APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 15, 2013

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Seattle District – Larabee Springs, Inc., NWS-2007-1539
Form 2 of 3–Wetlands Abutting RPWs (A/B, D, F/I/M, H/P, R, and U)
NOTE: See Form 1 for info on isolated wetlands and Form 3 for info on wetlands adjacent to RPWs

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: WA County/parish/borough: Whatcom City: Bellingham
Center coordinates of site (lat/long in degree decimal format): Lat: 48º 48' 56.71", Long. 122º 30' 12.86"
Universal Transverse Mercator: Zone 10 N5407093.09 E 536443.63
Name of nearest waterbody: East Bear Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Nooksack River
Name of watershed or Hydrologic Unit Code (HUC): 17110004, Nooksack River
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): 8 July 2013

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are and are not** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☒ Isolated (interstate or intrastate) waters, including isolated wetlands

   NOTE: See Form 1 for info on isolated wetlands and Form 3 for info on wetlands adjacent to RPWs

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
   Non-wetland waters: 5, 475 linear feet: average 3' width (ft) and/or 0.38 acres.
   Wetlands: 8.05 acres

   c. **Limits (boundaries) of jurisdiction** based on: 1987 Delineation Manual and OHW
   Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain:

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):
This section summarizes information regarding characteristics of the tributaries and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under Rapanos have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation**.** Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW – Seasonal RPWs

(i) General Area Conditions:
Watershed size: Nooksack River (HUC 17110004) 795 **square miles**
Drainage area: 130 **acres**
Average annual rainfall: 35 inches
Average annual snowfall: 16 inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **3** tributaries before entering TNW.

Project waters are **5-10** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: Onsite streams flow to East Fork Bear Creek, which flows into Bear Creek, a tributary of Spring Creek, which flows into the Nooksack River, a designated Section 10 navigable waterway.
Tributary stream order, if known: 1.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: Grade control structures installed and channels excavated in past for farm drainage.

Tributary properties with respect to top of bank (estimate):
Average width: 18 feet
Average depth: 10 feet
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):
☒ Silts ☐ Sands ☐ Concrete

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☒ Vegetation. Type/% cover: grass species, 85%
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable and vegetated.
Presence of run/riffle/pool complexes. Explain: none.
Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): 5 %

(c) Flow:
Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime: Seasonal.
Other information on duration and volume: persistent flow for 3 to 6 months out of the year.

Surface flow is: **Discrete and confined.** Characteristics: See additional information below.

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):
- ☒ clear, natural line impressed on the bank
- ☐ changes in the character of soil
- ☒ shelving
- ☒ vegetation matted down, bent, or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ other (list):
- ☐ the presence of litter and debris
- ☒ destruction of terrestrial vegetation
- ☐ the presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ multiple observed or predicted flow events
- ☐ abrupt change in plant community

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:
- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: Water is clear with moderate organic debris, general water quality is good, watershed has been extensively developed for agricultural and residential uses, downstream waters of Spring Creek are on the WA State 303(d) list for temperature and fecal choliform.
Identify specific pollutants, if known: Herbicides, fertilizers.

(iv) Biological Characteristics. Channel supports (check all that apply):
☒ Riparian corridor. Characteristics (type, average width): shrub/herbaceous, 100+ feet.
☒ Wetland fringe. Characteristics: PEM dominated by grass species.
☐ Habitat for:
- ☐ Federally Listed species. Explain findings: .
- ☐ Fish/spawn areas. Explain findings: .
- ☐ Other environmentally-sensitive species. Explain findings: .
- ☐ Aquatic/wildlife diversity. Explain findings: .

C. SIGNIFICANT NEXUS DETERMINATION

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide rationale indicating that tributary flows seasonally: .
   - ☒ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: Tributaries identified as having continuous flow for 3-6 months. See additional information section for details.

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☒ Tributary waters: 5,475 linear feet; average 3' width (ft) and/or 0.38 acres**.**
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: **.**

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
     - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above.
     - ☒ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Visual observations during site visit and information provided in the original and revised delineation reports verify that wetland boundaries extend to the OHW line of streams.

   Provide acreage estimates for jurisdictional wetlands in the review area: 8.05 acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   - ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Wetland delineation report dated May 2006.
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☒ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☐ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: Ferndale Quad
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
- ☐ National wetlands inventory map(s). Cite name: .
- ☒ State/Local wetland inventory map(s): WA State Department of Ecology, 2001
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): WA State Department of Ecology, 2005; City of Bellingham, 2004.
  or ☐ Other (Name & Date): .
- ☒ Previous determination(s). File no. and date of response letter: NWS-2007-1539, 11 March 2008.
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature: .
- ☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Date of Site Visit: 8 July 2013
Investigator(s): Randel Perry
Ed Miller, Liliana Guiferro (consultants).

1. Site Description and Significant Resources in the area: The site consists of 3 tax parcels with a total of 71 acres. The site is irregular in shape with a general slope to the south. Surrounding vicinity has been substantially developed for agricultural, recreational and residential uses. The site is bounded by the Bellingham Golf Course to the north, residential developments to the south, and undeveloped property to the east, and residential properties and Aldrich road to the west. Site was historically used for agricultural purposes and continues to be regularly mowed. The site is currently undeveloped and primarily vegetated with a field grasses. Wetlands in question are scattered across the properties. There are identified streams on the project site that are tributaries of East Bear Creek. East Bear Creek is located approximately 0.32 miles southwest of the site.

2. Delineation: The original delineation for the site dated July 2007 and the addendum dated 2 October 2007 identified 25 separate wetlands on site and four streams. The Corps confirmed the wetland boundaries and issued a jurisdictional determination on 11 March 2008. The project consultant provided a revised delineation dated 9 May 2013 that identified 29 wetlands and four streams.

3. Project Purpose and Description: Fill/grade associated with residential development.

4. Physical / Chemical Characteristics:

a. Streamflow c.f.s.: 0.5 to 2.0cfs
b. Salinity: NA
c. Soils: Whatcom silt loam – 0-3% & 30-60% slopes (non-hydric w/ hydric inclusions).
Whatcom Labounty silt loam 0-8% slope (non-hydric w/ hydric inclusions)

[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

West side wetlands - 0" to 6" – 10YR 3/2 silt loam; 6" to 12" - 10YR 3/2 silt loam w/ 10YR 4/6 concretions (10%, matrix)
East side wetlands - 0" to 6" – 10YR 3/2; 6" to 12" - 10YR 2/2 silt loam w/ 7.5YR 4/6 concretions (20%, matrix)
Uplands – 10YR 2/2, 3/2, and 4/2 silt loam w/ no redox features in upper 16" of soils
10YR 3/3 w/ 10YR 4/3 concretions (<5%, matrix) in upper 16"

d. Hydrology: Saturation at 12" to 10" depth (no standing water) and signs of inundation at center of wetlands.

5. Biological Characteristics:

a. Percentage of dominant vegetation FAC or wetter: 95% in wetlands

b. Vegetation species list:

Riparian Wetlands
Soft rush (*Juncus □ffuses*), FACW+
Creeping buttercup (*Ranunculus repens*), FACW
Velvet grass (*Holcus lanatus*), FAC
Reed canarygrass (*Phalaris arundinacea*), FACW
Creeping bentgrass (*Agrostis stolonifera*), FAC+
Bluegrass (*Poa* spp.) FAC – FACU
Knotgrass (*Paspalum distichum*), FACW
Meadow foxtail (*Alopecurus pratensis*), FACW
Sawbeak sedge (*Carex stipata*), FACW+
Pacific willow (*Salix lasiandra*), FACW+

Field wetlands
Velvet grass (*Holcus lanatus*), FAC
Creeping buttercup (*Ranunculus repens*), FACW
Creeping bentgrass (*Agrostis stolonifera*), FAC+

Uplands
Canadian thistle (*Cirsium arvense*), FACU+
Reed canarygrass (*Phalaris arundinacea*), FACW
Tenuous bentgrass (*Agrostis tenuis*), FAC
Sweet vernal grass, (*Anthoxanthum odoratum*), FACU

c. Fauna: bird presence.

d. NWI Classification, associations/communities: PEM

6. Lateral Extent of Jurisdiction:

a. OHW, MHHW, MHW and datum: 3' average width of OHW

b. Acreage of wetlands to be impacted: Approximately 1.53 acres for total site development (applicant's proposed residential development and City of Bellingham proposed roads).

c. Total acreage of wetlands/waters on site: 9.79+ acres of wetlands (some continue offsite)

7. Additional information: The Corps previous jurisdictional determination for the site was conveyed to the applicant by letter dated 11 March 2008. Wetland fill for construction of a residential development was authorized by Nationwide Permit 29 as verified by the Corps letter dated 3 March 2008. The project was not constructed (no wetland fill). Field work to verify and modify wetland boundaries was conducted by the consultant in April of 2013. A majority of the wetlands on the project site had little to no wetland boundary modifications. Wetlands B, I, K, L, M, N were flagged larger than previously. Wetland B is now contiguous with Wetland A and Wetlands I and M are contiguous with Wetland F. Additionally, Wetland P was flagged with a direct connection to Wetland H; the combined wetland is designated Wetland H/P. Wetland H was documented with a smaller boundary than previously. During the previous delineation work completed in 2007, it was noted that the outlet channel to Wetland H was dammed with two separate barriers of hay bales wrapped in plastic. These barriers acted to raise water levels within Wetland H by several feet. These dams were in place for several years prior to the 2007 delineation. Subsequently, the dams were removed in 2008. The effect of the lowered water levels was noted in the field and the Wetland H boundary was flagged accordingly. Three new wetlands were added in the center of the property, Wetlands AA, BB, and CC. Another wetland, Wetland DD, was previously connected to Wetland C. A distinct upland band was noted separating this area from Wetland C. Data sheets for the re-delineation and Ecology wetland rating forms for the new wetlands were provided.

The project area contains a number of streams that the consultant has separated into Reach designations, labeled 1-4 (see attached map). The streams are tributaries of East Bear Creek which flows into Silver Creek, a tributary of the Nooksack River. Based on site observations and information provided by the consultant:

Reach 1 Tributary - the largest reach at the lower end of the site, has water in it through June (greater than 6 months of flow), is approximately 1,400 feet long, an approximate average width of 6', approximate average depth of 1.5', and approximate flow in March of 2ft/sec. Cfs approximated at 12 in March.

Reach 2 Tributary - the westernmost tributary to Reach 1, contributing less than 10% of existing flow in reach 1. This reach had water in it through the winter and early spring, March or April (greater than 3 months of flow), is approximately 750 feet long, with an approximate average width of 1.5', approximate average depth of 0.3', and approximate flow in March of 1ft/sec. Cfs approximated at 0.5cfs in March.

Reach 3 Tributary - Center tributary to Reach 1 on the site, contributing approximately 60% of reach 1 flow. This reach is approximately 1,825 feet long, had flow through the early spring, April-May (greater than 3 months of flow), with an approximate average width of 3', approximate average depth of 0.5', and approximate flow of 1ft/sec in March. Cfs approximated at 1.5 cfs in March.

Reach 4 Tributary - easternmost tributary to Reach 1 on-site. This reach is approximately 1,500 feet long, had flow through the early spring, April-May (greater than 3 months of flow), with an approximate average width of 3', approximate average depth of 0.5', and approximate flow of 1ft/sec in March. Cfs approximated at 1.5 cfs in March.

Corps personnel walked around the identified boundaries of all wetlands and followed the apparent flow paths offsite. The flagged wetland boundaries appear to accurately delineate the wetland edges.

Wetland A/B, R, U abut the Reach 1 and 4 tributaries (Wetland B contiguous with Wetland A)
Wetland D and F/I/M abut the Reach 3 tributary (Wetlands I and M contiguous with Wetland F)
Wetland H/P abuts the Reach 2 tributary (Wetland P contiguous with Wetland H)

Wetland O extends offsite to the north. No determination was made for this wetland – it will not be affected by proposed project.

8. Areas are jurisdictional wetlands. Wetlands A, B, D, F, H/P, I, M, R, and U abut relatively permanent waters that appear to flow into East Bear Creek which flows into Bear Creek, a tributary of Silver Creek, a tributary of the Nooksack River, a designated navigable waterway used of interstate and foreign commerce. These wetlands are jurisdictional waters of the U. S.