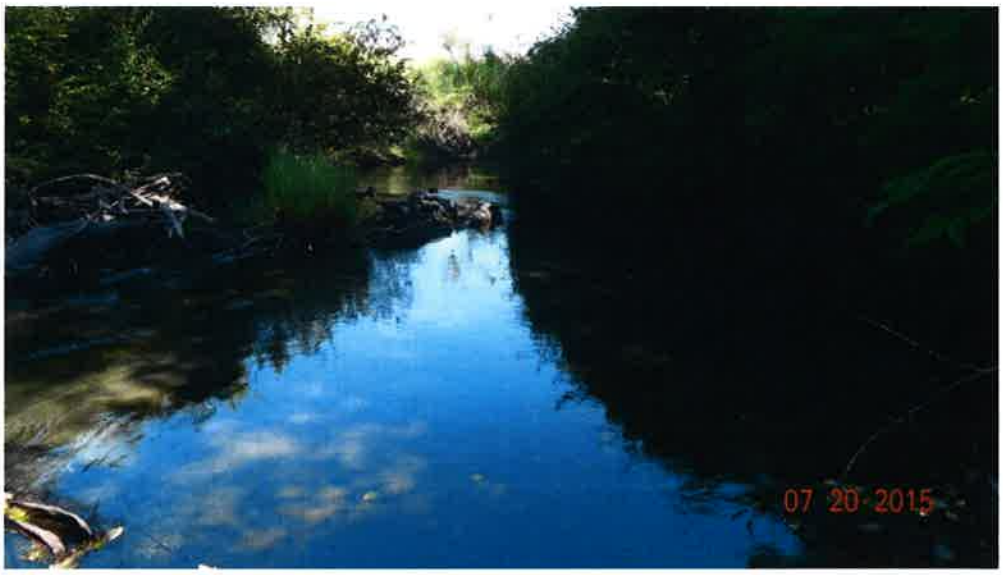
Fish and Wildlife Site Assessment: Parcels 50155, 125644, 125645

Prepared for:

Concrete Nor'West
C/O John Semrau, PLS
2118 Riverside Drive, Suite 208
Mount Vernon, WA 98273



Prepared by:

Graham-Bunting Associates
Environmental & Land Use Services
3643 Legg Road, Bow, WA 98232
Ph.360.766.4441 Fx. 360.766.4443

August 20, 2015

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Summary

Applicant:	Concrete Nor'West Dan Cox C/O John Semrau Semrau Engineering & Surveying 2118 Riverside Drive/Suite 208 Mount Vernon, WA 98273
Site:	68 acre site located northwest of Sedro Woolley within the Southeast ¼ of Section 27, Township 36 North, Range 4 East W.M., Skagit County, WA.
Areas Assessed:	1. Areas with which endangered, threatened, sensitive species have a primary association 2 Type S Water (Shoreline of the State) 3. Areas with which anadromous fish species have a primary association 4. Contiguous wetlands associated with the Samish River
Project:	The subject proposal is to dry mine the 68 acre site for the aggregate resource documented pursuant to the mineral resource overlay designation. Mining activities will begin at a minimum of 200 feet landward of the OHWM of the Samish River. The mine site is at an average elevation of approximately 90 vertical feet above the OHWM.
Critical Area Impact:	Avoids impact through application of standard 200 foot riparian buffer for Type S Waters of the State and the optional 200 foot buffer for Category II wetlands relative to moderate intensity land uses and a habitat score of 30 points on the wetland rating.
Recommendations:	1. The Samish River and associated wetland should be provided with the optional 200 foot buffer required for Type S Waters of the state and Category II wetlands with moderate intensity land uses and a habitat score of 30. 2. The buffer should be measured on a horizontal plane landward of the OHWM/associated wetland edge (located at the toe of slope east of the proposed mine site. 3. The riparian buffer/associated wetland and 200 foot buffer should be designated as a Protected Critical Area to assure identification and long term protection. The site plan included as Attachment C is prepared in a format suitable for recording with the Skagit County Auditor. 4. Because the riparian and associated wetland buffers are also coexistent with the jurisdictional area regulated under the Shoreline Management Act (90.58 RCW) and Shoreline Master Program (14.26 SCC), consultation with Skagit County Planning and Development Services should occur prior to initiating the application process for a Special Use Permit.

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August 20, 2015

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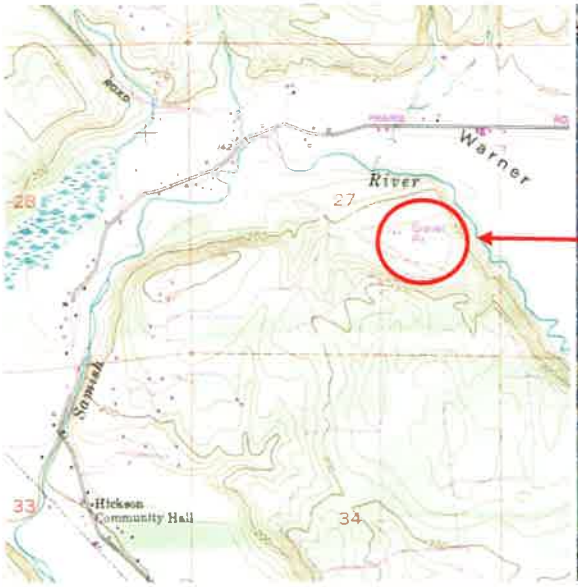
Fish and Wildlife Site Assessment: Parcels 50155,125644, 125645

1. Introduction
At the request of Concrete Nor'West (CNW), Graham-Bunting Associates (GBA) have conducted a site investigation and prepared the following report addressing fish and wildlife habitat conservation areas consistent with Section 14.24.500 of the Skagit County Critical Areas Ordinance (CAO). The report is prepared in conjunction with CNW's application for a Special Use Permit to authorize dry gravel mining activities on the above referenced parcels. The report includes a characterization of existing site conditions, project description, impact assessment, regulatory analysis and mitigation recommendations. The report includes a discussion of associated wetlands and a rating of wetlands contiguous with the Samish River.

2. Existing Site Conditions
The project site is located northwest of Sedro Woolley within the Southeast ¼ of Section 27, Township 36 North, Range 4 East W.M., Skagit County, WA.



USGS: Alger, WA (1994)


Skagit County GIS: i-Map (2013)

The study site includes 300 foot area around the perimeter of a proposed 68-acre gravel mine located within parcels 50155, 125644 and 125645. The project area is bordered by Agricultural Natural Resource Land (Ag-NRL) to the north, 20-acre parcels also owned by CNW to the south, Rural Reserve (RRV) parcels to the west and the Samish River to the east. The project site is designated as Rural Resource Land (RRc-NRL) on the comprehensive Plan/Zoning Designation Map and is also mapped and designated as a mineral resource overlay in recognition of the

presence of the aggregate resource. Mineral resource lands are defined under Chapter 14.04 of the Skagit County Code as:

> *"Lands containing mineral deposits, both active and inactive, that have a known or potential long-term significance for the extraction of minerals and which are in close, economic proximity to locations where the deposits are likely to be used."*

The project site is situated on a terrace approximately 100 feet above the Samish River Valley and a minimum of 200 feet measured on a horizontal plane west of the ordinary high water mark (OHWM) of the Samish River. The OHWM was assessed consistent with the statutory definition contained in the Shoreline Management Act (RCW 90.58) and the Skagit County Shoreline Master Program (SCC 14.26).

> *"Ordinary high water mark (OHWM) on all lakes, streams, and tidal water is that mark that will be found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971 or as it may naturally change thereafter: PROVIDED, that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water."*

In addition, recent guidance developed by the Washington State Department of Ecology to assist in identification of the OHWM relative to riverine environments including mean high water and peak flow data were also considered. The distance between the top of bank of the active channel to the toe of slope averages approximately 175 feet. The left bank exhibits recent active erosion and indications of periodic overbank flooding west to the toe of slope. Surface hydrology was observed in saturated soils mapped as hydric Samish silt loam (Soil Survey, 1989) and discrete areas of shallow ponding to the toe of slope. The area between the active channel and toe consists of hydrophytic vegetation communities dominated by red alder *(Alnus rubra)*, Scouler's willow *(salix scouleriana)*, Sitka spruce *(Picea sitchensis)* and salmonberry *(Rubus spectabilis)*. Vigorous communities of OBL skunk cabbage *(Lysichiton americanum)* and slough sedge *(Carex obnupta)* are distributed in depressional areas throughout the area. The slope consists of a mixed forest canopy dominated by young hardwoods and conifers including alder and Western red cedar *(Thuja plicata)*. The understory is dominated by FACU vine maple *(Acer circinatum)* and sword fern *(Polystichum munitum)*. The soil survey maps the slope as Hoogdal silt loam, a non-hydric moderately well-draining soil typically occurring on terrace escarpments. The horizontal distance between the toe (OHWM) and top of slope averages approximately 135 feet. The project site is located a minimum of 200 feet landward of the OHWM/associated wetland boundary and averages 375 feet from the active channel.

The OHWM was identified at the toe of slope along the transition from standing water and hydrophytic vegetation to upland dominated plant communities. While isolated uplands exist in the area between the active channel and toe, the regular "presence and

action" of waters has left a distinct line upon the land which is reflected in the character of the soil and vegetation communities. The topographic location of the OHWM at the toe of slope provides an easily distinguishable point of reference for review purposes.

Photo 1 - View north showing active channel and cut left bank. Note erosion and recruitment of woody debris into channel.

Photo 2 – View north showing OHWM (dashed line) at toe of slope at an average of 175 feet west of active channel.

3. Project Description

The subject proposal is to dry mine the 68 acre site for the aggregate resource documented pursuant to the mineral resource overlay designation. Mining activities will begin at a minimum of 200 feet landward of the OHWM and an average of 375 feet from the active channel. The mine site is at an average elevation of approximately 90 vertical feet above the OHWM. A berm will be constructed at a point landward of 200 feet and mining will progress in a landward direction accompanied by reclamation of the mined area. Drainage from the site will infiltrate into the mine floor gravel. No surface water will flow directly to the Samish River. No processing or industrial activity will occur on site. Activity will be limited to relatively low volumes and utilization of standard surface mining equipment including excavators, front end loaders and dump trucks. The depth of the mine will be maintained a minimum of 10 feet above the water table. Mining operations will rely upon an existing system of interior roads and accessed off of Grip Road via an existing gated entry located approximately 0.7 miles east of the Grip Road/Prairie Road intersection. (Attachment A: Project Drawings)

4. Impact Assessment

A preliminary site inspection was conducted on March 25, 2015 to observe the Samish River and the adjacent riparian corridor during relatively high flow. A second investigation was conducted on July 20, 2015 to observe and document project site conditions, document Fish and Wildlife Habitat Conservation Areas (HCAs), and identify potential impacts and appropriate mitigation measures. In addition the character of the associated wetland extending from the active channel to the toe of slope was documented and rated. The CAO classifies the following as HCAs. Asterisked HCAs are found within the project area and are addressed following the list.

(a) Areas with which endangered, threatened, and sensitive species have a primary association*;
(b) Habitats and species of local importance that have been designated by the County at the time of application;
(c) All public and private tidelands suitable for shellfish harvest;

(d) Kelp and eelgrass beds, herring and smelt spawning areas;
(e) Naturally occurring ponds under 20 acres with submerged aquatic beds that provide fish or wildlife habitat;
(f) Waters of the state as defined by WAC 222-16*;
(g) Lakes, ponds and streams planted with game fish by a government or tribal entity;
(h) Areas with which anadromous fish species have a primary association*;
(i) State Natural Area Preserves and Natural Resource Conservation Areas; and
(j) Other aquatic resource areas.

4.1 Threatened, Endangered and Sensitive Species - Puget Sound Chinook *(Oncorhynchus tshawytscha)* have been listed as threatened under the Endangered Species Act (ESA). Although Samish River Chinook are not addressed specifically, it is possible that Chinook were, at one time, native to the Samish River System. Currently Samish River Chinook are of non-native Samish/Nooksack stock with production occurring at the WDFW Samish Hatchery on Friday Creek. Some natural spawning may occur downstream and upstream of the hatchery collection rack. Bull trout *(Salvelinus confluentus)* and Puget Sound Steelhead *(Oncorhynchus mykiss)* are also listed as threatened under ESA and are present in the river. A review of the Washington State Priority Habitats and Species (PHS) Data Base does not indicate the presence of additional endangered or threatened species within the vicinity of the subject property. However, bald eagles *(Haliaeetus leucocephalus)* utilize the riparian corridor as forage areas. A bald eagle nest polygon is located north of Prairie Road approximately .5 miles north of the project site. The bald eagle has recently been removed from threatened status and is currently managed in Washington State as a sensitive species. No impacts to threatened, endangered or sensitive species above the existing baseline are anticipated, provided that the standard riparian buffer is applied.

4.2 Waters of the State – The Samish River is identified as a Type S Water of the State in accordance with WAC 222-16 and is inventoried as a shoreline of the state under the Shoreline Management Act (RCW 90.58). The Samish River shoreline adjacent to the project site is designated as a Rural Shoreline Area. No impact to Waters of the state are anticipated provided that the standard riparian buffer is applied.

4.3 Areas with Which Anadromous Fish Species Have a Primary Association – The Samish River is an area with which anadromous fish have a primary association. Primary association is defined as the fundamental link between a species and a land or aquatic area where anadromous fish, endangered, threatened or sensitive species breed or feed. The following table summarizes occurrence of anadromous fish species as documented under PHS in the subject stream segment:

Table 1 - Anadromous Fish Species Status Table

Common Name/Scientific Name	Type of Use	Federal Status/State Status/PHS Status
Fall Chinook salmon *(Oncorhynchus tshawytscha)*	Breeding area	Federal - N/A* State - N/A* PHS - Listed
Chum salmon *(Oncorhynchus keta)*	Occurrence Breeding Area	Federal - Not warranted State - N/A PHS - Listed
Coho salmon *(Oncorhynchus kisutch)*	Breeding area	Federal - Candidate State - N/A PHS - Listed
Puget Sound Steelhead *(Oncorhynchus mykiss)*	Migration Breeding area	Federal - Threatened State - N/A PHS - Listed

Coastal cutthroat trout *(Oncorhynchus clarki)*	Occurrence Migration	Federal - N/A State - N/A PHS - listed
Bull trout *(Salvelinus confluentus)*	Occurrence Migration	Federal – Threatened State – Candidate PHS - Listed

*PHS indicates fall Chinook of Samish/Nooksack origin are not designated as threatened.

No impact to anadromous fish species is anticipated provided that the standard riparian buffer is applied. Buffer requirements will be discussed in the following regulatory analysis.

5. Regulatory Analysis

Subsection 14.24.530 (1) (a) of the CAO outlines the five functions provided by riparian buffers. A summary discussion of riparian functions relative to the subject property is provided below.

- Recruitment of large woody debris (LWD) to the stream – LWD creates instream habitat structure for fish and other aquatic species. The River segment adjacent to the project site provides an ongoing source of LWD from standing trees within the associated wetland and landward of the toe of slope. The associated wetland includes hardwood and conifers of a sufficient size to provide instream structure and refugia for salmonids and trout. The active channel exhibits a complex network of overhanging vegetation and instream LWD which promotes habitat diversity. The slope landward of the OHWM was logged during the 1990s and is currently dominated by a mixed canopy which includes smaller diameter trees that provide a dense cover of woody vegetation.
- Shade – Riparian vegetation, including younger trees along the slope, helps maintain cooler water temperatures in the river, enhancing the availability of dissolved oxygen for salmonids and trout. Overhanging vegetation is prevalent throughout the left bank of the river segment which also provides leaf litter and organic input to the water body.
- Bank integrity – Root structure helps to maintain the habitat quality of the river segment by anchoring soils and preventing or slowing the forces of erosion. Root structure along the bank and within the active channel also provide cover for salmonids, trout and other aquatic organisms.
- Runoff filtration – Plant material within the buffer provides a physical filter that promotes water quality by reducing sediment input to the river segment.
- Wildlife habitat – Riparian corridors are utilized on a preferential basis by many wildlife species. The presence of terrestrial and aquatic habitats in close proximity indicates potential use by large and small mammals, passerine bird species, woodland hawks, owls and native amphibians.

Photo 3 – View upstream along subject river segment showing instream LWD, root structure and overhanging vegetation.

Photo 4 - View of typical riparian buffer vegetation along the slope landward of the OHWM.

The existing riparian corridor provides a full suite of buffer functions. The active channel is flanked by an associated wetland which, in itself provides a significant level of habitat complexity including a network of side channels, depression and a three strata community of native vegetation which includes mature conifers. The forested hillside includes a native understory and provides a corridor for wildlife migration along the river. The riparian forest functions discussed above are protected through application of a riparian buffer.

5.1 Required Riparian Buffer - Subsection 14.24.530 (1) (c) of the CAO establishes the standard riparian buffer width for the Samish River (Type S Water) at 200 feet. The buffer is measured on a horizontal plane landward of the OHWM as identified in the discussion of existing conditions and depicted in Photo 2. Application of the standard buffer is the preferred method of protecting riparian functions and satisfies the avoidance standard described in the mitigation sequence outlined under Subsection 14.24.080 (5):

"Avoid the impact altogether by not taking a certain action or parts of an action."

By not taking project actions within the standard 200 foot riparian buffer, project generated impacts are avoided.

5.2 Wetland Buffer - Because the OHWM was identified at a point averaging approximately 175 feet landward of the active channel at the associated wetland edge, a wetland buffer is also required. Subsection 14.24.230 (1) (a) and (b) establishes standard and optional wetland buffer requirements for wetland based on wetland rating, land use intensity and habitat score.

5.2.1 Wetland Rating and Functions

The wetlands were rated using the Washington State Wetland Rating System for Western Washington (Revised 2004/Updated October 2008). The rating system is designed to differentiate between wetlands based on their sensitivity to disturbance, rarity, the functions they provide and whether they can be replaced or not. The rating system divides wetlands into six different hydrogeomorphic (HGM) classes. These classes sort wetlands into groups that function in similar ways. The rating system then rates the wetlands based on specific functional attributes relating to water quality, hydrologic and habitat functions. The following table summarizes the assessment detailed in the rating forms attached to the report. (Attachment B: Wetland Rating Forms)

Table 2 - Wetland Rating Summary

HGM	Cowardin	Water Quality	Hydrologic	Habitat	Total	Category
Riverine	PEM/SS/C/	20	18	30	68	II

PEMB = Palustrine, Emergent, Scrub Shrub, Seasonally flooded

The rating system defines Category II wetlands as follows.

"Category II wetlands are difficult, though not impossible, to replace, and provide high levels of some functions. These wetlands occur more commonly than Category I wetlands, but still need a relatively high level of protection. Category II wetland in western Washington include: estuarine wetlands, interdunal wetlands, and wetlands that perform functions well."

Water Quality - Because the wetland includes depressions over approximately half of the total wetland area, is vegetated with native trees and shrubs over two thirds of the wetland and is located within 150 feet of offsite areas that are grazed, tilled and contribute untreated stormwater, the wetland was determined to have both the potential and opportunity to improve water quality. It is noteworthy that areas within the contributing basin include human activities that have raised

levels of sediment, toxic compounds or nutrients above water quality standards adopted pursuant to the 303d list. The areas listed on the 303d list are downstream of the project site. The wetland rated moderately high for water quality functions.

Hydrologic – The average width of the associated wetland relative to the width of the active channel is calculated at a ratio between one and less than five. Approximately one third of the wetland area is vegetated with forest and shrubs indicating that the wetland unit has the potential to reduce flooding and erosion. The presence of human structures and activities and instream resources including salmon redds downstream of the site indicate that the unit has the opportunity to reduce flooding and erosion. The wetland rated moderately high for hydrologic functions.

Habitat – The subject wetland is limited to less than 30% of forest cover and a hydroperiod limited to seasonal flooding. However, plant richness is greater than 19 species, interspersion of habitat types is high and special habitat features including downed woody debris, standing snags undercut and stable steep banks are prominent adjacent to the river bank. These feature reflect a high potential to provide suitable habitat for many species. The presence of the relatively undisturbed buffer associated with the riparian corridor and instream habitat utilized by anadromous fish species including threatened Puget Sound Steelhead and bull trout indicate an actual opportunity to provide habitat for a variety of species. The wetland rated relatively high for habitat functions.

5.2.2 Land Use Intensity – Chapter 14.04 of the Skagit County Unified Development Code defines high intensity land uses as:

> *"Land uses which area associated with high levels of human disturbance or substantial habitat impacts including, but not limited to, medium and high density residential (more than one home per five acres), multifamily residential, some agricultural practices and commercial and residential land uses."*

While at face, the subject dry mining activity appears to be a high intensity land use, GBA also considered the following elements of the subject proposal:

- The mine site is located greater than 200 horizontal feet landward of the OHWM
- The mine site is also separated vertically approximately 90 feet above the OHWM
- Mining activities will be separated from the OHWM by a protective berm
- The dry mine floor will maintain a maximum depth of 10 feet above the underlying water table
- All surface water will drain through the gravel floor of the mine site – no surface water will drain directly to the Samish River
- The mine site is located in an area logged during the 1990s by a previous landowner
- No processing or industrial activity is proposed in conjunction with the project
- Aggregate extraction will be maintained at a relatively low volume level
- The project will utilize an existing interior road system
- The area contiguous to the berm will be mined first and reclaimed pursuant to a reclamation plan to be approved by the Washington State Department of Natural Resources. The goal of the reclamation plan will be to return the site to forest management or low density residential which are considered low and moderate land use intensities respectively.

Based on the elements of the project listed above, GBA would characterize the subject proposal as a moderate land use intensity. Moderate land use intensity is defined as:

> *" Land uses which are associated with moderate levels of human disturbance or substantial habitat impacts including, but not limited to, low density residential (no more than one home per five acres), active recreation, and moderate agricultural land uses."*

In short, the subject proposal is to utilize an existing mineral resource area by extracting relatively low volumes of aggregate with an excavator, loading the material into a dump truck and hauling the material to an authorized offsite processing facility.

5.3 Required Wetland Buffer

Subsection 14.24.230 (1) (b) establishes optional buffers for wetlands based on the proposed land use intensity and habitat score calculated in the wetland rating. The optional buffer width for the associated wetland based on a moderate land use intensity and habitat score of 30 is 200 feet. Because the OHWM and wetland edge were determined to be co-existent the riparian and wetland buffer are 200 feet.

5.4 Designation of Protected Critical Area

Subsection 14.24.090 (4) (a) requires that critical areas and their buffers be designated as Protected Critical Areas (PCAs). All existing and proposed development must be depicted on an approved site plan. The site plan must be scaled and show the relative location of all site features relative to the parcel boundaries. The site plan shall include the necessary labeling to show the calculated area of the critical area (in square feet or acreage) and indicate the type or category of critical area designated. The site plan must be recorded with the auditor to assure identification and long-term protection of critical area and buffer. The critical area site plan included in this report as Attachment C depicts existing conditions as of the date of this report including critical areas within the parcel boundaries along with the riparian buffer and optional buffer for the associated wetland. (Attachment C: Critical Area Site Plan)

6. Mitigation Recommendations

The following mitigation measures are recommended as sufficient to avoid project generated impacts to regulated wetlands within the project area.

1. The Samish River and associated wetland should be provided with the optional 200 foot buffer required for Type S Waters of the state and Category II wetlands with moderate intensity land uses and a habitat score of 30.
2. The buffer should be measured on a horizontal plane landward of the OHWM/associated wetland edge located at the toe of slope east of the proposed mine site.
3. The riparian buffer and associated wetland and 200 foot buffer should be designated as a Protected Critical Area to assure identification and long term protection. The site plan included as Attachment C is prepared in a format suitable for recording with the Skagit County Auditor.
4. Because the riparian and associated wetland buffers are also coexistent with the jurisdictional area regulated under the Shoreline Management Act (90.58 RCW) and Shoreline Master Program (14.26 SCC), consultation with Skagit County Planning and Development services should occur prior to initiating the application process for a Special use Permit.

7. Closure

While GBA utilized currently accepted methods of identifying and assessing critical areas and their associated buffers on the site, the findings and conclusions rendered in this report represent our professional opinion. Concurrence should be obtained from Skagit County Planning and

Development Services prior to initiating land use actions or construction. Please call either Patricia Bunting or Oscar Graham with questions relating to this report.

Oscar Graham
Principal Ecologist/Shoreline Planner

Patricia Bunting
Wetland Ecologist/PWS

8. References

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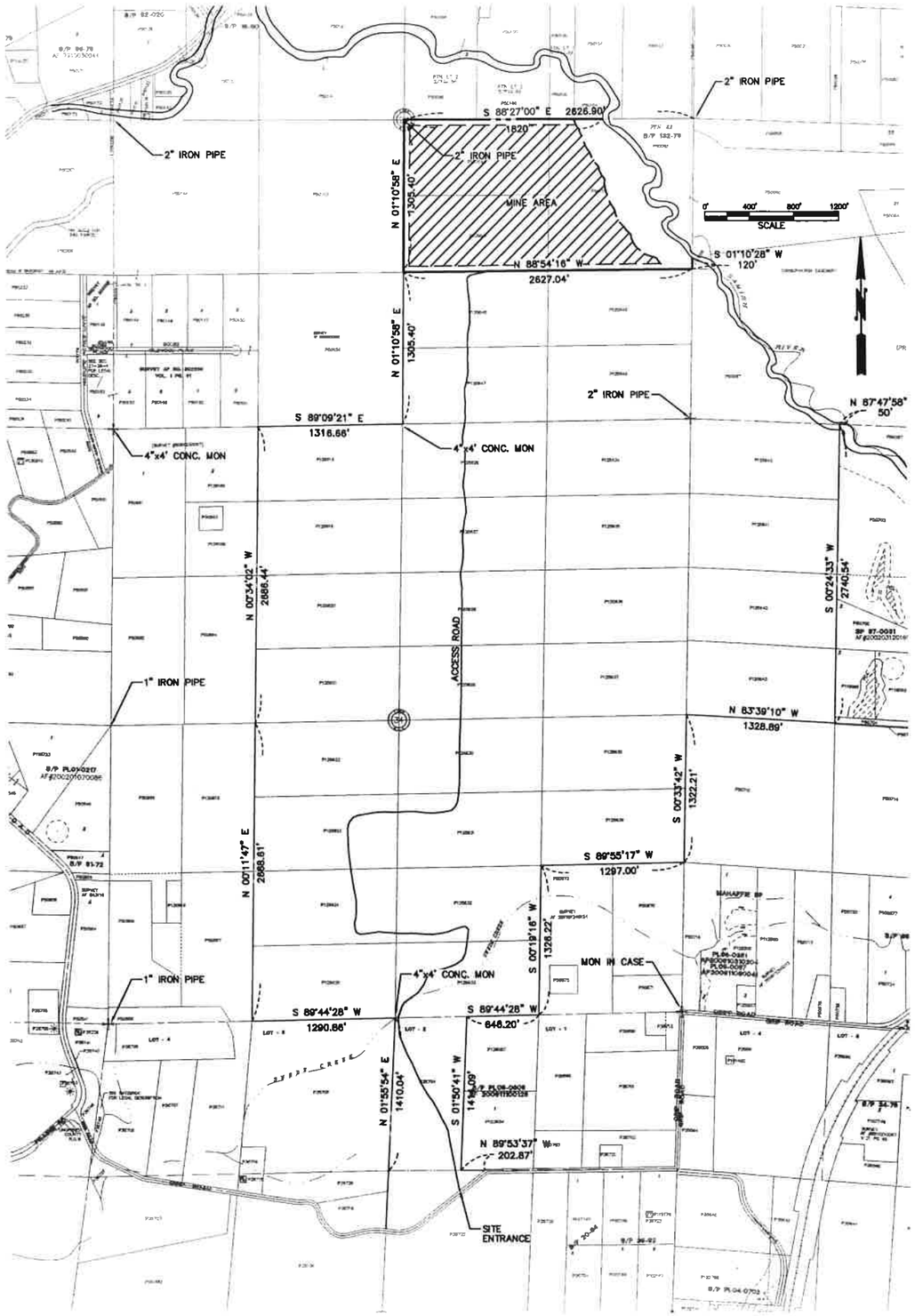
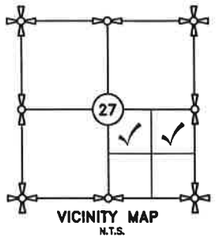
Personal Communications

Semrau, John, PLS. Semrau Engineering and Surveying. Job No. 5166: Preliminary Drawing for Grip Road Gravel Pit

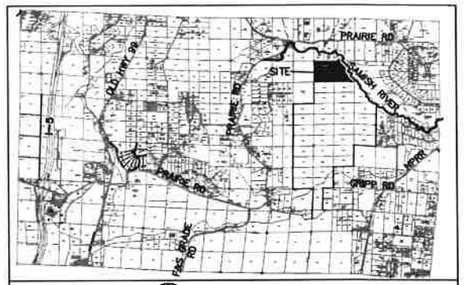
Attachment A: Project Drawings

GRIP ROAD GRAVEL MINE
GRIP ROAD, SEDRO-WOOLLEY WA
IN A PORTION OF N 1/2 OF SE 1/4 OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M.
SKAGIT COUNTY, WASHINGTON





VICINITY MAP
N.T.S.



VICINITY MAP
NOT TO SCALE

APPLICANT:	CONCRETE NOR'WEST
SITE ENTRANCE ADDRESS:	GRIPP ROAD SEDRO-WOOLLEY, WA 98284
ZONING JURISDICTION:	SKAGIT COUNTY
CURRENT ZONING:	RURAL RESOURCE / NATURAL RESOURCE
COMPREHENSIVE PLAN:	RURAL RESOURCE / NATURAL RESOURCE
MINE AREA:	68.8 ACRES
RECLAMATION AREA:	50.8 ACRES

SURVEY DESCRIPTION

P50155 –

THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M., SKAGIT COUNTY, WASHINGTON:

EXCEPT THAT PORTION LYING NORTHEASTERLY OF THE SAMISH RIVER AS IT PRESENTLY EXISTS;

SUBJECT TO AND TOGETHER WITH AND EASEMENT FOR INGRESS, EGRESS, AND UTILITIES OVER THE EAST 30 FEET OF THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M., SKAGIT COUNTY, WASHINGTON, LYING SOUTH OF THE SAMISH RIVER;

EXCEPT THAT PORTION LYING NORTHEASTERLY OF THE SAMISH RIVER AS IT PRESENTLY EXISTS;

SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

P125844 –

THE NORTH HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M., SKAGIT COUNTY, WASHINGTON:

SUBJECT TO AND TOGETHER WITH AND EASEMENT FOR INGRESS, EGRESS, AND UTILITIES OVER THE WEST 30 FEET OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M., SKAGIT COUNTY, WASHINGTON;

SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

P125845 –

THE SOUTH HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M., SKAGIT COUNTY, WASHINGTON:

SUBJECT TO AND TOGETHER WITH AND EASEMENT FOR INGRESS, EGRESS, AND UTILITIES OVER THE WEST 30 FEET OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M., SKAGIT COUNTY, WASHINGTON;

SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

APPLICANT/OWNER

CONCRETE NOR'WEST
P.O. BOX 280
MOUNT VERNON, WA 98273
CONTACT: DAN COX
TEL: (360) 757-3121

CIVIL ENGINEER/SURVEYOR

SEMRAU ENGINEERING AND SURVEYING
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CONTACT: JOHN B. SEMRAU P.E. & P.L.S.
TEL: (360) 424-9566

GEOTECHNICAL/GEOLOGICAL ENGINEER

ASSOCIATED EARTH SCIENCES
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EVERETT, WA 98201
CONTACT: CHUCK LINDSAY P.G., P.E.G. & P.Hg.
TEL: (425) 259-0522

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DRAWING FILE: 5166CS.DWG 3/07/16

3-7-16

JOHN B. SEMRAU STATE OF WASHINGTON 28626 REGISTERED PROFESSIONAL ENGINEER

3-7-16

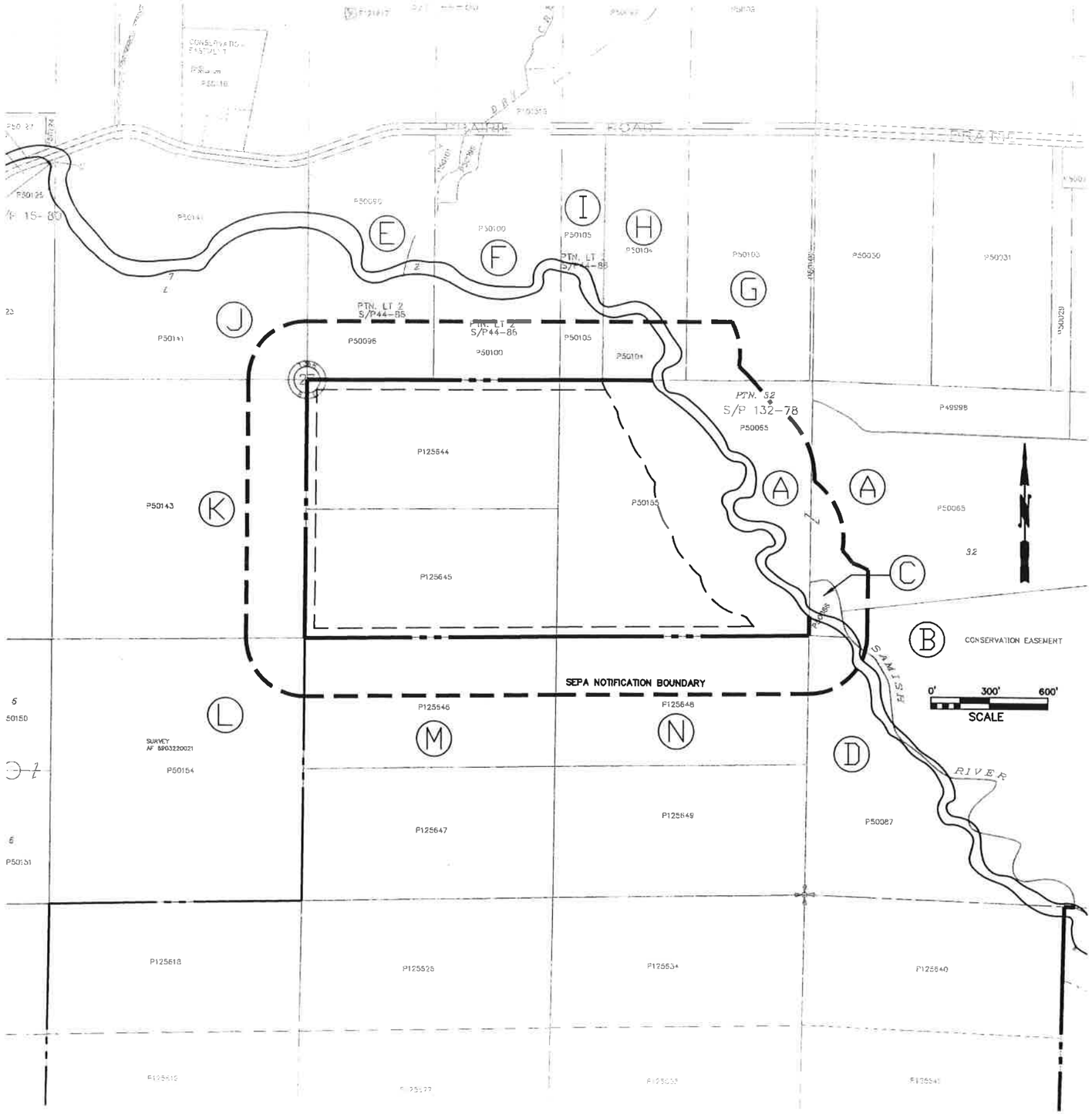
JOHN B. SEMRAU STATE OF WASHINGTON 28626 REGISTERED PROFESSIONAL LAND SURVEYOR

SHEET C1 OF 7 PL16-0000

CONTENTS AND VICINITY MAP
GRIP ROAD GRAVEL MINE PERMIT NO. 16-XXXXXX
GRIP ROAD, SEDRO-WOOLLEY
N 1/2 OF SE 1/4 OF SECTION 27, T. 36 N., R. 4 E., W.M.
SKAGIT COUNTY, WASHINGTON

DATUM:	NAVD 88	SEMRAU ENGINEERING & SURVEYING SURVEYING • ENGINEERING • PLANNING MOUNT VERNON, WA 98273 360-424-9566	SCALE: 1"= 600'
MERIDIAN:	WSPN		JOB NO. 5166

N 1/2 OF SE 1/4 OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M.
SKAGIT COUNTY, WASHINGTON



		PROPERTY OWNERSHIP TABLE	
MAP #	PARCEL #	OWNER	OWNER ADDRESS
A	P50085	JOHN AND JEANNE SHEA	P.O. BOX 311 BOW, WA. 98232
B	P50087	JOHN AND JEANNE SHEA	P.O. BOX 311 BOW, WA. 98232
C	P50086	PAUL KOETJE/C EMERSON AND GLORIA J CAMP/MARYANN FORD TAMARA J CONRAD	23318 127TH AVE NE ARLINGTON, WA 98223
D	P50087	LISA, INC. ATTN CONCRETE NOR'WEST	P.O. BOX 280 MOUNT VERNON, WA. 98273
E	P50098	RICK GILES	21656 PRAIRIE RD. SEDRO-WOOLLEY, WA. 98284
F	P50100	ROBERT AND LINDA WALSH	21710 PRAIRIE RD. SEDRO-WOOLLEY, WA. 98284
G	P50103	LARRY AND BETH VANDERVEEN	21994 PRAIRIE RD. SEDRO-WOOLLEY, WA. 98284
H	P50104	LARRY AND BETH VANDERVEEN	21994 PRAIRIE RD. SEDRO-WOOLLEY, WA. 98284
I	P50105	ROBERT AND LINDA WALSH	21710 PRAIRIE RD. SEDRO-WOOLLEY, WA. 98284
J	P50141	DANIELLE AND JASON HAUGLAND	21422 PRAIRIE RD. SEDRO-WOOLLEY, WA. 98284
K	P50143	EDWARD AND ROBERTA ROBINSON	21000 PRAIRIE RD. SEDRO-WOOLLEY, WA. 98284
L	P50154	EDWARD AND ROBERTA ROBINSON	21000 PRAIRIE RD. SEDRO-WOOLLEY, WA. 98284
M	P125646	LISA, INC. ATTN CONCRETE NOR'WEST	P.O. BOX 280 MOUNT VERNON, WA. 98273
N	P125648	LISA, INC. ATTN CONCRETE NOR'WEST	P.O. BOX 280 MOUNT VERNON, WA. 98273

PROPERTY OWNERSHIP DATA AND MAPS WERE TAKEN FROM SKAGIT COUNTY ASSESSOR'S ELECTRONIC DATA.

5-15-15

JOHN B. SEMRAU STATE OF WASHINGTON 20008 REGISTERED PROFESSIONAL LAND SURVEYOR

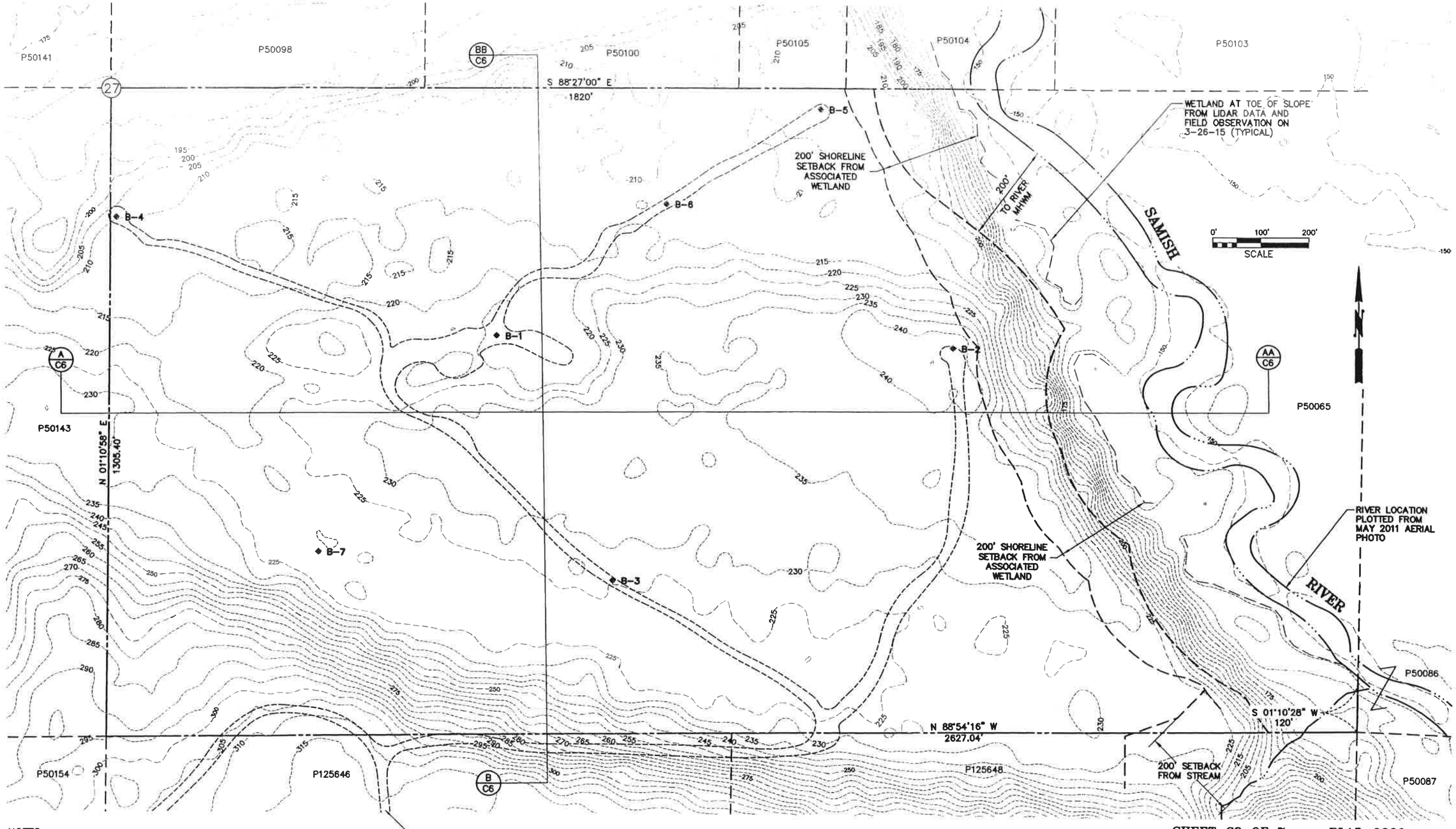
DRAWING FILE: 5166SkCo2011.DWG 4/14/15

SHEET C2 OF 7 PL15-0000

PROPERTY OWNERSHIP MAP
GRIP ROAD GRAVEL MINE PERMIT NO. 15-XXXXXX
GRIP ROAD, SEDRO-WOOLLEY
N 1/2 OF SE 1/4 OF SECTION 27, T. 36 N., R. 4 E., W.M.
SKAGIT COUNTY, WASHINGTON

DATUM:	NAVD 88	SEMRAU ENGINEERING & SURVEYING SURVEYING • ENGINEERING • PLANNING MOUNT VERNON, WA 98273 360-424-9566	SCALE: 1"= 300'
MERIDIAN:	WSPN		JOB NO. 5166

N 1/2 OF SE 1/4 OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M.
SKAGIT COUNTY, WASHINGTON



NOTES:
1. EXISTING CONTOURS WERE CALCULATED FROM POINT DATA PROVIDED BY THE 2006 USGS NORTH PUGET SOUND LIDAR SURVEY. FEATURES SUCH AS THE ROADWAYS AND RIVER HAVE BEEN LOCATED FROM A MAY 2011 AERIAL PHOTO BY SKAGIT COUNTY GIS.
2. MERIDIAN: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
3. DATUM: NAVD88, GEOID03, UNITS FEET
4. 4" MINIMUM DEPTH TOPSOIL, NATIVE OR IMPORTED FILL, FREE OF DELETERIOUS MATERIAL, COMPACTED IN PLACE. DELETERIOUS MATERIAL INCLUDES WOOD, ORGANIC WASTE, COAL, CHARCOAL, ASPHALT, OR ANY OTHER EXTRANEOUS OR OBJECTIONABLE MATERIAL.
4. SUBDIVISION IS FROM RECORD OF SURVEYS RECORDED UNDER AUDITOR'S FILE NUMBERS 893745, 810707003, 8211190002, 8612040020, 9211250029, 9512070022, 9901290271, 200203120169, 200312160042 AND 201108220072.

1-25-16

JOHN B. SEMRAU
STATE OF WASHINGTON
20004
REGISTERED
PROFESSIONAL LAND SURVEYOR

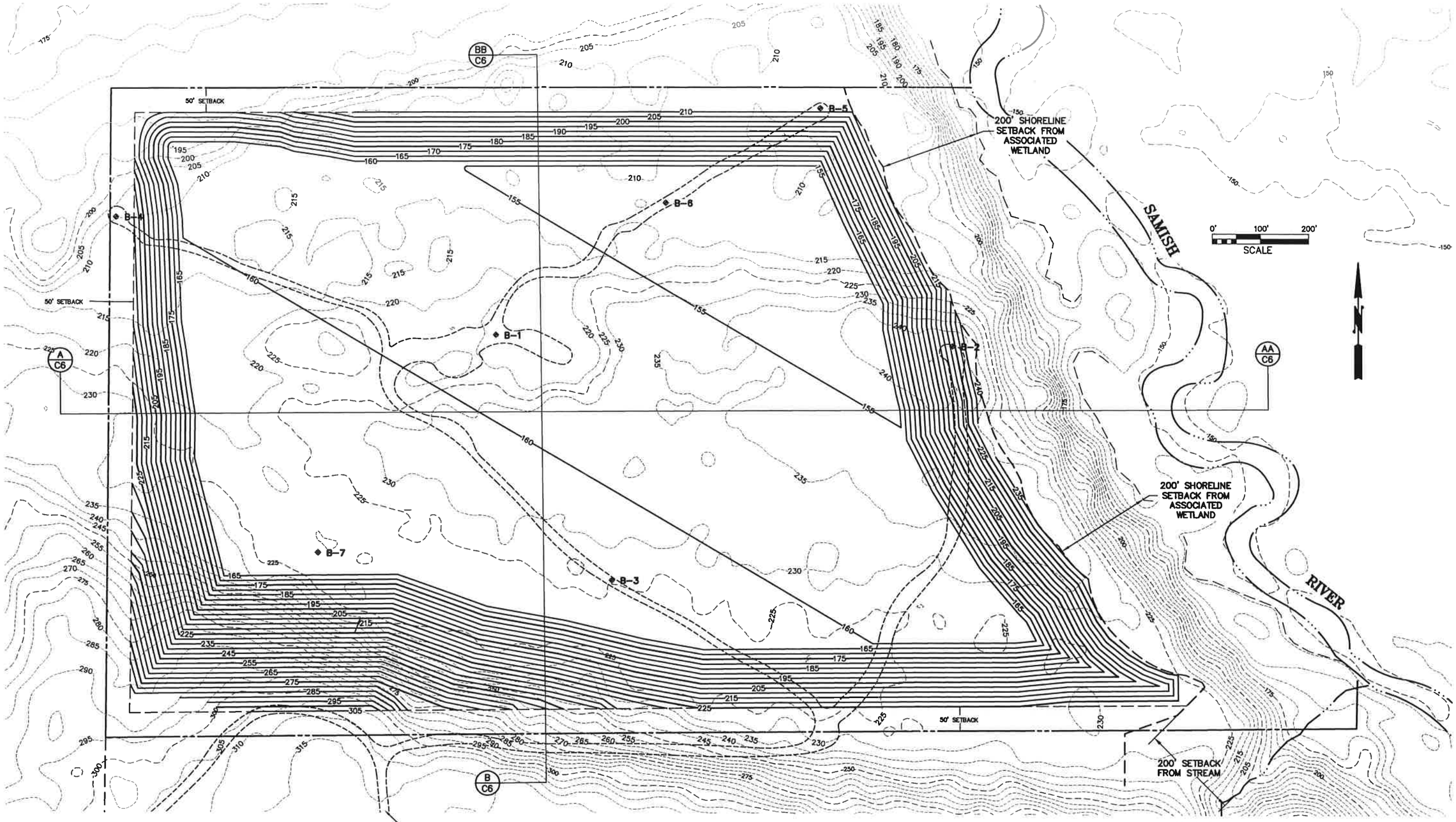
SHEET C3 OF 7 PL15-0000

PRE-MINING TOPOGRAPHIC SURVEY MAP
GRIP ROAD GRAVEL MINE PERMIT NO. 15-XXXXXX
GRIP ROAD, SEDRO-WOOLLEY
N 1/2 OF SE 1/4 OF SECTION 27, T. 36 N., R. 4 E., W.M.
SKAGIT COUNTY, WASHINGTON

DATUM:	NAVD 88	SEMRAU ENGINEERING & SURVEYING SURVEYING • ENGINEERING • PLANNING MOUNT VERNON, WA 98273 360-424-9566	SCALE: 1"= 100'
MERIDIAN:	WSPN		JOB NO. 5166

DRAWING FILE: 5166REC.DWG 1/25/16

N 1/2 OF SE 1/4 OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M.
SKAGIT COUNTY, WASHINGTON



NOTES:
1. EXISTING CONTOURS WERE CALCULATED FROM POINT DATA PROVIDED BY THE 2008 USGS NORTH PUGET SOUND LIDAR SURVEY. FEATURES SUCH AS THE ROADWAYS AND RIVER HAVE BEEN LOCATED FROM A MAY 2011 AERIAL PHOTO BY SKAGIT COUNTY GIS.
2. TOE OF SLOPE IN SOUTHWEST CORNER LOCATED IN FIELD BY GEOLOGIST.

3.7.16

JOHN B. SEMRAU STATE OF WASHINGTON 28028 REGISTERED PROFESSIONAL ENGINEER

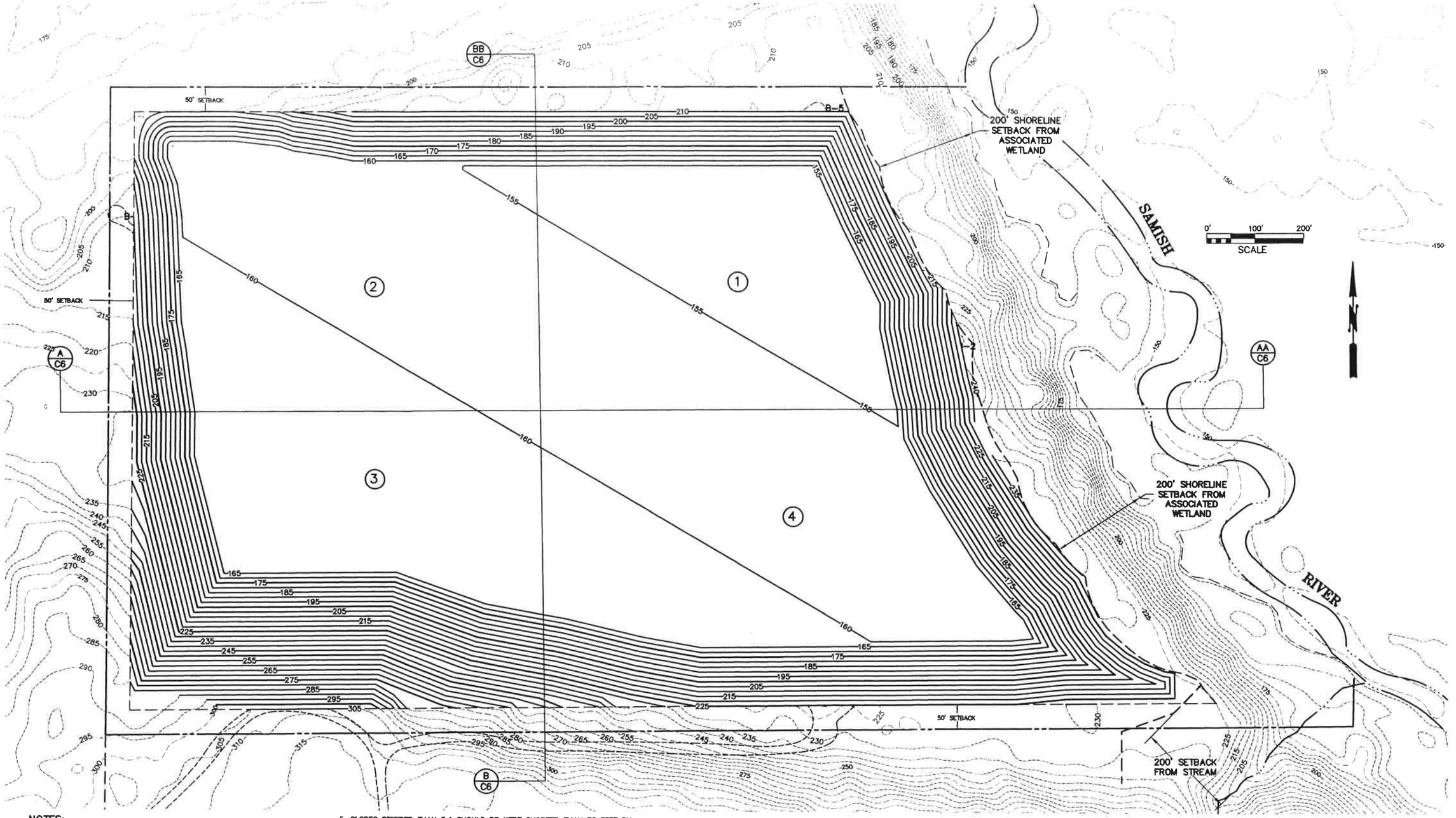
SHEET C4 OF 7 PL16-0000

PROPOSED MINE CONTOURS
GRIP ROAD GRAVEL MINE PERMIT NO. 15-XXXXXX
GRIP ROAD, SEDRO-WOOLLEY
N 1/2 OF SE 1/4 OF SECTION 27, T. 36 N., R. 4 E., W.M.
SKAGIT COUNTY, WASHINGTON

DATUM:	NAVD 88	SEMRAU ENGINEERING & SURVEYING SURVEYING • ENGINEERING • PLANNING MOUNT VERNON, WA 98273 360-424-9566	SCALE: 1"= 100'
MERIDIAN:	WSPN		JOB NO. 5166

DRAWING FILE: 5166REC.DWG 3/07/16

N 1/2 OF SE 1/4 OF SECTION 27, TOWNSHIP 36 NORTH, RANGE 4 EAST, W.M.
SKAGIT COUNTY, WASHINGTON



NOTES:

1. EXISTING CONTOURS WERE CALCULATED FROM POINT DATA PROVIDED BY THE 2006 USGS NORTH PUGET SOUND LIDAR SURVEY. FEATURES SUCH AS THE ROADWAYS AND RIVER HAVE BEEN LOCATED FROM A MAY 2011 AERIAL PHOTO BY SKAGIT COUNTY GIS.
2. MERIDIAN: WASHINGTON STATE PLANE, NORTH ZONE, NAD83
3. DATUM: NAVD88, GEOID03, UNITS FEET
4. 4" MINIMUM DEPTH TOPSOIL, NATIVE OR IMPORTED FILL, FREE OF DELETERIOUS MATERIAL, COMPACTED IN PLACE. DELETERIOUS MATERIAL INCLUDES WOOD, ORGANIC WASTE, COAL, CHARCOAL, ASPHALT, OR ANY OTHER EXTRANEOUS OR OBJECTIONABLE MATERIAL.
4. SUBDIVISION IS FROM RECORD OF SURVEYS RECORDED UNDER AUDITOR'S FILE NUMBERS 893745, 8107070003, 8211190002, 8612040020, 9211250029, 9512070022, 9901290271, 200203120169, 200312160042 AND 201108220072
5. SLOPES STEEPER THAN 3:1 SHOULD BE KEPT SHORTER THAN 75 FEET BY CREATING BREAKS IN THE SLOPE, SUCH AS IRREGULAR TERRACES, BERMS OR BASINS.
6. SOME MOUNDS, HILLS, AND DEPRESSIONS CAN REMAIN ON PIT FLOOR AND/OR UPLAND AREAS FOR HABITAT DIVERSITY.
7. IN FINAL GRADING, BULLDOZERS OR OTHER TRACKED EQUIPMENT SHOULD BE RUN UP AND DOWN A SLOPE, NOT ACROSS IT, TO INCREASE SLOPE ROUGHNESS.
8. FINAL SLOPES SHOULD BE REVEGETATED IMMEDIATELY TO MINIMIZE EROSION.
9. TOP SOIL PREVIOUSLY STOCKPILED ONSITE IS TO BE REDISTRIBUTED OR TURNED INTO HABITAT AREAS AS INDICATED IN NOTE 6.
10. FINAL RECLAMATION CONTOURING OF THE BOTTOM SHOULD CONTOUR TO DISPERSE AND RETAIN STORM RUNOFF OR INCLUDE A DESIGNED STORM WATER CONTROL POND.

5.15.15

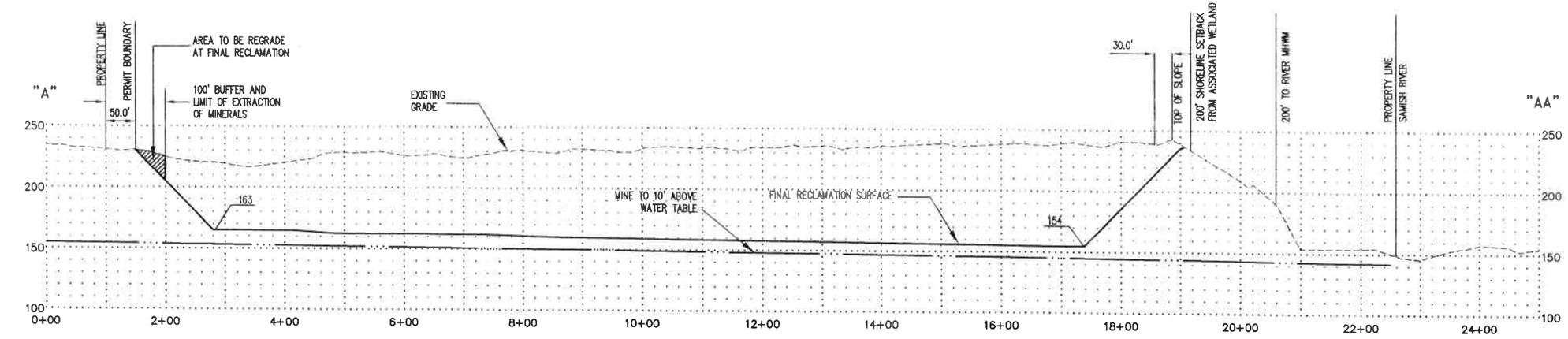
JOHN B. SEMRAU — STATE OF WASHINGTON — 28626 — REGISTERED PROFESSIONAL ENGINEER

SHEET C5 OF 7 PL15-0000

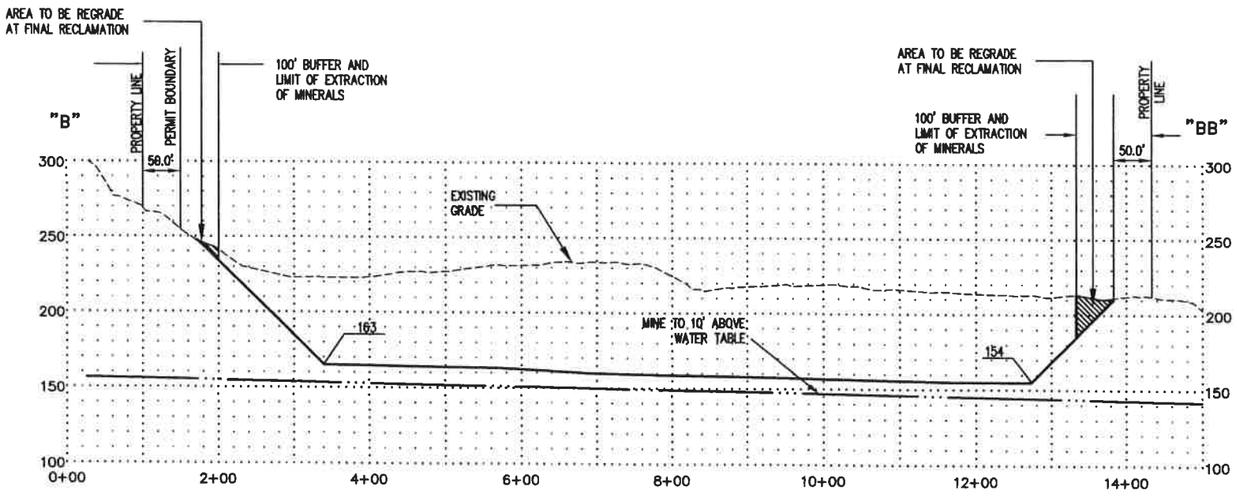
RECLAMATION PLAN AND MINE SEQUENCE
GRIP ROAD GRAVEL MINE PERMIT NO. 15-XXXXXX
GRIP ROAD, SEDRO-WOOLLEY
N 1/2 OF SE 1/4 OF SECTION 27, T. 36 N., R. 4 E., W.M.
SKAGIT COUNTY, WASHINGTON

DATUM:	NAVD 88	SEMRAU ENGINEERING & SURVEYING SURVEYING • ENGINEERING • PLANNING MOUNT VERNON, WA 98273 360-424-9566	SCALE: 1"= 100'
MERIDIAN:	WSPN		JOB NO. 5166

DRAWING FILE: 5166REC.DWG 4/14/15



SECTION A



SECTION B

DRAWING FILE: 5166C6.DWG 4/14/15

5-15-15

JOHN B. SEMRAU STATE OF WASHINGTON 29626 REGISTERED PROFESSIONAL ENGINEER

SHEET C6 OF 7 PL15-0000

CROSS SECTIONS
GRIP ROAD GRAVEL MINE PERMIT NO. 15-XXXXXX
GRIP ROAD, BURLINGTON
N 1/2 OF SE 1/4 OF SECTION 27, T. 36 N., R. 4 E., W.M.
SKAGIT COUNTY, WASHINGTON

DATUM:	NAVD 88	SEMRAU ENGINEERING & SURVEYING	SCALE: 1"= 100'
MERIDIAN:	WSPN	SURVEYING • ENGINEERING • PLANNING MOUNT VERNON, WA 98273 360-424-9566	JOB NO. 5166

Attachment B: Wetland Rating Forms

Wetland name or number _____

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 - Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

3-25-15

Name of wetland (if known): Gripp Rd Gravel Mine Date of site visit: 7-20-15

Rated by Pat Bunting Trained by Ecology? Yes X No___ Date of training May 06

SEC: 27 TWNSHP: 30N RNGE: 4E Is S/T/R in Appendix D? Yes___ No___

Map of wetland unit: Figure C **Estimated size** 6 ac. on site
10 - 20 acres overall estimated

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II X III___ IV___

Category I = Score >=70
Category II = Score 51-69 ✓
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	20
Score for Hydrologic Functions	18
Score for Habitat Functions	30
TOTAL score for Functions	68

Category based on SPECIAL CHARACTERISTICS of wetland

I___ II___ **Does not Apply** X

Final Category (choose the "highest" category from above) II

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	X
Bog		Lake-fringe	
Mature Forest		Slope	
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above		Check if unit has multiple HGM classes present	

Wetland name or number _____

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered **animal or plant** species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	PS Steelhead X Samish River	
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered **animal** species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).	PS STEELHEAD X SAMISH RIVER	
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*	X Samish RIVER	
SP4. *Does the wetland unit have a local significance in addition to its functions?* For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	X	

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number _____

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?
NO – go to 2 **YES** – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for ***Riverine*** *wetlands. If it is Saltwater Tidal Fringe it is rated as an* ***Estuarine*** *wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
NO – go to 3 **YES** – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?
___The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
___At least 30% of the open water area is deeper than 6.6 ft (2 m)?
NO – go to 4 **YES** – The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?
____The wetland is on a slope (*slope can be very gradual*),
____The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
____The water leaves the wetland **without being impounded**?
NOTE: *Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).*
NO - go to 5 **YES** – The wetland class is **Slope**

5. Does the entire wetland unit **meet all** of the following criteria?

X The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

X The overbank flooding occurs at least once every two years.

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 6 **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7 **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8 **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number _____

	Riverine and Freshwater Tidal Fringe Wetlands WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality	Points (only 1 score per box)
R	**R 1. Does the wetland unit have the potential to improve water quality?**	*(see p.52)*
R	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event: Depressions cover >3/4 area of wetland — points = 8 Depressions cover > 1/2 area of wetland — points = 4 If depressions > ½ of area of unit draw polygons on aerial photo or map Depressions present but cover < 1/2 area of wetland ✓ — points = 2 ✓ No depressions present — points = 0	Figure C and pg. C3 of 6 2
R	R 1.2 Characteristics of the vegetation in the unit (areas with >90% cover at person height): Trees or shrubs > 2/3 the area of the unit — points = 8 ✓ Trees or shrubs > 1/3 area of the unit — points = 6 Ungrazed, herbaceous plants > 2/3 area of unit — points = 6 Ungrazed herbaceous plants > 1/3 area of unit — points = 3 Trees, shrubs, and ungrazed herbaceous < 1/3 area of unit — points = 0 Aerial photo or map showing polygons of different vegetation types	Figure C 8
R	*Add the points in the boxes above*	10
R	**R 2. Does the wetland unit have the opportunity to improve water quality?** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* ✓ Grazing in the wetland or within 150ft ✓ Untreated stormwater discharges to wetland ✓ Tilled fields or orchards within 150 feet of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging — Residential, urban areas, golf courses are within 150 ft of wetland ✓ The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality Per 303d list downstream portions — Other _____ **YES** multiplier is 2 **NO** multiplier is 1	*(see p.53)* multiplier 2
R	**TOTAL - Water Quality Functions** Multiply the score from R 1 by R 2 ***Add score to table on p. 1***	20

Comments

Wetland name or number _____

	Riverine and Freshwater Tidal Fringe Wetlands HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion	Points (only 1 score per box)
	R 3. Does the wetland unit have the potential to reduce flooding and erosion?	*(see p.54)*
R	R 3.1 Characteristics of the overbank storage the unit provides: *Estimate the average width of the wetland unit perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of unit)/(average width of stream between banks).* If the ratio is more than 20 — 1.75/.40 = 4.3 Ratio — points = 9 If the ratio is between 10 – 20 — points = 6 If the ratio is 5 - <10 — points = 4 If the ratio is 1 - <5 — points = 2 ✓ If the ratio is < 1 — points = 1 Aerial photo or map showing average widths	Figure 2 2
R	R 3.2 Characteristics of vegetation that slow down water velocities during floods: *Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description.* (polygons need to have >90% cover at person height NOT Cowardin classes): Forest or shrub for >1/3 area OR herbaceous plants > 2/3 area — points = 7 ✓ Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area — points = 4 Vegetation does not meet above criteria — points = 0 Aerial photo or map showing polygons of different vegetation types	Figure 2 7
R	*Add the points in the boxes above*	9
R	**R 4. Does the wetland unit have the opportunity to reduce flooding and erosion?** Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. *Note which of the following conditions apply.* X There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. X There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding — Other _____ *(Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)* (YES) multiplier is 2 NO multiplier is 1	*(see p.57)* multiplier 2
R	**TOTAL - Hydrologic Functions** Multiply the score from R 3 by R 4 ***Add score to table on p. 1***	18

Comments

Wetland name or number _____

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat	**Points** (only 1 score per box)
H 1. Does the wetland unit have the potential to provide habitat for many species?	
H 1.1 Vegetation structure *(see p. 72)* *Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres.* ___Aquatic bed _X_Emergent plants _X_Scrub/shrub (areas where shrubs have >30% cover) ___Forested (areas where trees have >30% cover) *If the unit has a forested class check if:* ___The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation structures that qualify. If you have:* 4 structures or more points = 4 3 structures points = 2 2 structures ✓ points = 1 ✓ 1 structure points = 0 Map of Cowardin vegetation classes	Figure C 1
H 1.2. Hydroperiods *(see p. 73)* *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)* ___Permanently flooded or inundated _X_Seasonally flooded or inundated ___Occasionally flooded or inundated ___Saturated only _X_Permanently flowing stream or river in, or adjacent to, the wetland ___Seasonally flowing stream in, or adjacent to, the wetland ___***Lake-fringe wetland*** **= 2 points** ___***Freshwater tidal wetland*** **= 2 points** 4 or more types present points = 3 3 types present points = 2 2 types present ✓ point = 1 ✓ 1 type present points = 0 Map of hydroperiods	Figure C 1
H 1.3. Richness of Plant Species *(see p. 75)* Count the number of plant species in the wetland that cover at least 10 ft^2. *(different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle* If you counted: > 19 species points = 2 ✓ *List species below if you want to:* 5 - 19 species points = 1 < 5 species points = 0	2

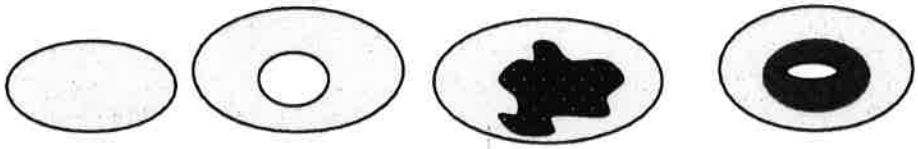
Total for page 4

Wetland name or number _____

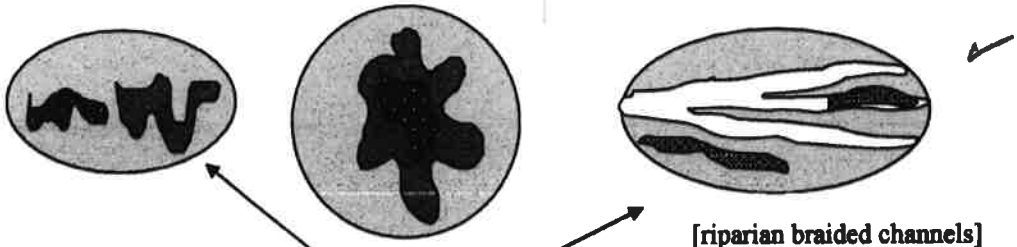
H 1.4. Interspersion of habitats *(see p. 76)*

Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.

Figure C



None = 0 points Low = 1 point Moderate = 2 points



[riparian braided channels]

High = 3 points

3

NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

H 1.5. Special Habitat Features: *(see p. 77)*

Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

- ✓ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ✓ Standing snags (diameter at the bottom > 4 inches) in the wetland
- ✓ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)
- ✓ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet turned grey/brown)*
- ✓ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)*
- ✓ Invasive plants cover less than 25% of the wetland area in each stratum of plants

NOTE: The 20% stated in early printings of the manual on page 78 is an error.

6

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

13

Comments

Wetland name or number _____

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
H 2.1 Buffers *(see p. 80)* *Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) **Points = 5** — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. **Points = 4** ✓ — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. **Points = 4** — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, . **Points = 3** — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. **Points = 3** **If buffer does not meet any of the criteria above** — No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. **Points = 2** — No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. **Points = 2** — Heavy grazing in buffer. **Points = 1** — Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland **Points = 0.** — Buffer does not meet any of the criteria above. **Points = 1** Aerial photo showing buffers	Figure C 4
H 2.2 Corridors and Connections *(see p. 81)* H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR a Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	4

30 x 150 = 4500
x 4500
20250000 ÷ 43,560 = 464.9 acres

Total for page 8

Wetland name or number _____

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report*** ***http://wdfw.wa.gov/hab/phslist.htm)***

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

___ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

X **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report p. 152*).

___ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

___ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.

___ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158*).

X **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

___ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*).

X **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

___ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).*

___ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

___ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.

___ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

X **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

~~If wetland has 3 or more~~ priority habitats = ~~4 points~~ ✓

If wetland has 2 priority habitats = 3 points

If wetland has 1 priority habitat = 1 point No habitats = 0 points

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)

4

Wetland name or number _____

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 ✓ The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 There is at least 1 wetland within ½ mile. points = 2 There are no wetlands within ½ mile. points = 0	5
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1,H2.2, H2.3, H2.4*	17
TOTAL for H 1 from page 14	13
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	30

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands *(see p. 86)* Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO X	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native *Spartina* spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

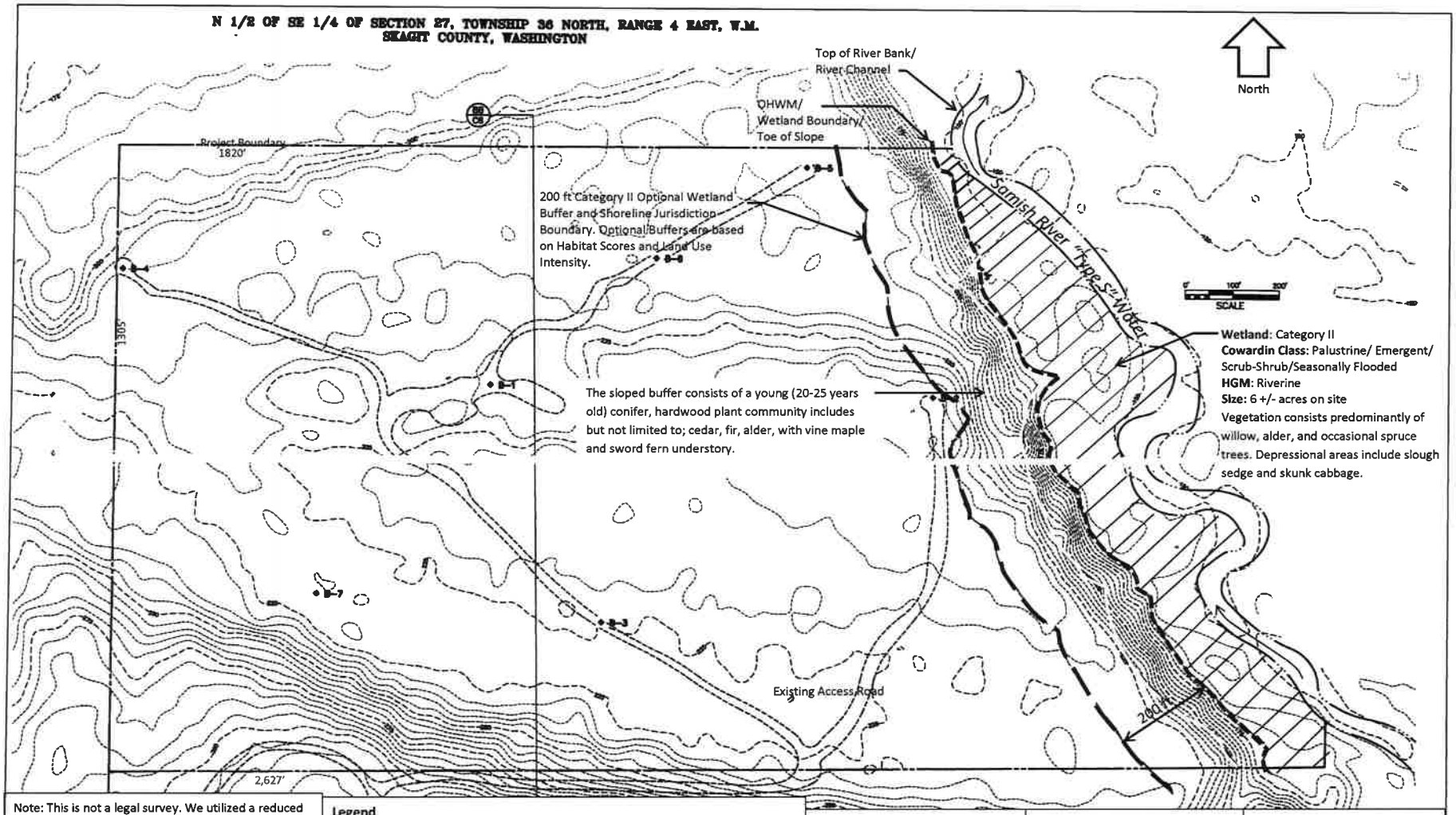
Wetland name or number _____

SC 2.0 Natural Heritage Wetlands ***(see p. 87)*** Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* S/T/R information from Appendix D X or accessed from WNHP/DNR web site X YES____ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO X SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO X not a Heritage Wetland	**Cat. I**
SC 3.0 Bogs ***(see p. 87)*** Does the wetland unit (**or any part of the unit**) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog.* ***If you answer yes you will still need to rate the wetland based on its functions.*** 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 (No) - go to Q. 2 2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to Q. 3 (No)- Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. *1.* Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover *(> 30% coverage of the total shrub/herbaceous cover)?* 2. YES = Category I No___ Is not a bog for purpose of rating	**Cat. I**

SC 4.0 Forested Wetlands ***(see p. 90)*** Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* — **Old-growth forests**: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. — **Mature forests**: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I NO X not a forested wetland with special characteristics	**Cat. I**
SC 5.0 Wetlands in Coastal Lagoons ***(see p. 91)*** Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* YES = Go to SC 5.1 NO X not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	**Cat. I** **Cat. II**

Wetland name or number _____

SC 6.0 Interdunal Wetlands *(see p. 93)* Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES - go to SC 6.1 NO X not an interdunal wetland for rating ***If you answer yes you will still need to rate the wetland based on its functions.*** In practical terms that means the following geographic areas: • Long Beach Peninsula- lands west of SR 103 • Grayland-Westport- lands west of SR 105 • Ocean Shores-Copalis- lands west of SR 115 and SR 109 SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories, and record on p. 1.* If you answered NO for all types enter "Not Applicable" on p.1	NA



Note: This is not a legal survey. We utilized a reduced copy of a base map prepared by Semrau Engineering and Surveying. We also used on-site dimensions taken with fiberglass tape and aerial photos to prepare this map.

Legend

- OHWM= Ordinary High Water Mark
- Wetland Area
- 200 foot Wetland Buffer and Shoreline Jurisdiction
- Top of bank for river channel

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Mount Vernon, WA 98273

Parcel Nos: 125644, 125645, 50155

Critical Areas Assessment

Site Plan

Date: August 20, 2015

Attachment C