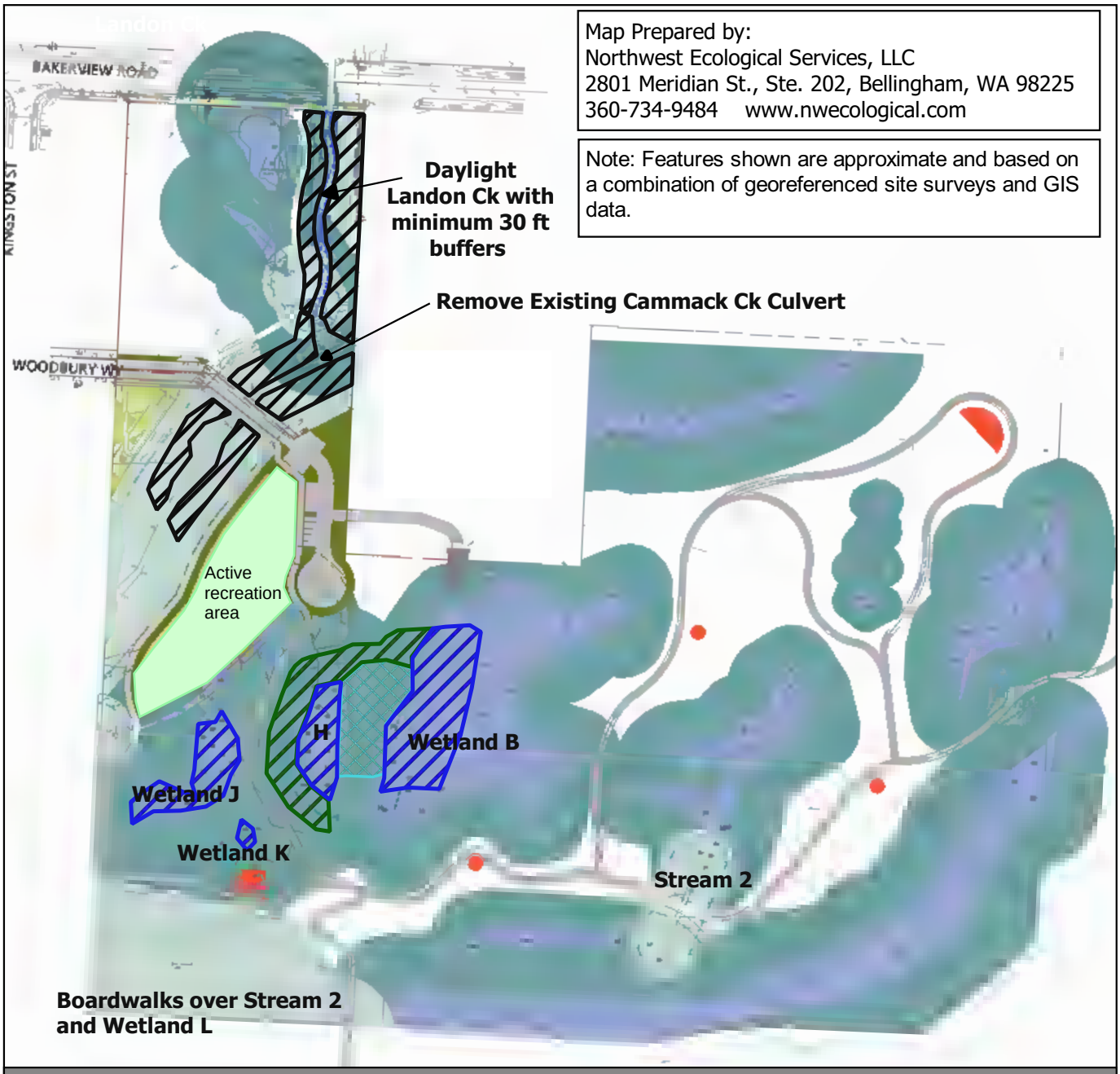
Bakerview Neighborhood Park Mitigation Memo

Figure 3

June 2024



Northwest Ecological	**Impact Map** **Bakerview Neighborhood Park Mitagation Memo**	**Figure 4** **June 2024**



Ecological Northwest	**Conceptual Mitigation Map** **Bakerview Neighborhood Park Mitigation Memo**	**Figure 5** **June 2024**