Implementation Guide (IG) for the Restoration And Permitting (RAP) Program for Lake Washington and Lake Sammamish

Instructions for Applicants

March 11, 2022

This Implementation Guide (IG) serves as the primary document governing implementation of the RAP program. The National Marine Fisheries Service (NMFS) will adaptively manage the RAP program and make changes to the IG as necessary to promote the conservation of listed species and habitat resources, to increase program efficiency, and to meet our tribal trust responsibilities.

Introduction

The Restoration and Permitting (RAP) program is a voluntary program that is designed to promote shoreline habitat restoration, and to simultaneously provide expedited compliance with Section 7 of the Endangered Species Act (ESA) and with the Magnusson/Stevens Fisheries Management Act (MSA) and streamlined regulatory permitting for pier and shoreline projects in Lake Washington and Lake Sammamish that require US Army Corps of Engineers (Corps) authorization. The program does not cover projects in the Lake Washington Ship Canal, Portage Bay, Lake Union, or in any tributaries of Lake Washington or Lake Sammamish.

The RAP program promotes shoreline habitat restoration through the inclusion of environmentally friendly programmatic design criteria (PDC) for pier and shoreline projects and by providing the ability for applicants to offset unavoidable impacts through participation in an in-lieu fee program that is administered by King County. The RAP program provides expedited ESA and MSA compliance and regulatory permitting by requiring all covered projects to meet the PDC that were considered in the covering biological opinion (WCR-2016-5278), thereby avoiding the need to complete separate consultations for individual projects.

Covered Activity Types:

1. Pier and Float Repair, Replacement, and New Installation;
2. Existing Boat House Repair and Replacement;
3. Boat Canopy Repair, Replacement, and New Installation;
4. Boat and Personal Watercraft (PWC) Lift Repair, Replacement, and New Installation;
5. Existing Miscellaneous On- and Overwater Deck and Other Element Repair and Replacement;
6. Existing Bulkhead Repair, Relocation, and Removal; and

7. Gravel Placement and Debris Removal.

Excluded Activities:

1. In-water installation of any treated wood (unless encased with polyvinyl chloride (PVC), or another material that the Corps and the NMFS determine is effective at preventing the leaching of wood preservatives and pesticides. Treated wood may only be used for out of the water substructures that would be protected from wear/abrasion and not be subjected to prolonged submersion (i.e. at least 6 inches above the highest water level for the applicable waterbody);
2. In-water installation of galvanized steel (i.e. piles, pile stubs, swim ladders, etc.);
3. Retention of any creosote-treated timber in any affected structure;
4. Use of piles greater than 8 inches in diameter for new pier installations;
5. Impact pile driving and proofing;
6. New boathouse installation;
7. Installation or retention of skirting for pier repair, replacement, and installation projects;
8. Covering grated decking;
9. New bulkhead installation, bulkhead extension or enlargement, or bulkhead repairs that encroach further waterward of the ordinary high watermark (OHWM);
10. Installation of boulders below the OHWM; and
11. Dredging.

General Participation

Overview

To best utilize the RAP program, projects should be designed to fully comply with the covered project types, excluded activities, and the PDC identified below, and the supporting documentation should clearly demonstrate meeting all provisions of the program as described in the IG and its appendices below.

Fully meeting the provisions of the program removes the need for individual consultations under the ESA and the MSA because the project's potential effects on listed species and habitat resources were fully considered in the covering biological opinion. This significantly reduces the time required to complete permitting by the Corps.

Projects that very closely comply but for some reason cannot meet all provisions of the program may still be considered for permitting under the RAP program, but must first complete early technical assistance (ETA) prior to their submission to the Corps.

RAP Process

For fully-RAP-compliant projects, or those that have completed ETA with the NMFS:

1. Applicants shall electronically submit permit application packages to the Corps' Seattle District Regulatory Branch at: **NWS-PermitApp@usace.army.mil**. Do not submit the permit request to the NMFS**.** The permit application package must include a completed permit application, a completed RAP form, plan sheets (drawings), and a completed RAP Calculator (preferably in the original Excel spreadsheet format). The RAP form and plan drawings must contain sufficient detail about the project to clearly demonstrate that the project is consistent with all applicable provisions of the RAP program (See Appendix A for RAP Form instructions, See Appendix B for Plan Sheet Requirements). The calculator must correctly and completely address all applicable project components (See Appendix C for RAP Calculator instructions). Copies of the most current RAP IG, Form, and Calculator can be obtained by sending a request email to the NMFS at: rap-eta.wcr@noaa.gov.

   For projects that required ETA, the permit application package must also include a copy of the NMFS email that confirms the completion of the ETA.

2. The Corps will review the materials to determine if it meets the provisions of the RAP program.

   If the Corps determines that the project meets the provisions of the RAP program, they will send the NMFS copies of the application materials and request confirmation of RAP compliance.

   If the Corps determines that the project is not consistent with all provisions of the RAP program, they will ask the applicant to either revise the proposal to meet the provisions, to complete ETA (if appropriate), or to submit a Biological Assessment (BA) or a Biological Evaluation (BE) for individual ESA consultation. When ETA is appropriate for a project, the Corps PM will direct the applicant to email an ETA request to the NMFS at: rap-eta.wcr.noaa.gov.

   If the Corps determines that the project meets the provisions of the RAP program, they will send a RAP compliance confirmation request to the NMFS.

3. Within 30 days of receiving a RAP compliance confirmation request from the Corps, the NMFS will verify, via email to the Corps, whether or not the project meets the provisions of the RAP program. For non-conforming applications, the email will identify the aspects of the project that do not meet the provisions of the RAP program. Applicants of non-conforming projects may then choose to modify their project to meet the provisions of the RAP program, or to withdraw their RAP request from the Corps, and to submit a BA or BE to the Corps for individual ESA/MSA consultation.

4. If the Corps issues a permit under the RAP program, the permit will include RAP-specific special conditions regarding:

    a. The permittee's requirement to perform the work in compliance with the RAP program, including the payment of any conservation fees to King County within 60 days of the date of permit issuance, and submittal of proof of payment from King County;

    b. The permittee's requirement to comply with the RAP planting plan requirements and to submit, to the Corps and the NMFS, annual vegetation monitoring reports for five years if the permittee is claiming conservation credits for plantings.

    c. The permittee's requirement to maintain RAP planting plan vegetation for the life of the permitted structures;

    d. The permittee's requirement to submit to the Corps and the NMFS an As-Built Report (ABR) that includes the results of any monitoring required under the RAP program, including post-construction photographs of the completed project and on-site restoration activities (see Appendix D); and

    e. The permittee's requirement to visually monitor for turbidity during construction and to insure that observable increased turbidity does not extend beyond a 150-foot radius around the project area and to report the results of the monitoring to the Corps and the NMFS in their ABR.

    ABRs and vegetation monitoring reports must be emailed to the Corps at: **NWS.compliance@usace.army.mil**, and to the NMFS at: **rap-reports.wcr@noaa.gov**. Be sure to include the project-specific NWS and WCRO numbers in the subject line of the reports.

5. To pay conservation fees, the applicant must contact King County (contact information below) and request an invoice after they have received the Corps authorization.

    Megan Webb
    In-Lieu Fee Mitigation and Transfer of Development Rights
    King County Water & Land Resources Division
    Department of Natural Resources & Parks
    (206) 477-3865
    Megan.Webb@Kingcounty.gov

Early Technical Assistance (ETA)

The following types of projects require ETA under the RAP program:

1. Projects without a fully-compliant planting plan, except for stand-alone boat or personal watercraft lift projects, stand-alone mooring pile projects, or projects that would repair less than 10 percent of an overwater structure or bulkhead. The percentage of an overwater structure is to be based on the square footage of the structure's overwater area and or the number of piles, depending on the work to be done. For bulkheads, the percentage is based on the linear feet of the bulkhead measured as a line parallel to the OHWM. In Lake Washington, the OHWM elevation is the Corps Datum of 21.8 feet. In Lake Sammamish, the OHWM elevation is the NGVD Datum of 27.0 feet;

2. Projects that request credit for preserving existing vegetation that meets RAP planting plan requirements (identified below) or that has demonstrated benefits to aquatic habitat (A supportive statement from a qualified WDFW aquatic biologist or an agreement from the consulting NMFS biologist for the RAP project constitutes acceptable documentation); and

3. Projects for overwater structures with atypical configurations and/or unique features (i.e. multiple widths and or heights, overwater decks, tea houses, etc.) within 30 feet of the OHWM.

Applicants should send ETA requests via email to **rap-eta.wcr@noaa.gov**. Ensure that the request includes a completed RAP Form, plan drawings, and RAP calculator. The assigned NMFS biologist will assist applicants with complying with the RAP program, including the development of adequate documentation.

Upon successful conclusion of ETA, the NMFS biologist will send an email to the applicant to confirm the completion of ETA. Upon receipt of the NMFS ETA completion email, the applicant can submit their RAP permit request package to the Corps as described above. Note that any changes to any RAP documents that occur after the completion of ETA would invalidate the ETA completion email. Therefore it is imperative that applicants submit exactly what was described and agreed to during ETA.

Minimum RAP Program Requirements

The RAP program covers the activity types described below in Lake Washington and Lake Sammamish, but not in the Lake Washington Ship Canal, Portage Bay, Lake Union, or in any tributaries of Lake Washington or Lake Sammamish.

All projects participating in the RAP program must meet the following criteria:

1. Conduct all in-water work within the work windows identified in Appendix E. For the purposes of this program any work that includes the use of any type of water

craft or that is likely to transmit noise or discharge any debris or pollutants into the water is considered in-water work; and

2. Implement a planting plan (Not applicable for stand-alone boat or PWC lift projects, mooring pile projects, or for projects to repair less than 10 percent of an overwater structure or bulkhead). The planting plan must meet the following criteria:

    a. Include at least two trees and three shrubs. Unless specifically exempted by the NMFS, only native vegetation that is identified in the RAP Plant List in Appendix F can be credited toward the RAP program.

    b. Horticultural cultivars or other variants of the native species identified in the RAP Plant List that differ from the wild natives in their growth habits and/or structure cannot be credited toward the RAP program.

    c. Only one shore pine per project can be credited toward the RAP program.

    d. Two willow shrubs from the RAP Plant List may be substituted for each tree.

    e. All plantings must be within 10 feet of the OHWM (except western red cedar, western hemlock, and Douglas fir trees).

    f. Western red cedar, western hemlock, and Douglas fir trees may be planted up to 25 feet from the OHWM.

    g. Plantings should be distributed evenly along the shoreline (see Sample Planting Plan in Appendix F). However, trees may be planted at the corners, with shrubs planted across the middle.

    h. In general, RAP planting plan vegetation must be in addition to the existing vegetation to be credited toward the RAP program. Any native vegetation that is removed during a project must be fully mitigated for, and the mitigation plantings for the removed native vegetation would not count toward the RAP planting plan requirements or for project mitigation credits.

    i. At the discretion of the NMFS, projects that lack fully-compliant planting plans may be cleared under the RAP program if physical limitations such as the existence of beneficial vegetation and or impervious surfaces along the shoreline preclude the reasonable expectation that additional vegetation could be planted at the site to meet a fully-compliant planting plan.

    j. At the discretion of the NMFS, conservation credit may be given for preserving existing native vegetation that has been established for at least 5 years, and that meets the conditions above or has demonstrated value for the aquatic habitat at the site. Receipts plus photographs that demonstrate the

location, health, and development of the plants in question would be acceptable proof of plant age. A written attestation that the plants are more than 5 years old can be substituted for receipts if receipts are unavailable. A supportive statement from a qualified WDFW aquatic biologist or an agreement from the consulting NMFS biologist for the RAP project constitutes acceptable documentation of aquatic habitat value.

k. Planting plans for previous projects, including those required for local government permits, must be fully implemented before credit is given for new plantings under the RAP program.

l. In the case of residential properties with RAP-covered single-user structures, the RAP planting plan vegetation must be planted on the same parcel as the RAP-covered structures. For RAP-covered joint-use structures, some or all of the plantings may be occur on the associated parcels without the RAP-covered structures if spreading the plantings across multiple properties would net more aquatic benefit, or if space is inadequate to install RAP planting plan vegetation on the property with the RAP-covered structures.

m. In the case of municipal properties with RAP-covered structures, RAP planting plan vegetation should be planted on the same parcel as the RAP-covered structures, but may be planted at a different property that is owned by the municipality if doing so would net more aquatic benefit, or if space is inadequate at the project site to install RAP planting plan vegetation.

Nearshore Zone

The RAP program distinguishes between activities that occur within the nearshore zone and activities that occur waterward of the nearshore zone. Under the RAP program, the nearshore zone is defined as all areas within 30 feet waterward of the OHWM and or with water depths less than 15 feet deep relative to the OHWM, whichever is greater. For all activities, every reasonable effort should be made by project designers to minimize project components within 30 feet of the OHWM.

Activity Types Covered Under the RAP Program:

Individual projects may involve one or more the activity types identified below.

1. Pier and Float Repair, Replacement, and New Installation;
2. Existing Boat House Repair and Replacement;
3. Boat Canopy Repair, Replacement, and New Installation;
4. Boat and Personal Watercraft Lift Repair, Replacement, and New Installation;
5. Existing Miscellaneous On- and Overwater Deck and Other Element Repair and Replacement;
6. Existing Bulkhead Repair, Relocation, and Removal; and
7. Gravel Placement and Debris Removal.

Although not specifically identified under each covered activity type, full-depth sediment curtains should be installed to fully enclose pile extractions before extractions begin.

The following activities are excluded from the RAP program:

1. In-water installation of any treated wood (unless encased with polyvinyl chloride (PVC), or another material that the Corps and the NMFS determine is effective at preventing the leaching of wood preservatives and pesticides. Treated wood may only be used for out of the water substructures that would be protected from wear/abrasion and not be subjected to prolonged submersion (i.e. at least 6 inches above the highest water level for the applicable waterbody);
2. In-water installation of galvanized steel (i.e. piles, pile stubs, swim ladders, etc.);
3. Retention of any creosote-treated timber in any affected structure;
4. Use of piles greater than 8 inches in diameter for new pier installations;
5. Impact pile driving and proofing;
6. New boathouse installation;
7. Installation or retention of skirting;
8. Covering grated decking;
9. New bulkhead installation, bulkhead extension or enlargement, or bulkhead repairs that encroach further waterward of the OHWM;
10. Installation of boulders below the OHWM; and
11. Dredging;

Although these exclusions are not specifically repeated under each activity type, they apply to all covered activities.

Piers and Floats

Repairs and Replacements: The RAP program covers pier and float repairs such as the repair and or replacement of various structural components, such as decking and its supporting structures (stringers, pile caps, etc.), pile repairs (splicing, jacketing, replacement, etc.), and floatation tub repair and replacements. Covered repairs also include reconfiguration of existing piers that may increase or decrease the overwater footprint of the existing pier or float. The RAP program also covers the complete replacement of piers and floats, and treats complete replacements the same as pier repair not as new installations. Under the RAP program, pier and float repair and replacement projects must be completed in compliance with the general design criteria for piers and floats identified below.

New piers and floats: The RAP program covers new pier and float installation projects. Under the RAP program, new pier and float installation projects must be completed in compliance with the general design criteria for piers and floats, as well as the additional design criteria for new piers and floats below.

General Design Criteria for Piers and Floats

All pier and float projects participating in the RAP program must meet the following:

1. No float installations within 30 feet waterward of the OHWM or in water less than 15 feet deep relative to the OHWM (nearshore zone);

2. No new boathouse installations. Repair and some replacements of existing boathouses is allowable (See Boathouse Repair and Replacement below);

3. No lowering, below 18 inches, of the shoreward 30 feet of walkway;

4. No widening, beyond 48 inches, of the shoreward 30 feet of walkway (up to 60 inches is allowable for ADA);

5. Pile size should be minimized to the greatest extent practicable to satisfy safety requirements, but cannot exceed 12 inch in diameter of for pier repair, reconfiguration, or replacement projects;

6. Repaired or replaced decking must utilize grating with a minimum of 40 percent open space; and

7. If installing lights, minimize nighttime overwater illumination:
   a. Install the lowest number of lighting fixtures and the lowest intensity bulbs that meet safety needs;
   b. Install the lowest height lighting fixtures that meet safety needs;
   c. Install lighting fixtures with shielding or other features that aim the light down and prevent the direct illumination of the water's surface along the sides of the pier or float; and
   d. Consider the installation of a system that automatically turns off the lighting when no one is on the pier or float, such as motion detectors or other on-demand switch devices.

Additional Design Criteria for New Piers and Floats

All new pier and float projects participating in the RAP program must meet the following:

1. Total overwater deck area (based on the outer dimensions of the structure) cannot exceed 480 square feet;

2. Walkway width within the shoreward 30 feet cannot exceed 48 inches (up to 60 inches is allowable for ADA);

3. Walkway height within the shoreward 30 feet must be at least 18 inches above the OHWM;

4. Overwater surfaces must be fully decked with grating that has a minimum of 40 percent open space (based on the physical ratio between the size and number of holes and the outer dimensions of the grating); and

5. No installation of on-deck structures (except small safety- and utilities-related fixtures).

Existing Boat Houses

Repair and replacement of existing boathouses is allowed under the RAP program. However, replacement is only allowable if the entire boathouse will be at least 30 feet waterward of the OHWM at the end of the project. No new boat house installations are allowed.

All boathouse repair and replacement projects participating in the RAP program must meet the following:

1. Pile size should be minimized to the greatest extent practicable to satisfy safety requirements, but cannot exceed 12 inches in diameter;

2. If repairing or replacing a boathouse roof, we recommend installing a translucent roof or sky lighting that accounts for at least 40% of the roof's surface's area;

3. If repairing or replacing a boathouse walls, we recommend installing windows that account for at least 40% of each wall's surface's area;

4. If replacing a boathouse, the entire boathouse must be at least 30 feet waterward of the OHWM at the end of the project. Relocation of a boathouse from within to beyond 30 feet is allowable under the RAP program;

5. If replacing a boathouse, install walls and a roof that include windows/skylights that account for at least 40% of each surface's area. Windows and skylights are recommended for boathouse repair projects, but are not required; and

6. If installing lights, minimize nighttime overwater illumination:
    a. Install the lowest number of lighting fixtures and the lowest intensity bulbs that meet safety needs;
    b. Install the lowest height lighting fixtures that meet safety needs;
    c. Install lighting fixtures with shielding or other features that aim the light down and prevent the direct illumination of the water's surface along the sides of the pier or float; and
    d. Consider the installation of a system that automatically turns off the lighting when no one is on the pier or float, such as motion detectors or other on-demand switch devices.

Boat Canopies

The RAP program covers new, repaired, and replaced boat canopies. The Rap program defines boat canopy as any cover over a boat moorage that is open on all four sides (i.e. no walls), regardless of how the canopy is supported (i.e. attached to a lift, a pier, or piles).

All boat canopy projects participating in the RAP program must meet the following:

1. Canopies must be made of a translucent material and be open on all sides. Use of opaque roofing with skylights or windows is unacceptable under the RAP program; and

2. New and replacement canopies should be installed at least 30 feet waterward of the OHWM if practicable.

Boat and Personal Watercraft (PWC) Lifts

The RAP program covers the repair and replacement of existing boat lifts, PWC lifts (i.e., Jet Ski lifts and platform lifts). It also covers the new installation of all of those lift types.

1. New and replacement lifts should be installed at least 30 feet waterward of the OHWM if practicable;

2. All new, repaired, and replaced platform lifts must be fully decked with grating that has at least 40 percent open space; and

3. All new, repaired, and replaced lift-related walkways must be fully decked with grating that has at least 40 percent open space.

Existing Miscellaneous On- and Overwater Decks and Other Elements

This section addresses the repair and replacement of existing miscellaneous on- and overwater elements that do not directly support boat or PWC moorage. The expansion or installation of new miscellaneous decks or elements is not covered under the RAP program.

All miscellaneous on- and overwater Deck and Element projects participating in the RAP program must meet the following:

1. No lowering of any structures;

2. No widening of any structures;

3. Pile size should be minimized to the greatest extent practicable to satisfy safety requirements, but cannot exceed 12 inches in diameter;

4. Repaired or replaced decking must utilize grating with at least 40 percent open space; and

5. If installing lights, minimize nighttime overwater illumination:
   a. Install the lowest number of lighting fixtures and the lowest intensity bulbs that meet safety needs;
   b. Install the lowest height lighting fixtures that meet safety needs;
   c. Install lighting fixtures with shielding or other features that aim the light down and prevent the direct illumination of the water's surface along the sides of the pier or float; and
   d. Consider the installation of a system that automatically turns off the lighting when no one is on the pier or float, such as motion detectors or other on-demand switch devices.

Existing Bulkheads

The RAP program covers the repair, replacement, relocation landward of the OHWM (i.e. to create a beach), and removal of existing bulkheads. The program does not cover the installation of new bulkheads, bulkhead expansions (extensions or enlargements), or bulkhead repairs that encroach further waterward of the OHWM. All bulkhead repairs and removals must meet the following:

1. Bulkhead repairs and replacements cannot extend the lateral length of the existing bulkhead's current footprint;

2. Bulkhead repairs and replacements cannot extend farther waterward of the OHWM than the existing bulkhead's current footprint;

3. When removing a bulkhead or moving a bulkhead landward of the OHWM, applicants must create a gently sloping beach along the entire length of the removal or setback using gravel that meets the specifications below in the "Gravel Placement and Debris Removal" section; and

4. Stand-alone boulders cannot be placed along or waterward of the OHWM.

Gravel Placement and Debris Removal

The RAP program covers in-water gravel placement and debris removal. All gravel placement and debris removals must meet the following:

1. The gravel must be clean (minimal fine sediments) and well-rounded;
2. Gravel size must be 2-inch minus, unless in an area within 100 yards of documented sockeye salmon spawning (confirm with WDFW);

3. Gravel size must be 1-inch minus when in or within 100 yards of documented sockeye salmon spawning areas;

4. No larger sized gravel, rocks, or boulders can be placed with the gravel;

5. All debris removal done at or below the OHWM must be done in a manner that is the least substrate-disruptive practicable method for the debris type. For example, the use of a barge-mounted or land-based crane to remove derelict piles, and diver assisted hoisting of sunken concrete, wood, and metal debris with a crane would be acceptable. The careful use of a clamshell type bucket to grab and lift debris may be acceptable if it would not dig into the substrate or break up the debris. However, land-based machinery cannot be operated from positions at or below the existing water line at the time of the work;

6. Full-depth sediment curtains should be installed to fully enclose in-water gravel placement and removal of embedded debris and derelict piles before work begins;

7. All debris must be staged and transported to appropriate disposal facilities in a manner that prevents fine sediments and other deleterious materials from reentering the lake;

8. All derelict creosote-treated wood at or below the OHWM (derelict piles and other creosote-treated wood debris) must be removed from the site if present. This applies to all projects that would be covered under the RAP program, not just Gravel-Placement and or Debris-Removal projects; and
9. The amount of debris to be removed (excluding derelict piles) should be quantified in cubic yards for credit in the RAP Calculator. Derelict piles should be accounted for as removed piles in the RAP Calculator.

Appendices

Appendix A – RAP Form Instructions

The applicant should ensure that the RAP form, particularly Parts C & D, provides a clear and comprehensive description of the existing conditions and the proposed project in a way that demonstrates the project's compliance with the RAP program.

Typically, the more obviously that a project meets the programmatic, the faster that project will be cleared. Conversely, clearance of projects with descriptions that are less obvious about meeting the programmatic requirements will require more time and effort from the applicant, the Corps, and the NMFS to complete.

Part A. Project Identification

1. **Tracking - Unique Project Name:** Enter a unique project name; preferably the same name that would be used by the Corps of Engineers (i.e. the applicant's last name and a short project identifier). For example: Smith Pier Repair.

2. **Tracking - Corp Tracking Number:** Enter the Corps' NWS # if assigned, otherwise leave the block blank.

3. **Tracking - NMFS ECO Number:** Enter the NMFS' WCRO # if assigned, otherwise leave the block blank.

4. **Tracking - WDFW HPA Application ID:** Enter the WDFW HPA Application ID # if assigned, otherwise leave the block blank.

5. **Tracking - Local Agency Permit Number:** Enter the applicable local agency permit # if assigned, otherwise leave the block blank.

6. **Location – Address:** Enter the street address of the project site.

7. **Location – Parcel Number:** Enter the parcel number(s) of the project site.

8. **Location – Lake:** Enter the name of the water body where the project would take place (i.e. Lake Washington or Lake Sammamish).

9. **Location – Work Window:** Enter the approved in-water work window for the project area, and include the preferred construction year (i.e. July 16, 2022 to April 30, 2023).

Part B. Applicant/Agent

10. **Name:** Enter the name of the primary contact for permitting.

11. **Organization:** Enter the name of the primary contact's company or government agency.
12. **Email Address:** Enter the primary contact's email address.

13. **Phone:** Enter the primary contact's phone #.

Part C. Existing Conditions

Part C should give a clear and concise synopsis of the existing habitat conditions and existing structures to provide a good comparison against which the proposed project can be compared. Describe the physical conditions of the site, especially the existing vegetation within 10 feet of the ordinary high water mark (OHWM) and the physical

description of the existing in- and overwater structures, especially those that are the subject of the project.

For all projects:

Describe the existing vegetation within 10 feet of the shoreline and any large native trees further than 10 feet from the shoreline with the potential to shade the water. For native trees and shrubs, indicate the size, species, and location of each individual. For non-native trees and shrubs, a more general description is acceptable. This vegetation should be clearly indicated in the project drawings, and the RAP form should cite to the applicable sheet in the permit drawings, and/or photographs. Additional information about the benthic conditions and submerged aquatic vegetation would be beneficial, but is not strictly required.

For pier and deck projects:

Briefly describe the existing overwater structures at the site, especially those that would be affected by the project (Cite to the applicable sheets in the permit drawings).

1. Identify the length(s), width(s), and overwater coverage (in square feet) of the deck(s) waterward of the OHWM. Base all measurements including the overwater area on the outer dimensions of the structure. Do not prorate the coverage based on grating;

2. Describe the type of decking;

3. Identify, in inches above the OHWM, the height of the underside of the lowest members that extend perpendicular to the shoreline (i.e. stringers, fascia, etc.);

4. Identify the width of the deck in the nearshore;

5. Quantify and describe all of the existing piles at the site (i.e. number, size(s), and type(s));

6. Confirm whether or not any creosote-treated timber exists in any of the structures to be covered under RAP or as debris at the site. Quantify, and identify the location of any such timber that may be present at the site.

7. Quantify and describe all of the watercraft lifts, canopies, and boathouses. No pier information is required for stand-alone lift projects.

For Bulkhead projects:

Briefly describe the existing bulkheads at the site, especially those that would be affected by the project (Cite to the applicable sheets in the permit drawings).

1. Quantify the entire length of the individual bulkheads (in linear feet parallel to the OHWM);

2. Describe the material type; and

3. Describe the bulkheads' location relative to the OHWM.

EXAMPLE Part C for a pier project:

The project site is a private residence located along the west side of Mercer Island. The existing upland vegetation within 10 feet of the OHWM consists of grass, # trees (quantify and identify), and # shrubs (quantify and identify) that are located in the shoreline corners of the property (Cite to the applicable sheet in the permit drawings, and/or photographs). The shoreline consists of a rock bulkhead that runs north and south along the shoreline of the property, but which is not part of this project. There is an upland deck and stairway that lead to the applicant's pier. The lakebed consists of rock and silty sand. Water depth is about 1 foot below the OHWM at the bulkhead, and about 15 feet below the OHWM at the offshore end of the pier (Cite to the applicable sheet in the permit drawings). Submerged aquatic vegetation consists of dense mats of the invasive Eurasian milfoil between the shoreline to depths of about 10 feet below the OHWM.

The existing pier is a single-family use structure. It has an overwater footprint of 705 square feet (sf), has a solid timber deck, and is supported by 16 12-inch untreated timber piles. The pier's overwater footprint is 87 feet long by 8 feet wide, and the lowest longitudinal members are about 12 inches above the OHWM. Four 12-inch timber mooring piles are installed about 20 feet north of the pier (One 3-pile dolphin and a single pile), and a single boatlift with a 209 sf translucent canopy is installed along the south side of the pier (Cite to the applicable sheet in the permit drawings). There is no creosote-treated timber in any in- or overwater structures at the site.

Part. D Project Description and Need

The project description and need section should give a clear and concise synopsis of the proposed structure(s) and identify the primary functions of various components, such as boat moorage areas, personal watercraft (PWC) and swimming platforms, miscellaneous deck areas, etc. This section should also describe the RAP planting plant, including any existing vegetation that will be removed and any additional mitigation plantings that are proposed.

In addition to describing the proposed structure(s), this narrative should include the values that are used in the RAP Calculator and clearly demonstrate compliance with the requirements of the RAP program. For example, include clear statements about the full removal of creosote and or the absence of any in-water use of galvanized steel as may be applicable.

For pier and deck projects:

Briefly describe the proposed end-of-project in- and overwater structure(s) that would be affected by the project (Cite to the applicable sheets in the permit drawings).

1. Identify the length(s), width(s), and overwater coverage (in square feet) of the deck(s) waterward of the OHWM. Base all measurements including the overwater area on the outer dimensions of the structure. Do not prorate the coverage based on grating;

2. Describe the type of decking, and identify the percent open area of any grating (based on the physical dimensions of the grating, not the advertised light transmittance);

3. Identify, in inches above the OHWM, the height of the underside of the lowest members that extend perpendicular to the shoreline (i.e. stringers, fascia, etc.);

4. Identify the width of the deck in the nearshore;

5. Quantify and describe all of the piles that would be repaired, replaced, installed, and or removed as part of the project (i.e. number, size(s), and type(s)). Be sure to be clear about the numbers of the various types and sizes of the piles involved; and

6. Quantify and describe all of the watercraft lifts, canopies (confirm translucence of the canopy), and boathouses that would be repaired, replaced, installed, and or removed as part of the project (review the acceptable limits on boathouse repairs and replacements in the design criteria in the RAP IG under Activities Covered under the RAP Program). Pier information (#s 1 – 5 above) is not required for stand-alone lift projects.

For Bulkhead projects:

Briefly describe the end-of-project bulkheads that would be affected by the project (Cite to the applicable sheets in the permit drawings).

1. Quantify the entire length of the individual bulkheads (in linear feet parallel to the OHWM);

2. Describe the material type; and

3. Describe the bulkheads' location relative to the OHWM.

EXAMPLE Part D for a pier project:

The project would fully remove and replace the existing pier, mooring piles, and covered boat lift described above. The project also includes a fully RAP-Compliant planting plan that includes the planting of 2 trees and 3 shrubs within 10 feet of the OHWM.*

The applicant would install a new pier within the same footprint as the existing pier. The new pier would have a 563.5 sf overwater footprint (141.5 sf reduction), be fully decked with grating that has a minimum of 40% open area, and be supported by 4 6-inch and 6 8-inch epoxy-coated steel pipe piles (6-pile reduction, and no galvanized steel). The new pier's overwater footprint would be 87 feet long by 4 feet wide for the nearshore 30 feet (4 foot reduction) and 8 feet wide beyond that. The lowest longitudinal members (fascia) would be 18 inches above the OHWM (6-inch increase). 1 12-inch and 1 8-inch epoxy-coated steel pipe piles would be installed about 30 feet north of the pier to replace the former mooring piles (2-pile reduction). A new single boatlift with a 209 sf translucent canopy would be installed within the same footprint as the existing lift and canopy along the south side of the pier (Cite to the applicable sheets in the permit drawings). Pile installation would be limited to vibratory driving.

The applicant would remove Himalayan blackberry from a 100 sf area, and plant 1 native shore pine and 3 flowering red currants within 10 feet of the OHWM along the shoreline south of the pier, and plant one native Douglas Fir within 25 feet of the OHWM north of the pier (Cite to the applicable sheet in the permit drawings).

* Revise the planting plant statement as appropriate, to make clear whether or not a fully RAP-compliant planting plan would be included, and if not, why the absence of a fully RAP-compliant planting plan comports with the RAP program. Note that any variances, such crediting existing vegetation, that were agreed to during ETA with the NMFS should also be briefly described here.

For example, for a project where the presence of established riparian vegetation or the presence of impervious surface within the acceptable planting zones prevents a fully RAP-compliant planting plan, the planting plan sentence might instead say something like:
"This project includes no planting plan (or "…includes a partial planting plan…") because the existing riparian vegetation at the site prevents the installation of additional RAP-compliant plantings without the removal of established vegetation with documented aquatic benefits. This variance was discussed and agreed to by the NMFS during ETA, which was completed on (Enter the date ETA was completed)."

or

"This project includes no planting plan (or "…includes a partial planting plan…") because the existing imperious surface that extends more than 25 feet landward of the bulkhead at the site prevents the installation of a fully RAP-compliant planting plan. This

variance was discussed and agreed to by the NMFS during ETA, which was completed on (Enter the date ETA was completed)."

Appendix B – Plan Sheet Requirements

Project plan sheets (drawings) should show the existing conditions and the proposed conditions in a manner that clarifies the information presented in the RAP Form and Calculator, and provides a good comparison against which the proposed project can be compared against the existing conditions. Both overhead and profile drawings should be included.

Minimally, the drawing sets for the existing & proposed conditions should show the entire project site from slightly beyond the waterward end of the in- and overwater structures to slightly inland of 25 feet landward of the ordinary high water mark (OHWM).

The drawings of the existing conditions should include all existing in- and overwater structures, making clear which structures are part of the project, and showing the location of existing vegetation and impervious surfaces within 25 feet of the OHWM.

The drawings of the proposed conditions should include all end of project in- and overwater structures, making clear which structures are part of the project. The drawings should show the location of RAP vegetation relative to any impervious surfaces, existing vegetation, and any previously required plantings that may still be pending within 25 feet of the OHWM.

In addition to the general instructions above, the drawings must include:

- Scale bar;
- North arrow;
- OHWM contour line;
- Contour line 30' waterward of the OHWM;
- Contour line for 15' depth (avoid the inclusion of fine-scale bathymetric contour lines that can obscure important project details);
- Location, outer dimensions, and identification of all in- and overwater structures;
- Length and width for all in- and overwater structure segments and components (readers should be able to calculate individual overwater areas based on the drawings' length and width information);

- Area of overwater cover for individual in- and overwater structures (preferably presented as a legend or information block offset to the side of the drawing to minimize clutter in the drawings);

- Location of all piles (pier and mooring piles). Clearly identify type, size, and whether or not individual piles are part of the project. Identify the treatment type for timber piles and pile stubs (i.e. untreated, ACZA, creosote, etc.). Identify any coating type for steel piles (raw, galvanized, epoxy-coated, etc.);

- Location, material, and dimensions of fenders, fascia, and skirting;

- Location, material, and dimensions of lifts, canopies, and boathouses;

- Location, material, and dimensions of bulkheads;

- Substrate conditions (i.e. mud, sand, gravel, cobble, etc.) with water depths;

- Location, material, and dimensions of any in-water gravel installation;

- Location, material, dimensions, and proposed disposition of any in-water debris;

- Location, identification, and size of existing trees and shrubs within 25 feet of the OHWM;

- Location, identification, and size of planting plan trees and shrubs and or vegetation removal within 25 feet of the OHWM. Provide a written description of the spacing and distance from the OHWM for planting plan vegetation (preferably presented as a legend or information block offset to the side of the drawing to minimize clutter in the drawings);

- Artificial lighting details. Indicated the location of the lights in the drawings, and identify the type, height, and wattage (preferably presented as a legend or information block offset to the side of the drawing to minimize clutter in the drawings);

- Profile views of existing and proposed conditions as appropriate to show piles, pile caps, stringers, deck, skirting, fascia, and other features and to indicate the height above the OHWM and the substrate for the lowest longitudinal members (include water depths along the shoreline, the 15-foot depth contour line, and at the waterward end of the structure); and

- Cross-section views of existing and proposed conditions as appropriate to show pile caps, stringers, deck, skirting, fascia, and other features, and to indicate the height above the OHWM and the substrate for the lowest longitudinal members (Include indicator lines on other drawings to show the locations of cross-section drawings).

Appendix C – RAP Calculator Instructions

Fill in all applicable yellow cells

Line 4: Enter the Corps NWS# (if assigned) and Project Name

Line 12 – Deck – Percent Deck: Enter the percent of the pier deck being installed, repaired, or replaced. Enter 100 for new piers, full pier replacements, full deck replacements, and pier extensions that include no work on the existing pier. Otherwise, enter the percent of the total surface area of the pier that would be repaired, replaced, and or added. For example, 50 square feet (sf; deck area to be repaired, replaced, added) / 100 sf (total surface area of the end of project pier) X 100 = 50%).

Line 13 – Deck – Percent Pile Caps and Stringers: Enter the percent of the pile caps and stringers to be installed, replaced, or repaired. Enter 100 for new piers, full pier replacements, full deck replacements that include full pile cap and stringer replacement, pier extensions that include no work on the existing pier, and all projects where the caps and stringers will be replaced "as needed". Otherwise, enter the percent of the total linear feet (lf) of the existing pile caps and stringers that would be repaired or replaced. For example, 150 lf (combined length of pile caps and stringers to be installed, repaired, or replaced) / 300 lf (total combined length of the end of project pier's pile caps and stringers) X 100 = 50%).

Line 14 – Deck – Average Percent: This cell is self-populating.

Line 15 – Deck – Current Area of Overwater Cover: Enter the total sf of overwater area for the existing pier and any platform lifts. This value is based on the physical outer dimensions of the pier (waterward of the Ordinary High Water Mark (OHWM)). Do not include the area of non-platform boat and personal watercraft (PWC) lifts. Non-platform boat and PWC lifts are considered on lines 40 - 44. Do not include the area of miscellaneous on- or overwater decks and other elements that do not directly support boat or PWC moorage. Those structures are considered on lines 47 - 49.

Line 16 – Deck – Proposed Area of Overwater Cover: Enter the total sf of overwater area for the proposed pier and any platform lifts (waterward of the OHWM). Do not include the area of non-platform boat and PWC lifts. Non-platform boat and PWC lifts are considered on lines 40 - 44. Do not include the area of miscellaneous on- or overwater decks and other elements that do not directly support boat or PWC moorage. Those structures are considered on lines 47 - 49.

Line 17 – Deck – Net Area of Overwater Cover: This cell is self-populating.

Line 18 – Deck – Percent new grated decking: Enter the percent of the proposed pier's overwater area that will have grated decking installed as part of the proposed action.

Line 19 – Walkway – Existing Walkway Height above OHWM: Enter the number of inches the underside of the existing pier is above the OHWM. This is based on the bottom of the lowest longitudinal pier element that extends perpendicular to the shore, typically the stringers, fascia, or skirting. For new pier installations, enter the proposed height above the OHWM as defined above, do not enter 0.

Line 20 – Walkway – Proposed Walkway Height above OHWM: Enter the number of inches the underside the proposed pier would be above the OHWM. This is based on the bottom of the lowest longitudinal pier element that extends perpendicular to the shore, typically the stringers or fascia. Note that the installation or retention of skirting for pier projects is excluded under the RAP program.

Line 21 – Walkway – Net Walkway Height: This cell is self-populating.

Line 22 – Walkway – Existing Walkway Width: Enter the width (in inches) of the existing pier's first 30 feet of walkway waterward of the OHWM. Do not include adjacent decks or boardwalks. For new pier projects, enter the proposed width of the new pier, do not enter 0. Enter the proposed width for new piers. For walkways with multiple widths within the first 30 feet waterward of the OHWM, enter the average width of that section of walkway. Calculate the average width by dividing the total overwater area of that section by 30 feet, then convert to inches. For example, a multi-width walkway with 180 sf of overwater area / 30 feet = 6 feet; X 12 = an average width of 72 inches.

Line 23 – Walkway – Proposed Walkway Width: Enter the width (in inches) of the proposed pier's first 30 feet of walkway waterward of the OHWM. Do not include adjacent decks or boardwalks. For walkways with multiple widths within the first 30 feet waterward of the OHWM, enter the average width as described above.

Line 24 – Walkway – Net Walkway Width: This cell is self-populating.

Line 26 – Piles – 8 inches or less in diameter – Number of Piles Installed, Replaced, and/or Repaired within the Nearshore Zone: Enter the number of 8-inch diameter (or smaller) piles that would be installed, replaced, or repaired within the nearshore zone. Do not include any existing piles that will not be repaired or replaced as part of the project, and do not include larger piles or piles waterward of the nearshore zone, which are addressed elsewhere under piles.

Line 27 – Piles – 8 inches or less in diameter – Net Reduction within the Nearshore Zone: Enter the change in the number of 8-inch diameter (or smaller) piles that would remain within the nearshore zone at the end of project. Do not consider larger piles or piles waterward of the nearshore zone. Enter a positive number for a decrease, and a negative number for an increase. For example, enter 2 (not -2) if there would be a 2 pile decrease in this size class within the nearshore zone at the end of project. Conversely, enter -2 if there would be a 2 pile increase.

Line 29 – Piles – 8 inches or less in diameter – Number of Piles Installed, Replaced, and/or Repaired Waterward of the Nearshore Zone: Enter the number of 8-inch diameter (or smaller) piles that would be installed, replaced, or repaired waterward of the nearshore zone. Do not include any existing piles that will not be repaired or replaced as part of the project, and do not include larger piles or piles within the nearshore zone, which are addressed elsewhere under piles.

Line 30 – Piles – 8 inches or less in diameter – Net Reduction Waterward of the Nearshore Zone: Enter the change in the number of 8-inch diameter (or smaller) piles that would remain waterward of the nearshore zone at the end of project. Do not consider larger piles or piles within the nearshore zone. Enter a positive number for a decrease, and a negative number for an increase.

Line 32 – Piles – Greater than 8 inches in diameter – Number of Piles Installed, Replaced, and/or Repaired within the Nearshore Zone: Enter the number of piles greater than 8-inch diameter that would be installed, replaced, or repaired within the nearshore zone. Do not include any existing piles that will not be repaired or replaced as part of the project, and do not include smaller piles or piles waterward of the nearshore zone, which are addressed elsewhere under piles.

Line 33 – Piles - Greater than 8 inches in diameter – Net Reduction within the Nearshore Zone: Enter the change in the number of piles greater than 8-inch diameter that would remain within the nearshore zone at the end of project. Do not include smaller piles or piles waterward of the nearshore zone. Enter a positive number for a decrease, and a negative number for an increase.

Line 35 – Piles - Greater than 8 inches in diameter – Number of Piles Installed, Replaced, and/or Repaired Waterward of the Nearshore Zone: Enter the number of piles greater than 8-inch diameter that would be installed, replaced, or repaired waterward of the nearshore zone. Do not include any existing piles that will not be repaired or replaced as part of the project, and do not include smaller piles or piles within the nearshore zone, which are addressed elsewhere under piles.

Line 36 – Piles - Greater than 8 inches in diameter – Net Reduction Waterward of the Nearshore Zone: Enter the change in the number of piles greater than 8-inch diameter that would remain waterward of the nearshore zone at the end of project. Do not include smaller piles or piles within the nearshore zone. Enter a positive number for a decrease, and a negative number for an increase.

Line 37 – Fenders – Number of Fenders Installed, Replaced, and/or Repaired: Enter the number of fenders that would be installed, replaced, and or repaired as part of the project. Do not include existing fenders that will not be repaired or replaced as part of the project. The RAP program defines fenders as elements that are attached to a pier to absorb the kinetic energy of a boat, and that extend below the pier's lowest longitudinal members (i.e. lower than the height of the pier as defined above).

Continuous skirting is not considered a fender and is not eligible for coverage under the RAP program.

Line 38 – Fenders – Net Reduction of Fenders: Enter the change in the number of fenders that would remain at the end of project. Enter a positive number for a decrease, and a negative number for an increase. For example, enter 2 (not -2) if there would be a 2 fender decrease at the end of project. Conversely, enter -2 if there would be a 2 fender increase.

Line 40 – Lifts and Canopies – Number of Boatlifts within the Nearshore Zone: Enter the number of boatlifts that would be installed, replaced, and or repaired within the nearshore zone as part of the project. Do not include boatlifts waterward of the nearshore zone, and do not include existing lifts that will not be repaired or replaced as part of the project.

Line 42 – Lifts and Canopies – Number of Boatlifts Waterward of the Nearshore Zone: Enter the number of boatlifts that would be installed, replaced, and or repaired waterward of the nearshore zone as part of the project. Do not include boatlifts within the nearshore zone, and do not include existing lifts that will not be repaired or replaced as part of the project.

Line 44 – Lifts and Canopies – Number of PWC lifts: Enter the number of PWC lifts that would be installed, replaced, repaired, or removed as part of the project. Enter positive numbers for installations, replacements, and repairs. Enter negative numbers for removals. Do not include existing lifts that would not be repaired or replaced as part of the project. Double PWC lifts count as two. Platform lifts also count as PWC lifts. The number of platform lifts must be entered here, and their overwater area (sf) must be added the total area of overwater cover for the pier on Lines 15 & 16 above as applicable. Note that lift removal credit is only available when no lift installation, replacement, or repair is included in the project. For example, if the project includes the replacement of 1 lift and the removal of a second lift, no credit can be given for the removal. Enter 1 for the replacement and disregard the removal in the calculator. However, if only lift removal would occur, enter a negative number equal to the number of removed lifts.

Line 45 – Lifts and Canopies – Area of Canopy: Enter the area in square feet for any new, repaired, or replaced boat canopies.

Line 46 – Lifts and Canopies – Area of Canopy Removed: Enter the area in square feet for any boat canopy reduction or removal.

Line 47 – Decks and Misc. In- and Overwater Elements – Current area of overwater cover for non-pier deck, etc.: Enter the total sf of overwater area for any existing miscellaneous on- or overwater decks and other elements that do not directly support boat or PWC moorage. Also include the area of any finger piers within 30 feet of

the OHWM. Piers or portions of piers not used for boat moorage and access are considered decks under the RAP program.

Line 48 – Decks and Misc. In- and Overwater Elements – Proposed area of overwater cover for non-pier deck, etc.: Enter the total overwater area (sf) for the proposed repair or replacement of miscellaneous on- or overwater decks and other elements that do not directly support boat or PWC moorage. Also include the area of any finger piers within 30 feet of the OHWM. Piers or portions of piers not used for boat moorage and access are considered decks under the RAP program.

Line 50 – Decks and Misc. In- and Overwater Elements – Mooring Buoys: Enter the number of mooring buoys that would be installed, replaced, repaired, or removed as part of the project. Enter positive numbers for installations, replacements, and repairs. Enter negative numbers for removals. Do not include existing mooring buoys that would not be repaired or replaced as part of the project. Note that mooring buoy removal credit is only available when no mooring buoy installation, replacement, or repair is included in the project. For example, if the project includes the replacement of 1 mooring buoy and the removal of a second mooring buoy, no credit can be given for the removal. Enter 1 for the replacement and disregard the removal in the calculator. However, if only mooring buoy removal would occur, enter a negative number equal to the number of removed mooring buoys.

Line 51 – Bulkheads – Bulkhead Repaired or Replaced: Enter the linear feet of bulkhead to be repaired or replaced. The bulkhead length is to be measured as a line parallel to the OHWM. Do not include existing bulkhead that will not be repaired or replaced as part of the project. Do not include existing bulkhead that will be removed or set back. That is covered on Lines 52 and 53.

Line 52 – Bulkheads – Bulkhead Removed or Setback: Enter the linear feet of bulkhead to be removed or moved landward of the OHWM, but without RAP-qualifying vegetation planted adjacent to the bulkhead. The bulkhead length is to be measured as a line parallel to the OHWM.

Line 53 – Bulkheads – Bulkhead Removed or Setback with Plantings: Enter the linear feet of bulkhead to be removed or moved landward of the OHWM with RAP-qualifying vegetation planted adjacent to the bulkhead. The bulkhead length is to be measured as a line parallel to the OHWM.

Line 60 – Vegetation – Trees from RAP List: Enter the number of RAP-qualifying trees to be planted for the project. Do not include trees planted to mitigate for native vegetation removed for this project or for trees planted to implement a planting plan from a previous project.

Line 61 – Vegetation – Shrubs from RAP List: Enter the number of RAP-qualifying shrubs to be planted for the project. Do not include shrubs planted to mitigate for native

vegetation removed for this project or for shrubs planted to implement a planting plan from a previous project.

Line 62 – Vegetation – Total Number of RAP Plant Species: Enter the total number of RAP-qualifying tree and shrub species to be planted for the project. Do not include vegetation planted to mitigate for native vegetation removed for this project or for vegetation planted to implement a planting plan from a previous project.

Line 63 – Vegetation – Total Number of Willows: Enter the total number of trees and shrubs from lines 59 and 60 that are willow species.

Line 64 – Vegetation – Remove In-water Debris: Enter the volume in cubic yards of in-water debris (i.e. concrete, wood, and metal at or below the OHWM) to be removed for this project. The removal of derelict piles should be accounted for on the appropriate lines above for piles based on the size and location.

Line 65 – Vegetation – Gravel Placement: Enter the volume in cubic yards of gravel to be installed at or below the OHWM for this project.

Appendix D – As-Built Report (ABR)

Within 60 days of completing all work for projects participating in RAP, email an As-Built Report (ABR) to the Corps at: **NWS.compliance@usace.army.mil**, and to the NMFS at: **rap-reports.wcr@noaa.gov**.

Ensure that the ABR includes the following:

Corps Permit #: _____

NMFS WCRO #: _____

Corps Project Manager: _____

Project Name: _____

Dates for in-water work: **Start:**_____ **End:**_____

Include the following with the ABR:

1. Dated photographs that clearly show:
   a. The shoreline habitat conditions before, during, and after project completion;
   b. The final height of the pier above the Ordinary High Water Mark (OHWM);
   c. The width of the deck;
   d. All riparian vegetation, both pre-existing and new plantings; and
   e. Pre- and post-gravel placement and debris removal.

2. As-Built drawings, including the final planting plan;

3. Confirmation that visible turbidity did not extend beyond 150 feet from the project site. If visible turbidity did extend beyond 150 feet, submit a report that describes the extent of the visible turbidity, any best management practices (BMPs) that were implemented to limit the turbidity, and any communication with the Department of Ecology, including Notices of Violation;

4. If claiming credits for plantings and vegetation, the date each of the five annual planting plan monitoring reports will be submitted.

Appendix E – In-Water Work Windows for the Lake Washington System

Specific Area	**Work Window* (when work is allowed)**
Lake Washington	
• South of I-90	
----within one mile of Mercer Slough or Cedar River	July 16-July 31 ***and*** November 16-December 31
----further than one mile from Mercer Slough or Cedar	July 16-December 31
• Between I-90 & SR 520	July 16-April 30
• North of SR 520	
----Between SR 520 & a line drawn due west from Arrowhead Point	July 16-March 15
----North of a line drawn due west from Arrowhead Point	July 16-July 31 ***and*** November 16- February 1
Lake Sammamish	
--further than 1/2 mile from Issaquah Creek	July 16-December 31
--within 1/2 mile of Issaquah Creek	July 16-July 31 ***and*** November 16-December 31

Appendix F – Planting Plan Requirements

All plantings for which mitigation credits would be claimed, including standard planting plans required for compliance with the RAP program, additional mitigation plantings, and preservation of existing riparian vegetation for which mitigation credits would be claimed must meet the following:

1. The standard planting plan required by the RAP program must include at least two trees and three shrubs. Unless specifically exempted by the NMFS, only

native vegetation identified in the RAP Plant List below in this appendix can be credited toward the RAP program. Horticultural cultivars or other variants of the native species identified in the RAP Plant List that differ from the wild natives in their growth habits and or structure do not qualify.

2. Only one shore pine per project can be credited toward the RAP program.

3. Two willow shrubs from the RAP Plant List may be substituted for each tree.

4. All plantings must be within 10 feet of the Ordinary High Water Mark (OHWM) (except western red cedar, western hemlock, and Douglas fir trees).

5. Western red cedar, western hemlock, and Douglas fir trees may be planted up to 25 feet from the OHWM.

6. Plantings should be distributed evenly along the shoreline (see Sample Planting Plan below). However, trees may be planted at the corners, with shrubs planted across the middle.

7. In general, RAP planting plan vegetation must be in addition to the existing vegetation to be credited toward the RAP program. Any native vegetation that is removed during a project must be fully mitigated for, and the mitigation plantings for the removed native vegetation would not count toward the RAP planting plan requirements or for project mitigation credits.

8. At the discretion of the NMFS, credit may be given for preserving existing native vegetation that has been established for at least 5 years, and that meets the conditions above or existing non-native vegetation that provides documented value for the aquatic habitat at the site. Receipts plus photographs that demonstrate the location, health, and development of the plants in question would be acceptable proof of plant age. A written attestation that the plants are more than 5 years old can be substituted for receipts if receipts are unavailable. A supportive statement from a qualified WDFW aquatic biologist or an agreement from the consulting NMFS biologist for the RAP project would constitute acceptable documentation of aquatic habitat value.

9. All plantings that receive mitigation credit under the RAP program are to be in addition to any plantings required to replace native vegetation that would be removed or damaged as part of the project under consideration, and any planting plans required for previous projects at the site (including required plantings for local government permits). Previous planting plans must be fully implemented before credit can be given for a RAP planting plan.

10. Plantings under the RAP program must consist of viable 1 to 5 gallon size container plants, bare root plants, or cuttings of native shrubs and trees.

11. The permittee is required to preserve in good health all RAP planting plan vegetation for as long as the structures that have been permitted under the RAP program remain in place. Required Performance Standards and maintenance activities include:

    a. 100 percent survival of all planted trees and shrubs is required;

    b. Maintenance of RAP planting plan vegetation includes the removal and replacement of dead or dying plants and the removal of invasive species. Maintenance does **not** include trimming or mowing of the planting plan vegetation. Planting plan vegetation must be allowed to develop naturally, so that they grow large enough to overhang the water; and

    c. Plants that die must be replaced with an appropriate replacement plant type (i.e. tree for tree, shrub for shrub, or two shrubs for a tree) from the RAP Plant List.

12. Planting should be completed October through March for best plant survival. Fall and winter planting gives the plants time to get established in their new location before facing their first summer drought. This will lower establishment costs and reduce the chances that replanting will be necessary.

13. Monitoring of RAP planting plan vegetation should begin in the first September after plant installation. Monitoring reports are due annually by November 30 for 5 years. Applicants must send a copies of the report to the NMFS and to the Corps. The NMFS copy should be emailed to rap-reports.wcr@noaa.gov. The Corps copy should be emailed to NWS.compliance@usace.army.mil. Monitoring reports must include:

    a. A completed one page monitoring report form;

    b. The as-built site plan updated to show any changes that have occurred to the mitigation planting area since the last report, such as plants that have died and been replaced; and

    c. Photographs taken in consecutive Septembers from established photo points that are reused each year. The photos must be dated and labeled with the photo point and direction of the photo.

14. The entire permit, including approved drawings, must be recorded with the King County's Recorder Office.

RAP Plant List

The native species below were selected for inclusion in the RAP program because of their appropriateness in the Lake Washington and Lake Sammamish shoreline

ecoregion. Species that are not native to the Pacific Northwest or that only occur naturally in Pacific Northwest ecoregions that are substantially different and or distant from Lakes Washington and Sammamish are considered inappropriate RAP program. For example, native groundcover species such as salal, kinnickinnick, sword fern, and wild strawberry, etc. are considered inappropriate for lake shoreline vegetation under the RAP program. Also considered inappropriate are horticultural cultivars or other variants that differ in growth habits and or structure from the wild native species identified below.

Common Name	Scientific Name	Wetland Indicator Status[3]
Trees		
grand fir	*Abies grandis*	FACU
big-leaf maple	*Acer macrophyllum*	FACU
red alder	*Alnus rubra*	FAC
Oregon ash	*Fraxinus latifolia*	FACW
Sitka spruce	*Picea sitchensis*	FAC
shore pine	*Pinus contorta v. contorta*	FAC
black cottonwood	*Populus balsamifera (trichocarpa)*	FAC
Douglas-fir	*Pseudotsuga menzeisii*	FACU
Pacific willow[1]	*Salix lasiandra (lucida)*	FACW
western red cedar[2]	*Thuja plicata*	FAC
western hemlock[2]	*Tsuga heterophylla*	FACU
Shrubs		
vine maple[2]	*Acer circinatum*	FAC
western serviceberry	*Amelanchier alnifolia*	FACU
buckbrush	*Ceanothus sanguineus*	Assumed UPL
snowbrush	*Ceanothus velutinus*	Assumed UPL
red osier dogwood	*Cornus sericea (alba, stolonifera)*	FACW
beaked hazelnut	*Corylus cornuta*	FACU
black hawthorn	*Crataegus douglasii*	FAC
cascara	*Frangula (Rhamnus) purshiana*	FAC
oceanspray	*Holodiscus discolor*	FACU
black twinberry	*Lonicera involucrata*	FAC
western crabapple	*Malus (Pyrus) fusca*	FACW
Indian plum (osoberry) [2]	*Oemleria cerasiformis*	FACU
mock orange	*Philadelphus lewisii*	Assumed UPL
Pacific ninebark	*Physocarpus capitatus*	FACW
bitter cherry	*Prunus emarginata*	FACU
red-flowering currant	*Ribes sanguineum*	FACU
Nootka rose	*Rosa nutkana*	FAC
thimbleberry	*Rubus parviflorus*	FACU
Hooker willow[1]	*Salix hookeriana*	FACW

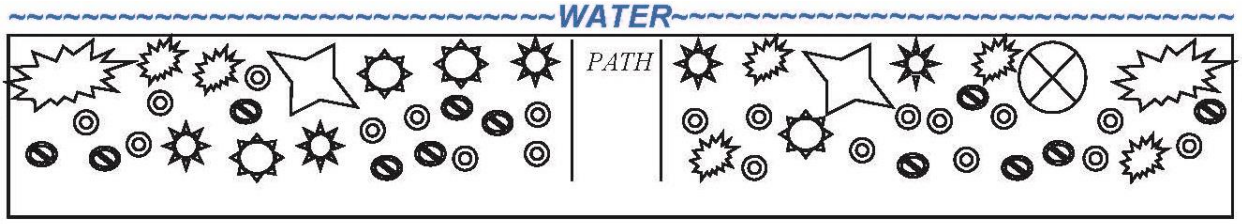
Sitka willow[1]	*Salix sitchensis*	FACW
Scouler willow[1]	*Salix scouleriana*	FAC
red elderberry	*Sambucus racemosa*	FACU
spirea	*Spiraea douglasii*	FACW
snowberry	*Symphoricarpos albus*	FACU
highbush cranberry	*Viburnum edule*	FACW

[1] Willow species should be planted as close as possible to the OHWM.
[2] Seedlings of these species may establish better in the shade.
[3] Wetland Indicator Status denotes the probability of individual species of vascular plants occurring in wetlands in the United States. Indicator categories include:

- Obligate wetland (OBL). Almost always occurs in wetlands (estimated probability > 99%) under natural conditions.
- Facultative wetland (FACW). Usually occurs in wetlands (estimated probability 67% – 99%), but occasionally found in non-wetlands.
- Facultative (FAC). Equally likely to occur in wetlands (estimated probability 34% – 66%) or non-wetlands.
- Facultative upland (FACU). Usually occur in non-wetlands (estimated probability 67% – 99%), but occasionally found in wetlands (estimated probability 1% – 33%).Obligate upland (UPL). Occur almost always (estimated probability > 99%) in non-wetlands under natural conditions.

SAMPLE PLANTING PLAN
PLAN VIEW

Scale: 1 inch = 10 feet, 10 feet wide by 65 feet long



LEGEND

	willow, 5 to 10 feet on center		shrub, 4-5 feet on center
	conifer, 10 feet on center		shrub, 4-5 feet on center
	broadleaf tree, 10 feet on center		shrub, 4-5 feet on center
	shrub, 4-5 feet on center		shrub, 4-5 feet on center