CONFEDERATED TRIBES OF THE CHEHALIS RESERVATION

BLACK RIVER BOAT LAUNCH PROJECT MITIGATION PLAN

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS

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MARCH 28, 2014
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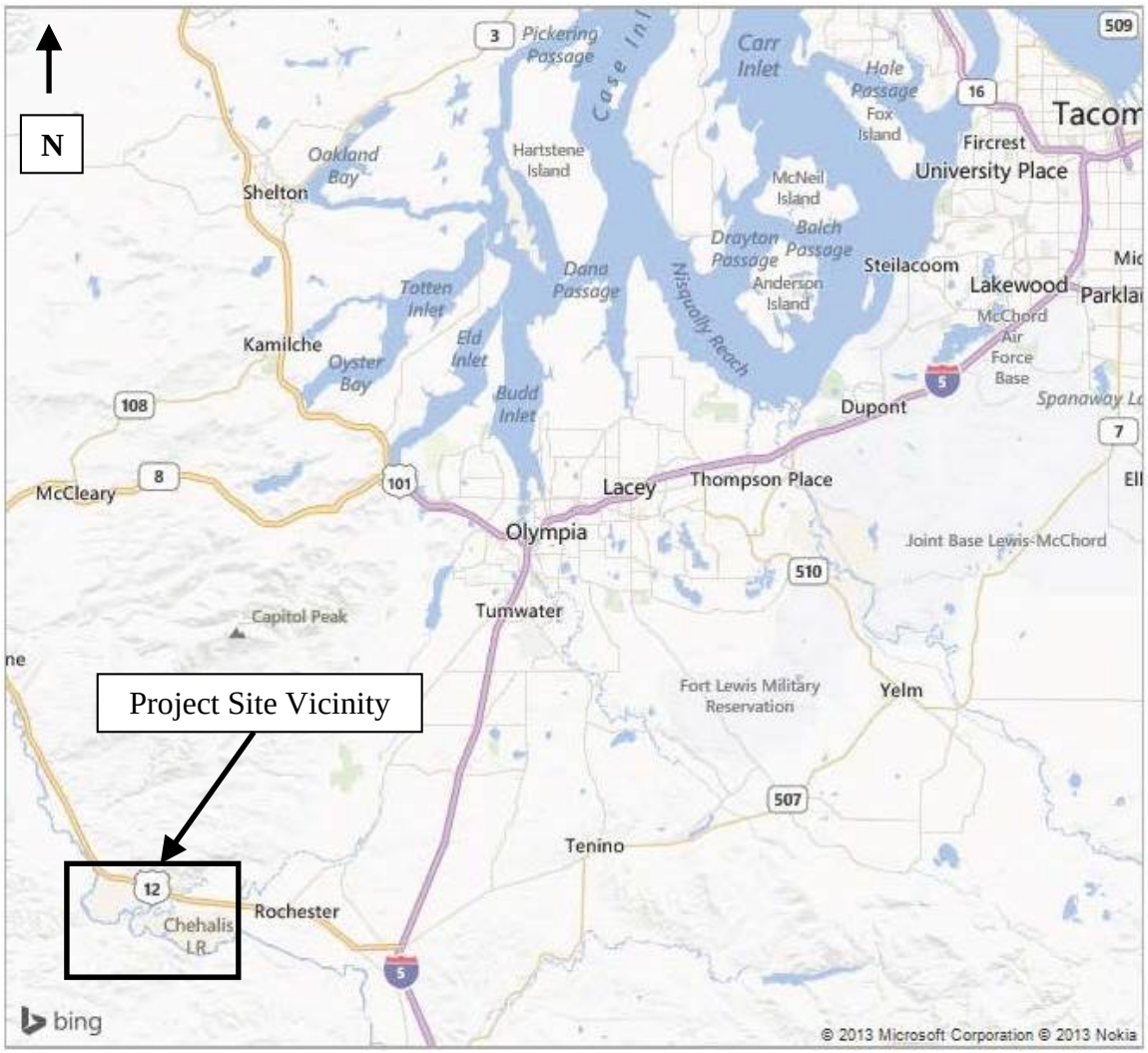
1. INTRODUCTION

As part of the consultant team assisting the Confederated Tribes of the Chehalis Reservation (Chehalis Tribe) with their Black River Boat Launch project, Grette Associates[LLC] has prepared the following Mitigation Plan to offset impacts associated with the development of the boat launch project. The site located within Section 05, Township 15 North, Range 4 West, W.M., within the Chehalis Reservation (Figure 1).

Figure 1. Project site vicinity map (Microsoft 2013).



To reach the site from Olympia (following I-5 south), take Exit 88 for US-12 West toward Tenino/Aberdeen. Follow US-12 west approximately 9.1 miles to Elma Gate Bridge Road. Turn left onto Elma Gate Bridge Rd. and then turn right to stay on Elma Gate Bridge Road. Follow for approximately 1 mile, then turn left onto Howanut Rd. Follow Howanut Road approximately 0.8 mile, where Howanut Road bends to the left. At bend, turn right onto project site access road. Follow access road approximately 1,400 feet to site on the right (Figure 2).

Figure 2. Project site location map (Microsoft 2013).

A Grette Associates[LLC] staff biologist visited the project site on October 18, 2013. An assessment of the project site and adjacent areas was performed, and one wetland was identified and delineated on the project site. In addition, the ordinary high water mark (OHWM) was identified along the left bank of the Black River. For detailed information on the wetland and the OHWM determination at the site, please refer to the Wetland Analysis Report and Ordinary High Water Mark Determination (Grette Associates 2014). An aerial photograph of the project site is presented in Figure 3.

Figure 3. Aerial photograph of the project site (Google 2013).

1.1 Responsible Parties

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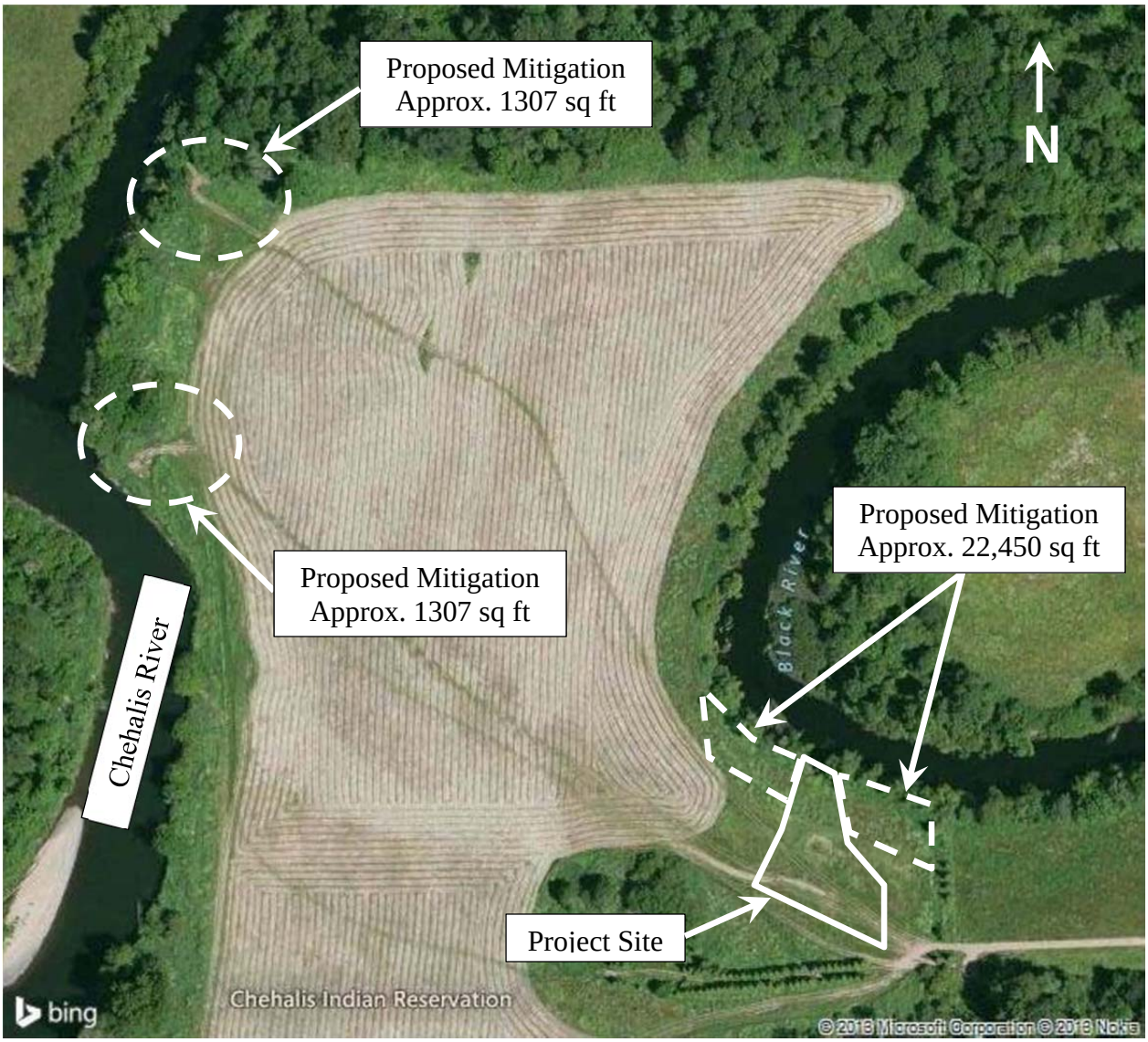
2. PROPOSED PROJECT

The Chehalis Tribe proposes to construct a functional, efficient, and economical boat ramp and turnaround area with 5 boat trailer parking stalls and 3 passenger car parking stalls to accommodate the needs of Tribal fishermen (Please refer to the drawings submitted with the JARPA [Sheets 1-6]). The ramp design and construction will minimize impacts to the bank of the Black River by utilizing an existing natural depression, which is currently used as an informal boat launch and moorage location. Unavoidable impacts to the bank and on site wetlands during ramp installation will be mitigated by decommissioning two other existing informal boat launches at the confluence of the Chehalis and Black Rivers, approximately 0.25 miles west of the proposed boat launch (Figure 4). Decommissioning of the two informal launches will also include riparian plantings within and around the existing launch footprints. In addition, the areas flanking the proposed boat launch to the east and west will be planted with native, riparian vegetation (Figure 4).

The proposed boat ramp will provide year-round access to the Black River by Tribal fishermen. The ramp will provide a single formal launch site to replace multiple informal launch sites located closer to the mouth of the Black River (at the confluence with the Chehalis). This permanent boat launch would decrease environmental impact by encouraging all fishermen to use a single entry/exit point dedicated specifically to this purpose.

Figure 4. Proposed mitigation locations.



3. EXISTING SITE CONDITIONS

The project area is located within the Chehalis Tribe Reservation. Currently, the site is vacant and is used for access to unimproved boat launch sites along the Black and Chehalis Rivers. Much of the site is flat with small areas of shallow relief. The site is located within the floodplain of the Black and Chehalis rivers.

A small building pad is present immediately southwest of the project site boundary (Figure 4). This feature appears to have been the location of a single-family residence, and is surrounded by a group of black locust (*Robinia pseudoacacia*) and western larch (*Larix occidentalis*).

3.1 Vegetation

Floodplain vegetation at the project site is dominated by reed canarygrass. A thin band of sparse riparian vegetation is present along the bank of the Black River to the east and west of the project site. Riparian tree and shrub species present include red alder (*Alnus rubra*), big leaf maple (*Acer macrophyllum*), red osier dogwood (*Cornus sericea*), snowberry (*Symphoricarpos albus*), Himalayan blackberry (*Rubus discolor*) and red elderberry (*Sambucus racemosa*).

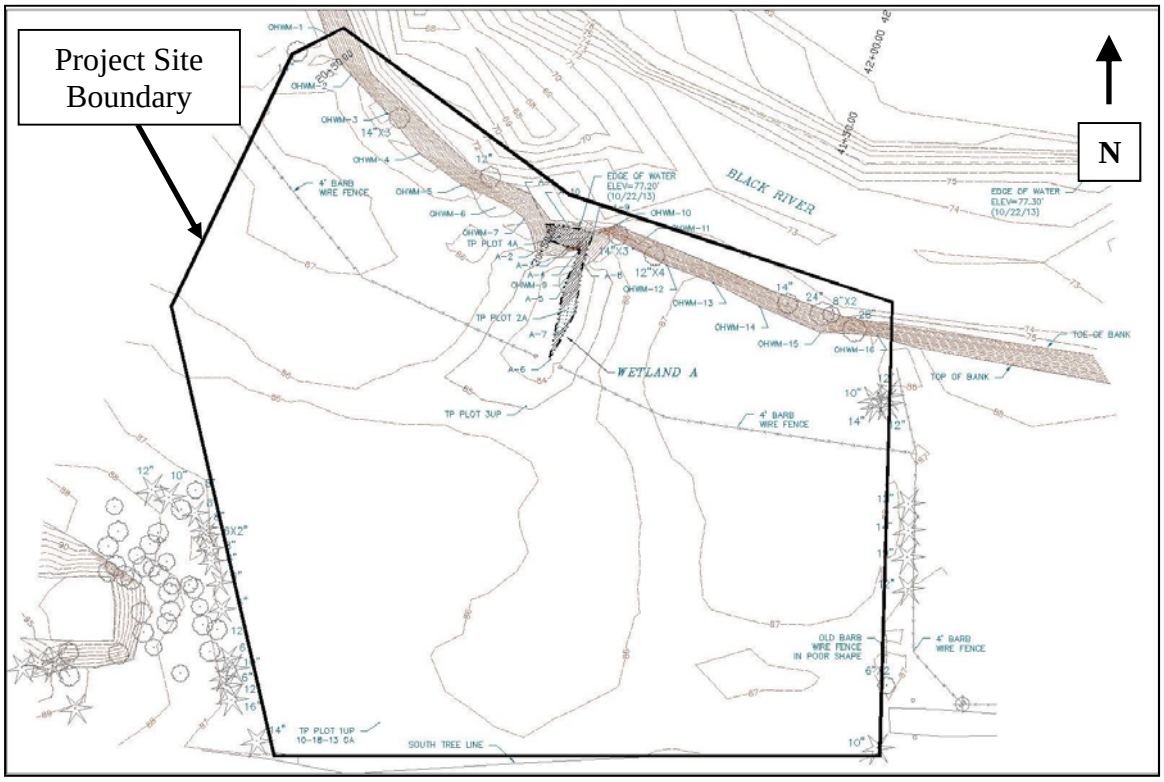
For a complete list of vegetation observed at the project site, refer to the Wetland Analysis Report and Ordinary High Water mark Determination (Grette Associates^{LLC} 2014).

3.2 Wetlands

A Grette Associates^{LLC} wetland scientist identified one wetland located within the project site. Wetland A is approximately 0.02 acres (675 sq ft) in size, and is located in the north-central portion of the project site along the left bank of the Black River (Figure 5). According to Cowardin et. al. (1979), Wetland A is classified as a Palustrine Emergent, seasonally-flooded wetland. Based on the functional characteristics of the wetland, the Riverine wetland module was used to rate Wetland A. The functional rating resulted in Wetland A being rated a Category III wetland.

For a complete description of Wetland A, including datasheets and rating forms, refer to the Wetland Analysis Report and Ordinary High Water mark Determination (Grette Associates^{LLC} 2014).

Figure 5. Wetland A map.



4. PROJECT IMPACTS

The proposed project will result in the complete removal of Wetland A (675 sq ft), along with grading and excavation along a portion of the bank of the Black River. In addition, a portion of the river bed will be excavated to allow placement of subgrade materials to support the waterward end of the boat ramp.

4.1 Affected Functions and Values

4.1.1 Wetland Function

Construction of the proposed project would completely remove the functions provided by Wetland A. Those functions, while limited, include native species diversity, hyporheic recharge, and minimal high flow velocity dissipation.

4.1.2 Riparian Function

Existing riparian functions within the project site are currently limited. Riparian vegetation consists primarily of reed canarygrass, with sparse tree and shrub cover limited to a thin band along the top of the river bank. The proposed project includes excavating a portion of the bank for placement of the launch lane. However, the project is located in an area largely devoid of tree and shrub vegetation. Few, if any, tree and shrub species will be removed during project construction. Furthermore, the area to be graded for parking and turnaround is entirely vegetated by reed canarygrass.

4.1.3 Floodplain Functions

Development within the floodplain will not have a significant effect on floodplain storage or flood flow dynamics across the site. The project will contain primarily pervious surfaces, with the parking and access road areas consisting of crushed gravel surfacing. The only impervious surfaces will be the launch ramp itself, covering approximately 1,190 square feet. No other structures will be installed.

Furthermore, the vegetation to be removed for construction of the project consists primarily of reed canarygrass. Few, if any, trees or shrubs will be removed. Therefore, floodplain structure that may disrupt flood flows will not be altered.

4.2 Mitigation Sequencing

Mitigation sequencing is a set of steps designed to prevent unavoidable impacts to the environment, and then to rectify those impacts that cannot be avoided.

The first step in mitigation sequencing is avoidance. This project cannot achieve total avoidance of impacts through design considerations, as the boat launch must extend into the Black River to provide safe and efficient bout launching capabilities during low flows. In addition, avoiding the wetland area along the bank is not feasible, as it would result in significant bank excavation and vegetation removal along a larger portion of the bank.

The next step is minimization. The Tribe has selected a portion of the bank within the site that is a natural low point or "notch". This low point in the bank will provide for the least amount of excavation and vegetation removal to install the launch. Minimizing the excavation will also minimize the amount of bank protection that is required, which further minimizes impacts to the surrounding banks and riparian vegetation.

As the proposed boat launch is a permanent development, restoration of the affected area, the next step in mitigation sequencing, is not possible.

The Tribe proposes to compensate for the anticipated aquatic and riparian impacts through the closure and restoration of two informal boat launches, as well as the restoration of native riparian vegetation adjacent to the boat launch and parking area. The closure of the informal boat launches will prevent future impacts to in-stream and riparian vegetation at those locations and the installation of native vegetation will restore riparian functions along the lower Black River at the project site.

5. MITIGATION PLAN

The site assessment identified aquatic habitat within the Black River, as well as one wetland area (Wetland A), within the study area. This wetland is hydrogeomorphically classified as a riverine wetland. The proposed project will completely remove the wetland, and involves excavation and filling within a portion of the Black River. The following sections outline the proposed mitigation actions to be taken by the Chehalis

Tribe to avoid, minimize, restore, and compensate for the proposed impacts to aquatic resources.

5.1 Goals and Objectives

The primary goals of the Mitigation Plan are to compensate for lost wetland and aquatic habitat function by removing impacts associated with several nearby informal boat launches and restoring native riparian vegetation along the Black River. The goals of this plan will be met by the following objectives:

1. Decommission 3 informal boat launches on the lower Black River;
2. Restore approximately 0.06 acre of native riparian habitat at 2 informal boat launches along the lower Black River near the confluence with the Chehalis River;
3. Restore approximately 0.52 acre of riparian habitat adjacent to the proposed boat launch site (Figure 8).
4. Monitor and maintain the restored riparian areas to ensure project mitigation success.

It is anticipated that upon completion of the monitoring period (after 5 years post-installation), the restored areas will consist of a shrub and young tree canopy over low groundcover forbs. After 10 years post-installation, most of the shrub and some of the tree plantings will have reached their mature form. Groundcover vegetation will likely be sparse at this point due to the dense shrub vegetation.

5.2 Target Functions and Values

The goal of the mitigation plantings is to restore and enhance the native riparian vegetation functions within the planting areas. These functions include native vegetation diversity, aquatic habitat thermal regulation and organic input (i.e. shading), wildlife foraging, nesting and refuge, and flood flow disruption. Restoration of these functions will improve habitat on the site for a wide range of wildlife and fish species that use the Chehalis and Black river floodplain.

5.3 Mitigation Design

The vegetation to be planted within the riparian planting areas will consist of native species that are typically adapted to the conditions on the site (i.e. native to the Puget Lowlands). A sample layout of planted material is shown in Figure 9. The planting areas will be prepared and planted as described below.

5.3.1 Planting Plan

The project biologist will monitor plant installation to ensure that the plantings are prepared and installed as outlined in the approved planting plan. The biologist will inspect and approve the planting stock and review the plans with the field crew to ensure they both recognize the species selected for installation and understand the proposed placement of each species. Only native species adapted to the conditions at the site will be allowed; no hybrids or nursery cultivars will be allowed. The project biologist will

assist the landscape contractor in making any final adjustments in the planting schedule, in response to field conditions. Substitutions to the planting plan will be submitted in writing to, and approved by, the appropriate regulatory agencies prior to installation.

A fall installation schedule (October 1st – November 31st) is preferred for lower mortality rates of new plantings. If plant installation occurs during the late spring or summer (April 1st – September 31st) the plantings will be temporarily irrigated through the summer months.

The planting areas will be prepared by first stripping the areas of reed canarygrass. This will include taking care to remove the entire rhizome mat (at least the upper 8 inches of material) to ensure complete eradication of reed canarygrass in the planting areas. It is anticipated, based on the soil test pits excavated during the wetland delineation field work, that the soil beneath the reed canarygrass rhizome mat is acceptable for planting and that no additional topsoil will be required.

The planting areas will be staked such that each plant location is marked. This will allow the project biologist to inspect the location of each plant to ensure the plants are compatible with their proposed location with respect to moisture and shading.

5.3.2 Plant Schedule

The intent of the planting plan is to create a mixed, forested/shrub riparian community within the planted areas. Native trees to be planted include red alder (*Alnus rubra*), big leaf maple (*Acer macrophyllum*), western red cedar (*Thuja plicata*) and Douglas fir (*Pseudotsuga menziesii*). Tree species will be planted 10-12 feet on-center. Shrub species will be interplanted in clusters among the forested vegetation, and will include various willows (*Salix* sp.), red-osier dogwood (*Cornus sericea*), beaked hazelnut (*Corylus cornuta)*, red elderberry (*Sambucus racemosa*) and snowberry (*Symphoricarpos albus*). Shrubs will be planted on 5-foot centers within clusters.

Groundcover and grass species will be seeded throughout the planting areas prior to tree and shrub installation. Groundcover and grass species to be seeded include blue wildrye (*Elymus glaucus*), native red fescue (*Festuca rubra*), yarrow (*Achillea millefolium*) and pearly everlasting (*Anaphalis margaritacea*). These species will be hand seeded and mulched after planting of the shrubs and trees. It is anticipated that the groundcover and grass vegetation will help stabilize surface soils until the larger plantings mature.

Table 1. Proposed plant schedule.

Common name	*Species Name*	Quantity[1]	Size	Spacing (on center)
TREES				
Big-leaf maple	*Acer macrophyllum*		2-gal.	10-12 ft
Red alder	*Alnus rubra*		2-gal.	10-12 ft
Douglas fir	*Pseudotsuga menziesii*		2-gal.	10-12 ft
Western red cedar	*Thuja plicata*		2-gal.	10-12 ft
SHRUBS				
Red osier dogwood	*Cornus sericea*		1-gal.	5 ft
Beaked hazelnut	*Corylus cornuta*		1-gal.	5 ft
Willow	*Salix* sp.		live stakes	5 ft
Red elderberry	*Sambucus racemosa*		1-gal.	5 ft
Snowberry	*Symphoricarpos albus*		1-gal.	5 ft
GRASSES/GROUNDCOVER				
Yarrow	*Achillea millefolium*		seed	N/A
Pearly everlasting	*Anaphalis margaritacea*		seed	N/A
Blue wildrye	*Elymus glaucus*		seed	N/A
Red fescue	*Festuca rubra*		seed	N/A

[1] Quantities will be determined upon final site design.

5.3.3 Mitigation Installation

The planting contractor shall verify the location of all elements of the landscape plan prior to installation. The project biologist and/or Tribe shall reserve the right to adjust the locations of landscape elements during the installation period as appropriate, and as approved by the regulatory agency. If obstructions are encountered in an area that are not shown on the drawings, planting operations in that area will cease until alternate plant locations have been approved by the Tribe.

Circular plant pits with vertical sides will be excavated for all container stock. The pits should be at least twice the diameter of the container, and the depth of the pit should be at least 6 inches greater than the depth of the container or root system. The bottom of each pit will be scarified to a depth of 4 inches, and a small flat-topped mound will be prepared to support the root system. The pit should be thoroughly wetted prior to plant insertion to prevent capillary stress.

Containers will be removed prior to planting, and the root systems will be gently loosened. Broken roots should be pruned with a sharp instrument and roots should be thoroughly soaked prior to installation. Set plant material upright in the planting pit to proper grade and alignment. Water plants thoroughly midway through backfilling. Water pits again upon completion of backfilling, ensuring no air pockets remain in the planting pit. No filling should occur around trunks or stems. Do not use frozen or muddy mixtures for backfilling. Form a 24-inch diameter ring of mulch around the edge of each planting pit to retain water (4-inch minimum depth, keeping 2” away from trunk), at the

discretion of the Tribe. While high flows are not anticipated through the floodplain during a flood event, mulch may be displaced during the wet season.

Live stakes will be installed to a minimum depth of 32 inches, ensuring that approximately four-fifths of the length of the stake is tamped into the soil. The stakes will be installed at a right angle to the planting surface. Tamping the stake is best accomplished with a dead blow hammer. Do not split the stakes during tamping; stakes that split shall be removed and replaced.

5.4 Performance Standards

Success of the riparian plantings in regards to species richness and enhancement of wildlife habitat will be based upon 80% survival of all planted tree and shrubs species at the end of Year 5. Volunteer native, non-invasive species will be included as acceptable components of the planting.

Cover will consist of less than or equal to 15% cover of undesirable vegetation, including blackberry varieties, thistles, tansy ragwort, scotch broom, reed canarygrass, etc. This metric will be evaluated for groundcover invasives using random plot sampling as described below.

In addition to the survivorship standards, the riparian plantings must demonstrate sufficient cover to provide wildlife habitat and erosion control functions. The tree and shrub plantings will provide 20% cover after the first year post-planting, 30% cover after the second year post-planting, 40% after the third year post-planting, and 50% at the end of the fifth year post-planting. The groundcover and grass vegetation will provide 80% cover after the first year, 60% after the second year, 50% after the third year, and 30% after the fifth year post-planting. This declining coverage of groundcover vegetation reflects the increasing cover of tree and shrub vegetation within the planting areas.

Table 2. Mitigation performance standards.

Objective	Performance Standards[1,2]
1. Increase riparian vegetation adjacent to the Black and Chehalis Rivers.	1. Minimum 80% survival of planted species at end of Year 5. 2. No more than 15% coverage by invasive weedy species within planting areas. 3. Minimum of 3 planted riparian shrub species are present. 4. Minimum of 3 planted riparian tree species are present. 5. Minimum of 20% canopy cover of tree and shrub species and 80% cover of groundcover species at end of Year 1. 6. Minimum of 30% canopy coverage of tree and shrub species and 60% cover of groundcover species at end of Year 2. 7. Minimum of 40% canopy coverage of tree and shrub species and 50% cover of groundcover species at end of Year 3. 8. Minimum of 60% canopy coverage of tree and shrub species and 30% cover of groundcover species at end of Year 5.

[1] Volunteer native vegetation will be an acceptable component of canopy coverage estimates.
[2] While no performance standards are tied to Year 4 monitoring, the monitoring will be conducted to preliminarily compare results to Year 5 performance standards.

Each of the four riparian planting areas will be evaluated separately with respect to the performance standards. This will ensure the success of each of the planting areas is documented.

6. MONITORING PLAN

Post-construction monitoring is used to document plant development and success as well as to detect problems for correction. A monitoring program will be established for the project in order to regularly evaluate the mitigation areas. Monitoring will consist of three phases: 1) monitoring during plant installation; 2) post-construction inspection after completion of the plantings; and 3) long-term monitoring. Vegetation monitoring will only be conducted within the planting areas. Each of the monitoring phases is discussed below.

6.1 Installation Monitoring

Installation monitoring will involve coordination between the project biologist, project manager, and landscaping personnel in order to ensure that the plantings are installed in an appropriate manner, as outlined in this plan. A pre-planting meeting will be held to discuss the planting design. The overall purpose of the meeting will be to discuss the primary intent of the mitigation plan, establish lines of communication, and address any questions or problems. A representative of the Tribe will be present on site during installation to ensure that the plantings are conducted as outlined in the planting plan. The biologist will inspect and approve the planting stock, and review the plans with the field crew to ensure they both recognize the species selected for installation and

understand the staking. The biologist will assist the landscape contractor in making any final adjustments in the planting plan, as needed, in response to field conditions. Any proposed deviations from the planting plan, including species substitutions, should be submitted to the Tribe and the USACE for approval prior to implementation.

6.2 Post-Installation (As-Built) Inspection

Post-installation compliance monitoring will consist of evaluating the plantings immediately after installation to confirm the plan was followed and plants were installed appropriately. A walk-through survey will be conducted with project staff to verify the installation conforms to the approved plan. Three fixed points will be established within each of the planting areas to be used as photo-points during long-term monitoring.

Compliance monitoring will be conducted by project biologists using evaluation standards and criteria discussed below. Cover and abundance of the vegetation within the planted areas will be recorded using a combination of permanent transects and random plot sampling, and will constitute baseline conditions for comparison during long-term monitoring. Following completion of the compliance monitoring, a summary technical memorandum will be prepared by a biologist verifying that all design features have been correctly implemented. Any changes to the planting plan will also be discussed in the compliance memorandum. The memorandum will be submitted to the Tribe and the USACE within 60 days following installation of the plants and will document the installation and post-installation. The USACE will be the agency responsible for inspecting and approving the as-built inspection report.

6.3 Long-Term Monitoring

Long-term monitoring will be conducted over a five-year period with observations conducted each year. The purpose of the long-term monitoring program will be to evaluate the establishment and maintenance of the riparian plant community within the planting areas to determine if the goals and objectives of the Mitigation Plan have been met. Photographs will be taken each year at each of the photo-points established during the compliance monitoring to document the status of the plantings.

Monitoring will be conducted to quantify the survival, relative health and growth of plant material, as well as the successful establishment of native riparian vegetation. Monitoring will be conducted each year between July 1 and August 31 to monitor plant vitality and survivorship, with the annual monitoring report describing and quantifying the status of the mitigation relative to the performance standards. The USACE will be the agency responsible for inspecting and approving the annual monitoring reports.

Long-term monitoring will be conducted according to the methods and procedures detailed in the Washington State Department of Transportation's *Wetland Mitigation Site Monitoring Methods* (WSDOT 2008). These monitoring methods outline the procedures for conducting sample size analyses and data collection.

6.4 Monitoring Schedule

Monitoring of the planted areas will be conducted over a five year period, with data collection occurring each year. The schedule below outlines when monitoring inspections/data collection will be conducted.

Table 3. Monitoring schedule.

Monitoring Event	Schedule
Installation Monitoring	During plant installation
Post-Installation Inspection (As-Built)	Within 30 days of installation; report due within 60 days of monitoring
Year 1	July 1 – August 31; report due by Nov. 30
Year 2	July 1 – August 31; report due by Nov. 30
Year 3	July 1 – August 31; report due by Nov. 30
Year 4	July 1 – August 31; report due by Nov. 30
Year 5	July 1 – August 31; report due by Nov. 30

Monitoring reports shall be submitted to the USACE no later than November 30 of the year in which data collection occurred, or as indicated Table 3.

7. MAINTENANCE AND CONTINGENCY PLANS

The sections below describe the maintenance activities to be conducted by the Tribe, as well as the contingency planning process to be followed for the duration of the mitigation monitoring.

7.1 Maintenance Plan

Maintenance of each mitigation planting area will be the responsibility of the Tribe for the duration of the monitoring period. During each site visit, all litter including paper, plastic, bottles, etc., will be removed, as will all non-native, invasive and noxious[1] vegetation including blackberry varieties, thistles, reed canary grass, etc. Work to be completed within the first year in the planted riparian areas includes replacement of dead or failed plant materials with plantings of the same species, size and location as original plantings. Replacement plantings, if required, are to be installed during the dormant period.

While the native species selected for mitigation are hardy and typically thrive in northwest conditions, some individuals within the planted areas might perish due to dry conditions. As noted above, temporary supplemental irrigation will be provided for the duration of the first summer while the native plantings become established.

During the spring of each monitoring year, the mitigation site will be walked by the project biologist, and any areas of invasive vegetation infestation will be noted. The

[1] Class A, B and C-listed species in the most current Grays Harbor County Noxious Weed List (as issued by the Grays Harbor County Noxious Weed Control Board).

Tribe will then hand-remove all of the invasive vegetation prior to it going to seed. Species of particular interest include reed canarygrass (*Phalaris arundinacea*), Himalayan blackberry (*Rubus discolor*), cut-leaf blackberry (*R. lacinatus*), and all other noxious weeds[1].

A zero-tolerance policy will be adhered to for Japanese knotweed (*Polygonum cuspidatum*), and any occurrence of this species on the site will be promptly removed throughout the duration of the five-year monitoring period.

In addition to invasive vegetation, all trash and debris noted within the mitigation site will be removed by the Tribe for the duration of the five-year monitoring program. Maintenance activities conducted by the Tribe or its contractors will be summarized in the monitoring reports submitted to the regulatory agency.

7.2 Contingency Plan

The contingency plan provides a framework for taking action if the mitigation plantings fail to meet the performance standards described above. The contingency actions will vary depending on whether physical or biological processes are responsible for non-attainment of performance standards, and the degree of shortfall. If the project fails one or more performance standards, but the USACE agrees the shortfall is minor, then additional monitoring prior to undertaking more intense corrective actions may be proposed.

7.2.1 Contingency Actions

This contingency plan identifies a planning process for selecting appropriate actions to address failure of specific performance standards. In order to maintain the flexibility needed to respond effectively and appropriately to biological and/or physical conditions, this plan does not present a specific list of actions that will be taken to remedy all specific types of failures at the mitigation areas.

Site-specific contingency options do exist for the mitigation areas, and sample options are outlined below. The list of sample corrective actions is not exclusive, nor is it a commitment to undertake a specific action. It is expected that any shortfall in mitigation performance can be remedied within the confines of the mitigation areas through adaptive management techniques.

Failure of biological components of the mitigation actions are more difficult to predict and specific responses are impossible to present in detail. However, the following general approaches are anticipated:

- If the groundcover vegetation planted at the mitigation areas fail to meet the coverage performance standards, additional seeding and/or planting may occur.
- If vegetation planted within the mitigation areas fail to meet the areal coverage performance standards due to incompatible hydrologic regime, additional seeding and/or planting of different species more appropriate to the actual hydrologic regime may occur.

- If non-native invasive weed species exceed areal coverage performance standards treatment with an approved herbicide and/or aggressive hand removal of the invasive species may occur.

7.2.2 Contingency Planning Procedure

The contingency planning procedure consists of two elements: (1) problem recognition, and (2) contingency planning and response.

Problem Recognition Process

The problem recognition process is an integral part of the monitoring program. As monitoring data are collected, they will be examined and interpreted relative to the performance standards. The purpose of the process is to determine if there is a problem and if so, the nature and extent of the problem. The Tribe and the permitting agency (USACE) shall meet in good faith and shall use their best efforts to reach consensus regarding an appropriate response. In the event that consensus cannot be reached, the permitting agencies will determine if modified or continued monitoring is adequate. Figure 6 outlines this process and shows potential outcomes of the problem recognition step.

Contingency Planning and Response Process

The purpose of the contingency planning process is to develop contingency actions that may be appropriate, depending on the results of the monitoring program and problem recognition step. If modified or continued monitoring is not an adequate response, the Tribe shall submit a contingency proposal for permitting agency review. Figure 7 outlines the contingency planning process.

The contingency planning process could result in the implementation of an approved response action. Alternatively, it could result in agreement on an approach or set of criteria for taking further action, depending on the results of future monitoring. The USACE will make a final determination on an appropriate response, based on available information and scientifically and economically feasible recommendations. The Tribe or USACE can invite any resource agencies into contingency planning and response discussions. No contingency action will be undertaken until the USACE gives approval in writing. Potential responses include, but are not limited to, one or more of the following:

- Concluding that the situation does not require further action.
- Expanding or modifying the monitoring program.
- Developing more specific criteria to evaluate the data during future monitoring.
- Initiating a corrective action.

Figure 6. Problem recognition process flow chart.

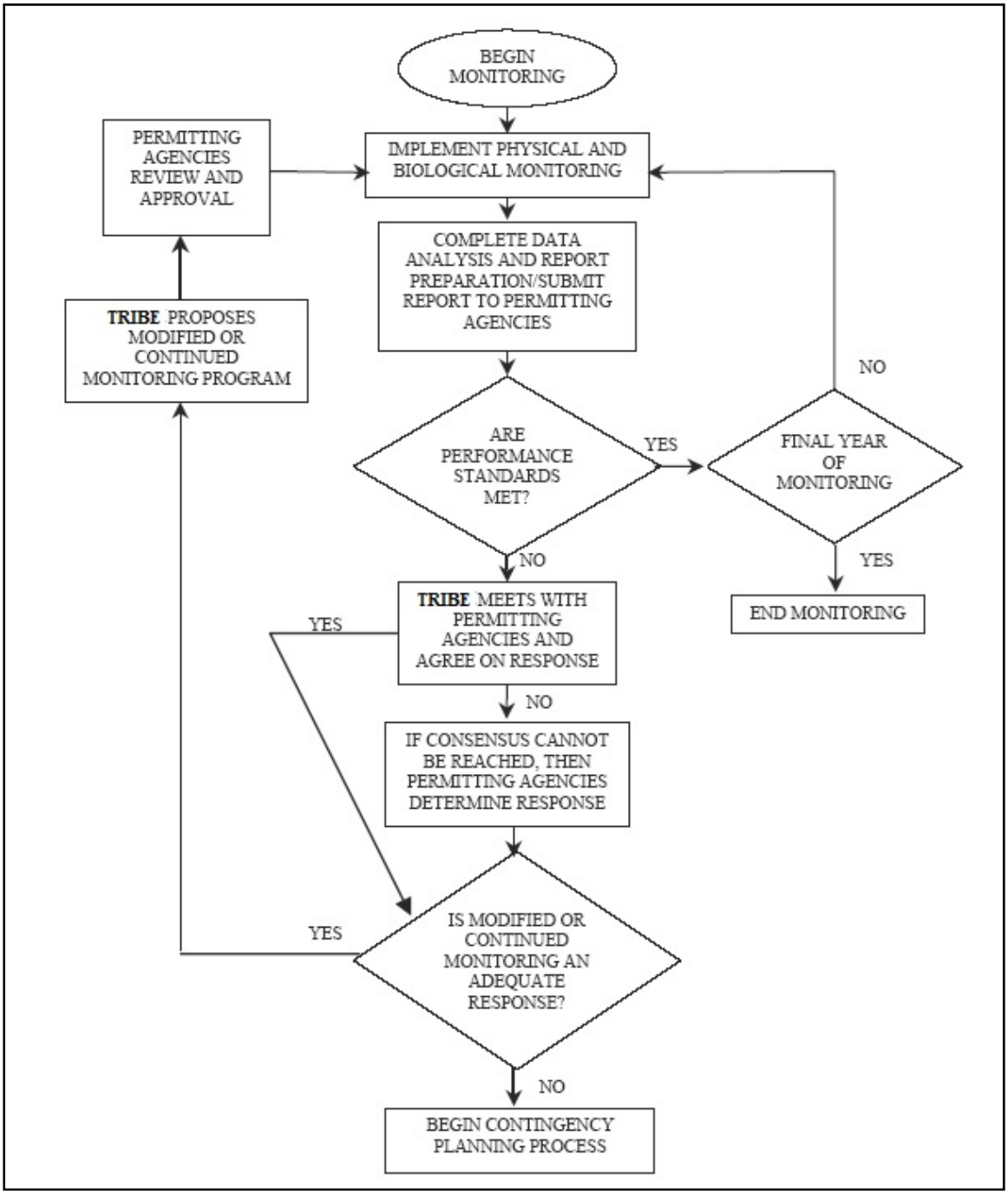
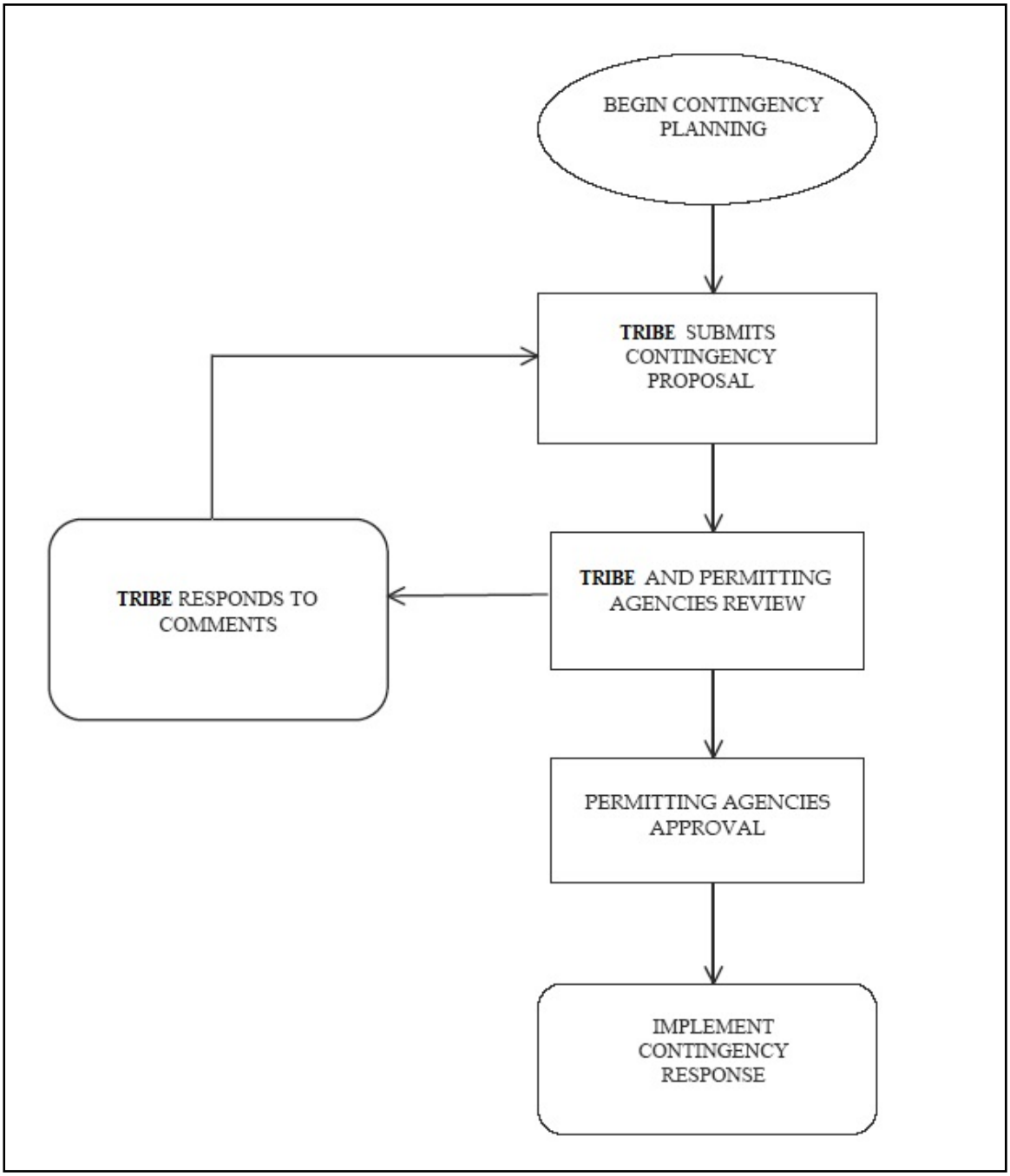


Figure 7. Contingency planning and response process flow chart.



8. FORCE MAJEURE

For the purposes of this document, an "Event of Force Majeure" means any circumstance not within the reasonable control of the Tribe, but only if and to the extent that (i) such circumstance, despite the exercise of reasonable diligence, cannot be prevented or avoided by the Tribe, and (ii) such circumstance adversely affects the planted mitigation areas to such an extent that they are no longer capable of achieving one or more performance standards within the monitoring program timeframe and/or to the satisfaction of the USACE.

An "Event of Force Majeure" shall include, but not be limited to:

- extreme flooding, fire, earthquake, drought, high winds or other such extreme weather or environmental conditions (i.e., "acts of God");
- unanticipated geologic conditions, events or failures, such as landslides, lahars, sinkholes or extreme depositional events not related to the site;
- chemical contamination or physical damage not related to actions of the Tribe, its contractors or subcontractors; or
- acts of vandalism or sabotage.

In the circumstance of an Event of Force Majeure, the Tribe will provide written notification and documentation to the USACE of said event. The notification will include a description of the event, actions taken by the Tribe to prevent the effects of the event on the planted mitigation areas (if possible), and any reasonable mitigating or corrective actions implemented by the Tribe to minimize the effects of the event on the planted mitigation areas. The Tribe and USACE will meet in good faith to determine appropriate actions in response to the event.

9. REFERENCES

Grette Associates[LLC]. 2014. Wetland Analysis Report and Ordinary High Water Mark Determination. Prepared for the Chehalis Tribe. March 2014.

Washington State Department of Transportation (WSDOT). 2008. Wetland Mitigation Site Monitoring Methods. Prepared by WSDOT Environmental Services. Updated June 12, 2008.

Figure 8. Project site mitigation site plan

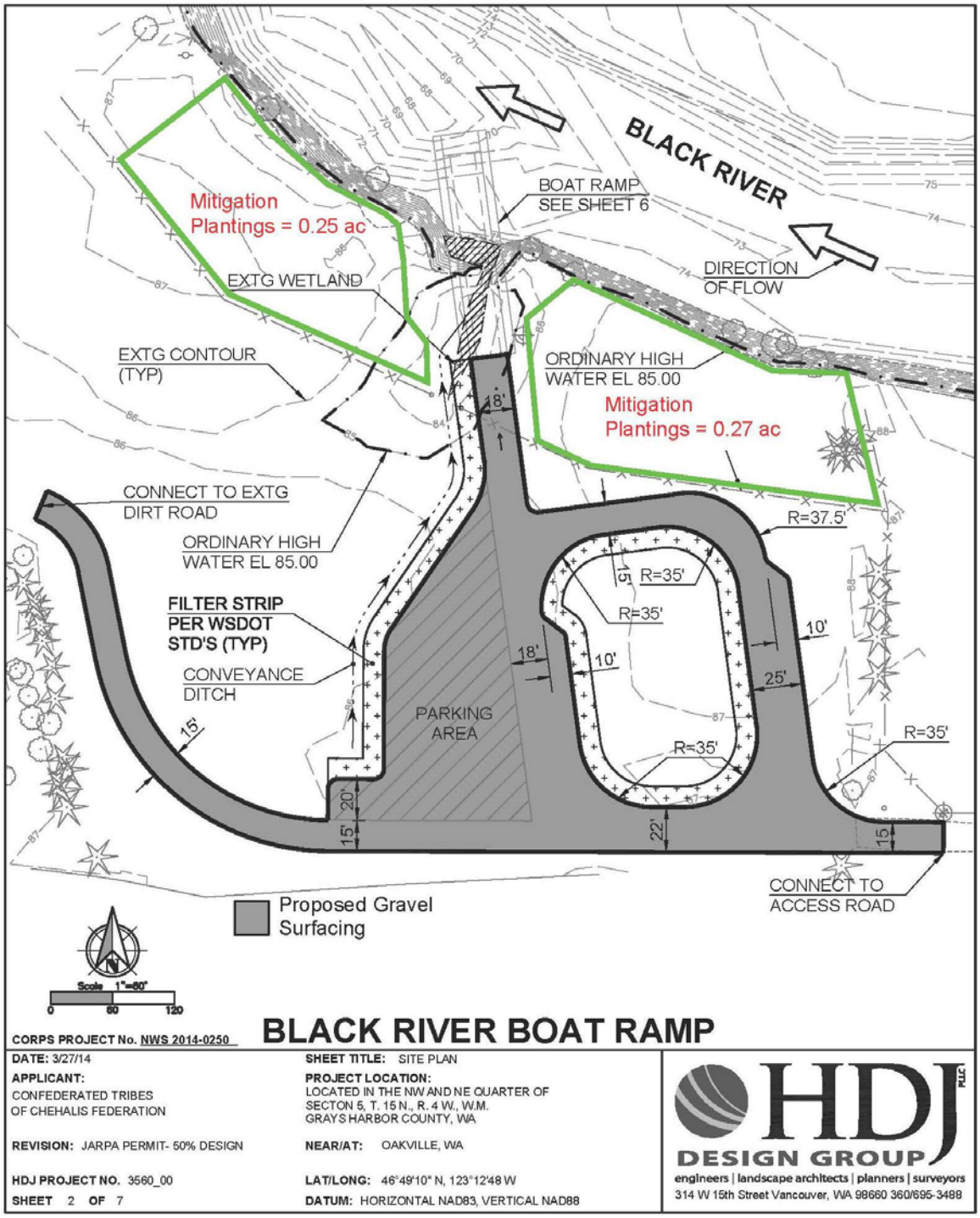
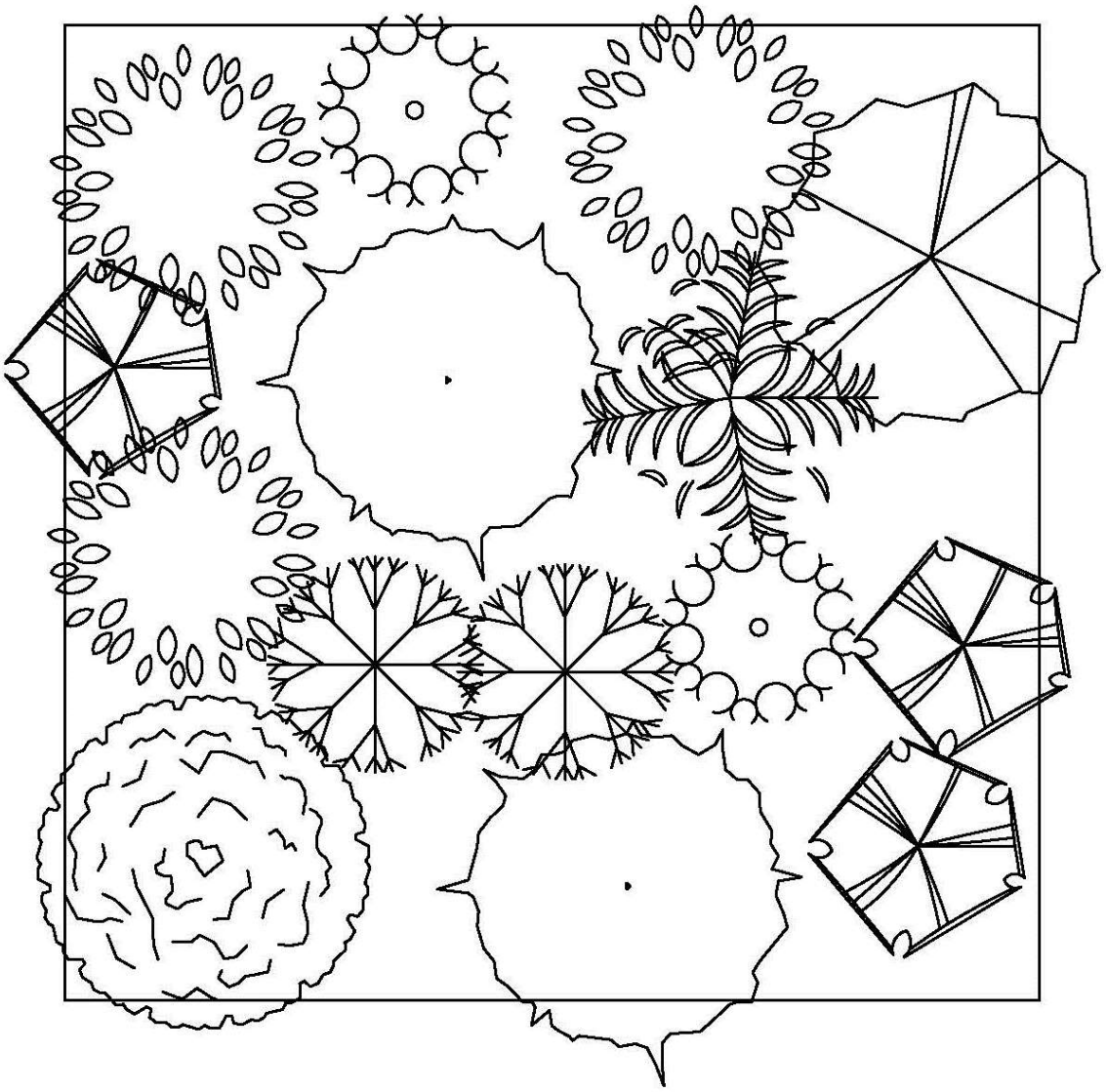


Figure 9. Sample mitigation planting layout.



Notes:

- Sample layout in 30 ft by 30 ft grid
- Not all proposed species are represented in this sample layout