Working in the Water

Are you doing a job like this in or next to a water body?

- Construction.
- Painting or sandblasting.
- Building a boat ramp or bulkhead.
- Building a residential bridge or a pier.
- Installing a culvert.
- Cleaning out a ditch.
- Realigning a stream channel.
- Building a small dam or pond.
- Installing a utility pipe.
- Restoring a stream.

DEPARTMENT OF
ECOLOGY
State of Washington

This booklet could save you money, time and trouble.

Publication #99-06, May 1999 (rev 7/08)
♻ *printed on recycled paper*

Planning ahead can save you money and hassles.

Getting the proper permits and following this guidance will also help you prevent pollution and minimize its impacts. It does not release you from liability or from following the regulations of other agencies, including Department of Fish & Wildlife Hydraulic Project Approval (HPA) (see "Permits or Guidance You May Need" on page 16). These recommendations will help you comply with the state Surface Water Quality Standards (Ch. 173-201A WAC) and protect the natural resources we all enjoy (See Standards on the inside of the back cover).

If you fail to follow this guidance and your project results in pollution of a water body, you may be subject to formal enforcement actions, including penalties up to $10,000/day per violation under RCW 90.48. Your project could also be delayed or even stopped.

Where schedule and budget are concerned, it pays to protect the water body you're working in.

If you have any water-related questions or problems regarding this pamphlet or your project, please call the regional water quality office of the Department of Ecology closest to your project:

- Central, Yakima: (509) 575-2490
- Northwest, Bellevue: (425) 649-7000
- Eastern, Spokane: (509) 329-3400
- Southwest, Lacey: (360) 407-6300

Photos courtesy of
Pierce County Conservation District and Washington Conservation Corps

If you need this publication in an alternate format, please call the Water Quality Program at 360-407-6401. Persons with a hearing loss can call 711 for Washington Relay. Persons with a speech disability can call 877-833-6341.

Partial List of Water Quality Standards for Surface Freshwaters of Washington

WAC 173-201A

	CLASS AA "Extraordinary"	CLASS A "Excellent"	CLASS B "Fair"
Temperature	Less than 61°F	Less than 64°F	Less than 70°F
Dissolved Oxygen (mg/L)	More than 9.5	More than 8.0	More than 6.5
pH	6.5-8.5	6.5-8.5	6.5-8.5
Fecal Coliform Bacteria (colonies/100mL)	Less than 50	Less than 100	Less than 200
Turbidity	Less than 5 NTU	Less than 5 NTU	Less than 10 NTU

CLASS AA:

"**Extraordinary":** Highest quality streams - protected uses include domestic water supply, swimming, and coldwater fish spawning and rearing.

CLASS A:

"Excellent": Good quality streams - same as AA, but not quite as cold or oxygenated as AA - less than optimum conditions for certain stages of sensitive aquatic life.

CLASS B:

"Fair": Pretty good streams, but not clean enough for domestic water supply - only for industrial and agricultural uses. OK for secondary contact (fishing and boating) but not considered safe for swimming.

Back Cover Photo:
Before 1998, salmon swimming up Little Salmon Creek in Lewis County encountered an impassable culvert with a seven-foot drop. The Washington Conservation Corps (WCC) raised the streambed below it with a "staircase" of seven one-foot-high log weirs, each securely anchored and backfilled with gravel and rock. This opened up several miles of prime salmon habitat above the culvert, where the fish can now spawn in the headwaters. During the job, the WCC crew took special care not to pollute the water, including temporarily diverting the stream around the 110-ft. length of the project.

Permits or Guidance You May Need

Hydraulic Project Approval

You'll need a **Hydraulic Project Approval (HPA)** for any work that affectss the natural flow or bed of a state water body. Call the *Washington Dept. of Fish & Wildlife* - (360) 902-2534.

Contact your *Area Habitat Biologist (AHB)* for site-specific design help. In-stream work windows vary across the state, and the AHB will be aware of work windows as well as other environmental concerns for individual sites. To reach your AHB, contact the closest regional office of WDFW:

- *Region 1 (Spokane): (509) 892-1001*
- *Region 2 (Ephrata): (509) 754-4624*
- *Region 3 (Yakima): (509) 575-2740*
- *Region 4 (Mill Creek): (425) 775-1311*
- *Region 5 (Vancouver): (360) 906-6700*
- *Region 6 (Montesano): (360) 249-4628*

Other permits you may need to include:

- **Expedited Permit for Watershed Restoration Projects** under ESB 5616 and 2879 – *Washington Conservation Commission* – (360) 407-6200.
- **SEPA** (State Environmental Policy Act) – contact your local city/county planning office.
- **Hydraulic Project Approval** – required for work that uses, diverts, obstructs, or changes the natural flow or bed of any of the salt or fresh waters of the state.
- **Shoreline Substantial Development Permit** – contact your local city/county planning office.
- **Section 404 Permit** – required for dredging or filling below the ordinary high water mark or for clearing in a wetland – *US Army Corps of Engineers* - (206) 764-3495. A Section 404 Permit triggers a Section 401 Water Quality Certification.
- **Section 401 Water Quality Certification** – *Washington Dept. of Ecology* (360) 407-6918 or 407-6912.
- **Stormwater permit** for projects that will disturb 1 acre or more of soil. See page 4.

For more information about permits

Call Ecology's Permit Assistance Center at (360) 407-7037 or *http://www.ora.wa.gov/center.asp*

Table of Contents

General Guidance · · · · · page 2

Large Construction Projects · · · · · page 4

Painting and Sandblasting Projects · · · · · page 5

Boats Ramps, Bulkheads, Residential Bridges, Docks and Piers · · · · · page 5

Installing Culverts · · · · · page 6

Ditch Cleanout · · · · · page 7

Channel Realignment Projects · · · · · page 7

Building Small Dams and Ponds · · · · · page 8

Installing Residential Utility Pipes - · · · · · page 9

Watershed Restoration Projects · · · · · page 10

Permits Associated with Joint Aquatic Resource Permits Application (JARPA) page 12

Permits or Guidance You May Need · · · · · page 16

Partial List of Water Quality Standards · · · · · inside back cover

General Guidance

Preventing pollution while working in, over, or around surface waters (*flowing or intermittent streams, lakes, wetlands, or marine waters*) in the state of Washington

Managing your project

◆ Make every effort to prevent any impacts to the water body, such as leaving it clouded or dirty, or warmer or colder, or with an oil sheen, or any foreign chemicals, or with a different acid/alkaline (pH) balance.

◆ Follow the conditions in your Hydraulic Project Approval (HPA) obtained from the Washington Department of Fish and Wildlife, including restrictions on when in-water work can be completed.

◆ Work in the lowest flow possible, or during the driest part of the year.

◆ If possible, divert the natural flow of the water around the job. In the case of small streams, it may be possible to pump or pipe the stream past the work area. Design and operate the diversion system to prevent erosion or scouring in the stream channel.

◆ Keep muddy water from your project out of the water body. Use temporary sediment traps to let the turbid water settle for at least two hours. The traps should be frequently inspected and cleaned out when necessary.

◆ Place sediment barriers in the stream if that is feasible, and remove the collected sediments before removing the barrier.

◆ Keep construction debris out of the water and ensure it is properly disposed of.

◆ Thoroughly clean any equipment that will be used in or near the water before beginning the project. This will prevent petroleum products and other contaminants that may be on the equipment from entering the water. Clean the equipment away from the water body.

◆ Limit the work area around your project, and disturb the banks as little as possible.

◆ If you spot any distressed or dead fish near your project, immediately notify your regional Ecology office and Washington Department of Fish and Wildlife's HPA hotline 360-902-2537. Take action to find and fix the problem.

◆ Have an experienced pollution control inspector available to help you identify and implement best management practices (BMPs).

◆ Keep a copy of this booklet and of all applicable permits on the job site, handy for your crew.

Erosion

◆ If you will likely be disturbing sediments in the water or soils along the shoreline, you should develop an Erosion Control Plan indentifying what BMPs and measures you will use to prevent sediments and soils from polluting the water.

◆ Think about what will happen to the site when it rains! Stabilize disturbed areas to prevent erosion during the job, and inspect vulnerable areas each day and after significant rainfall.

Permit Dependency	Timeframe	Duration of Permit	Internal Review Process	Opportunity for Appeal	Statutory Authority	Special Notes
NEPA compliance, Coastal Zone Management Certification (CZM) and Water Quality Certification (401).	Usually issued within 60 days of receipt of WQ Certification and CZM.	Term may be requested by applicant, but may be conditioned to expire if project fails to start within 3 years and finish in 5.	There is a thirty-day comment period with public notice; continuance of process dependant upon comments received.	Opportunity for appeal through Commandant of the Coast Guard who will act on the appeal within 90 days of receipt.	Section 9 of the Rivers and Harbors Act of 1899 (33 U.S.C. 401)	
SEPA compliance must be met prior to local permit decisions.	Highly dependant on local permit process; average timeframe ranges from two to four months.	5 years, but some action must be taken within 2 years of the effective date of the permit. Possibility of a 1-year extension (rarely longer).	Application submitted to local government; upon final decision by local government, permit is filed with Department of Ecology.	A 21 day appeal period starts when local govt decision is filed by Ecology. All Shoreline decisions can be appealed to the WA State Shorelines Hearings Board.	Chapter 90.58 RCW Chapters 173-27 WAC. Also see Local Government regulations.	Shorelines are lakes, including reservoirs, of 20 acres or greater; streams with a mean annual flow of 20 cubic feet per second or greater; marine waters; and all associated marshes, bogs, swamps, and river deltas.
If federal permits are required (especially Corps 404 and Section 10), applicant may need to provide proof of compliance with state laws (see internal process column).	Dependant upon nature of exemption.	N/A	If federal permits are required, local govt prepares a letter of exemption, addressed to the applicant and Ecology (with reference to Section 10 and 404 permit) indicating specific exemption provision.	Appeal process at local level only.	Chapter 90.58 RCW Chapter 173-27 WAC Also see Local Government regulations.	An exemption from the substantial development permit process is not an exemption from compliance with the act or the local master program, nor from any other regulatory requirements. (See WAC 173-27-040.)
SEPA requirements must be completed prior to local permit decisions.	After receipt of Local Government permit decision, the Department of Ecology may take up to 30 days to approve , condition, or deny the permit.	Duration of permit is not applicable.	After local govt approves conditional use or variance permit, they submit it to Ecology for review. Ecology notifies local govt of its decision and does an official filing.	21-day appeal period begins when Ecology files local govt decision. All Shoreline decisions can be appealed to the WA State Shorelines Hearings Board.	Chapter 173-27 WAC; Chapter RCW 90.58.140 (3)	Applicants burden of proof is very important in variance applications. Variance criteria are very closely scrutinized and must all be fulfilled for the permit to be approved at the state level.
All required permits desired prior to authorization.	May range from six months to one year.	Up to 50 years, depending on project and location.	Logged in and written at Regional Office, but circulated to Headquarters.	Fees only are appealable to the Division Manager. The ability to lease the land (if encumbered) is not appealable.	Chapter 79.90 through 79.96 RCW Chapter 332-30 WAC	Aquatic Lease is subject to property law rather than regulatory law.
Compliance with all applicable local, state, and federal permit requirements.	Varies by jurisdiction, permit authority, and complexity of the proposal. Subject to timing requirements of RCW 36.70B.	Varies by jurisdiction and permit authority.	Varies by jurisdiction and permit authority.	Varies by jurisdiction and permit authority.	City and county codes; local land use permit ordinance.	Critical areas are locally designated wetlands, geological hazard areas, aquifer recharge areas, fish and wildlife habitat conservation areas, and frequently flooded areas.

Permit	Purpose	Trigger/Activity	Responsible Agency	Costs	Complete Application Requirements
U.S. Coast Guard, Section 9 of the Rivers & Harbors Act	Prohibits the obstruction of navigable waters by bridge construction or replacement.	Bridge construction or replacement in navigable waters.	U.S. Coast Guard	None.	As contained within JARPA.
Shoreline Substantial Development Permit	To provide public involvement in the permit process and to foster appropriate uses and protection of the shorelines of the state.	Interfering with normal public use of water/shorelines of the state, or developing or conducting an activity valued at $2500 or more on the water or shoreline area.	Local Government (City or County). The Shoreline Management Act is implemented by local government, but Ecology ensures compliance and provides assistance.	Costs and basis for fees vary by jurisdiction. Some local govts charge a flat rate and others a % of the projects total value.)	As contained within the Joint Aquatic Resource Permits Application (JARPA).
Shoreline Letter of Exemption	Generally, if developments meet precise terms of at least one exemption listed in WAC 173-27-040, they may be granted exemption from substantial development permit requirements.	Examples of exempt activities: normal maintenance or repair of existing structures, construction of normal protective bulkhead common to single-family homes, and some agricultural and ranching activities. (WAC has complete list.)	Local government, with the Department of Ecology acting as the coordinating agency for federal review if federal permits are required.	Filing fee established by local government and payable at the time of application.	Burden of proof of exemption is on the applicant. Local government may attach conditions to the approval of exempted developments and/or uses as necessary.
Shoreline Conditional Use Permit or Variance Review Process	To provide a system within the Master Program which allows flexibility in the application of use regulations.	Projects requiring a Shoreline Permit. Projects meeting specific criteria identified in the Master Program or for unclassified uses need a Conditional Use Permit; a Variance is an exception or waiver of specific size standards.	Local Government (City or County). However, the Department of Ecology must also approve, condition, or deny the permit.	Same as the Shoreline Substantial Development Permit.	Similar to the Shoreline Substantial Development Permit; additional site information is required. See WAC 173-27-180.
Aquatic Use Authorization (Aquatic Lease)	Temporary transfer of property rights for specified period of time.	Using state owned aquatic lands (includes harbors, state tidelands, shorelands, and beds of navigable waters.)	Dept. Of Natural Resources, Division of Aquatic Resources	Costs are variable.	Application must include: location; proposed use; physical improvements; local, state, and federal regulatory requirements; and a property survey.
Compliance with Critical Areas Standards for Local Project Permits	To protect locally designated critical areas.	Proposing a development project near or in critical areas.	Local Government (City or County)	Costs vary by jurisdiction.	Varies by jurisdiction.

◆ Try to time your project so you can replant any disturbed areas well ahead of the next rainy season, giving the new plants a chance to get established. Immediately after recontouring the site, replant all areas that have been disturbed by the project with appropriate native vegetation, placing the plants in natural patterns.

◆ For long-term stabilization after the job is finished, use bioengineering wherever possible. Get the Natural Resource Conservation Service manual "*Slope Stabilization and Erosion Control Using Vegetation*" from your local Conservation District. Bioengineering is the preferred method for erosion control on shorelines, instead of using bulkheads, concrete, riprap, and other structural solutions. This means using natural vegetative materials to stabilize the site — bundles of stems, root systems, or other living plant material sometimes combined with soft gabions, filter fabric or other soil stabilization techniques.

◆ Try to keep heavy equipment away from streambanks whenever possible.

◆ When digging in the water, empty material from the bucket away from the waterway.

◆ If possible, place temporary, easily removable materials such as steel grates or mats on the ground at access points to prevent bank damage or erosion. Clean, washed gravel should be used for approach material to prevent erosion or siltation.

Concrete

Fresh concrete is a pollutant. It changes the acid/alkaline (pH) balance in the water. Uncured concrete in direct contact with the water is toxic to aquatic life. Dust given off by grinding concrete creates a pH problem.

◆ Pour concrete in the dry area, protected from the water. For example, you can separate the concrete from the water by using a form or sheetpiling or placing a cofferdam around the concrete. Allow it to cure at least seven days before contact with the water body. Some fast-drying mixes may allow shorter curing time.

◆ Dispose of any water contaminated with concrete away from the stream.

◆ Clean out concrete delivery trucks, pumping equipment, and tools where there is no possibility of drainage to surface water.

Spills

Take extreme care to prevent spills of any petroleum products, fresh cement, lime or concrete, chemicals, soaps, caustics, paints, or other toxic or harmful materials, especially near the water. Keep appropriate spill containment and cleanup material readily available at the job site.

◆ In the event of a spill, notify the Emergency Management Division at 1-800-258-5990, and start containment and cleanup immediately. Dispose of any spilled material and used clean-up materials away from the job site.

◆ Regularly check fuel hoses, oil drums, oil or transfer valves and fittings, etc., for drips or leaks. Maintain and store them properly to prevent spills or runoff into the water.

Large Construction Projects

Make sure you also read the General Guidance section!

Ecology requires you to have permit coverage before you start soil-disturbing construction activity. This applies to any construction site that will disturb one or more acres and have a potential discharge of stormwater to a surface water (whether it is a wetland, ditch, river, lake, estuary, marine waters, creeks — even unnamed creeks, storm drains, etc.). Call (360) 407-6300 regarding permits statewide. If you already have your permit and have technical questions, direct them to the inspectors in the appropriate regional Ecology office (see regional contact numbers on the inside of the front cover).

The best protection for the stream is to separate the flowing water from your project.

◆ If the project spans the entire width of the stream at the same time, pipe the stream around the work if possible. Build a small dam upstream of the project, using sandbags, and either
- use a pipe to carry the stream past the work area, or
- use a pump with a screened intake to pump the water around the work site (the screen will keep any fish from being harmed by the pump.) Fish collection and relocation would need to occur in the bypassed reach prior to dewatering.

◆ If the project is along only one bank of the stream, you can separate the work area from the flowing water by building a wall out of sandbags. If the wall is strong enough, you may be able to lower the water level within your work area. To avoid pumping muddy water back into the stream, discharge this water away from the stream or set up settling ponds to clarify the water before it enters the stream.

Streambank protection

If you're using riprap for streambank protection, use material that is free from dirt, sand, and clay.

Leaching of toxic preservatives

To prevent leaching of toxic preservatives into the water, place treated lumber in the water only after it's completely dry. Creosote, "Penta," and products containing heavy metals like copper, chromium, and arsenic, can kill aquatic life. If possible, use materials such as recycled plastic or steel pilings instead, or wood that will stay submerged.

only; information subject to change. Call (360) 407-7037 for more information.

Permit Dependency	Timeframe	Duration of Permit	Internal Review Process	Opportunity for Appeal	Statutory Authority	Special Notes
SEPA (State Environmental Policy Act) compliance must be complete prior to issuance of the HPA.	For a standard HPA, max.of 45 calendar days after receipt of a complete app. and SEPA compliance; max of 15 days for an expedited HPA; immediately for emergency HPA.	Up to five years for a standard HPA; up to 60 days for an expedited HPA.	Applications are sent and logged in at Headquarters and then reviewed and acted on by biologists in the regional offices.	Informal and formal appeal processes are available to the applicant and general public, but must be filed within 30 days of HPA decision.	Chapter 77.55 RCW - Chapter 220.110 WAC	*Streamlined HPAs* are available for qualifying fish habitat enhancement projects. *Pamphlet HPAs*, which don't require an application or individual HPA, are available for mineral prospecting and noxious plant control activities.
In most cases, SEPA compliance, HPA, Water Rights and Shoreline Permits must be obtained before Certification can be issued.	Min. 20 day public notice; up to one year to approve, condition, or deny. Usually less than three months. Some Nationwide Permits are pre-certified and take only days or weeks.	Five years.	Ecology Headquarters, Shorelines and Environmental Assistance Program	Appealable to Pollution Control Hearings Board within 30 days of Ecology decision. P.C.H.B. May not hear case for 6 months or more.	Federal Clean Water Act, Section 401 Chapter 173-225 WAC	
Water Quality Certification, SEPA compliance, Shoreline permit, Air permits & compliance with Energy Facility Site Evaluation Criteria if applicable.	CZM decision must be made within six months of Corps of Engineers public notice.	N/A	Ecology Headquarters, Shorelines and Environmental Assistance Program.	Secretary of Commerce, Washington D.C.	Federal Law: U.S. Coastal Zone Management Act (16 U.S.C. 1451 et seq.) and its regulations (15 CFR. Parts 923-930)	Applies to 15 coastal zone counties, and for projects outside the 15 counties that may impact a coastal resource.
NEPA compliance, Water Quality Certification (401), and Coastal Zone Management (CZM). See 401 and CZM sections for addl permit requirements.	Normally issued within 120 days, but may take up to a year or more depending on project complexity.	Generally three years, but can be longer.	After receipt & review of complete application, there is a 30 day public notice period. Continuance of process dependent upon comments received.	No internal appeal process.	Section 404 of the Clean Water Act (33 U.S.C. 1344)	The COE prefers that diagrams not include extraneous information; they should only diagram activities that are within COE jurisdiction.
Water Quality Certification (401) and Coastal Zone Management (CZM) are often pre-approved. It is necessary to check each Nationwide for the requirements.	Some Nationwide permits must be issued by the COE within 30 to 45 days of the COEs receipt of a complete application.	Two years (extensions possible).	Varies depending on which Nationwide permits are used.	No internal appeal process.	Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act (33 U.S.C. 403).	
Coastal Zone Management Certification (CZM).	Normally issued within 120 days, but may take up to a year or more depending on project complexity.	Generally three years, but can be longer.	After receipt of complete application, there is a 30 day public notice period. Continuance of process dependant upon comments received.	No internal appeal process.	Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)	

The issuance of Short-Term Modifications is eliminated for many activities that previously were regulated through administrative orders. Most of these with these activities will need to be authorized through other permits or certifications. Please contact your Regional Ecology office for more information.

Permits Associated with Joint Aquatic Resource Permits Application (JARPA) *Intended as a guide*

Permit	Purpose	Trigger/Activity	Responsible Agency	Costs	Complete Application Requirements
Hydraulic Project Approval (HPA)	To provide protection for fish, shellfish, and their habitats..	Work that uses, diverts, obstructs, or changes the natural flow or bed of state waters.	Department of Fish and Wildlife, Habitat Program	No charges for HPA.	As per JARPA; must contain general plans for project, complete plans and specs for proposed work within high water mark, and complete plans for protection of fish life.
Water Quality Certification (401)	To ensure that federally permitted activities comply with the federal Clean Water Act, state water quality laws, and any other state aquatic protection requirements.	Applying for a federal license or permit for any activity that could cause a discharge of dredge or fill material into water or wetlands, or excavation in water or wetlands.	Ecology Headquarters - Shorelands and Environmental Assistance Program, Environmental Coordination Section	No fee for certification.	None.
Coastal Zone Management Certification (CZM)	To ensure compliance with state and federal Clean Water Act, Clean Air Act, Wa. State Env. Policy Act, Shoreline Management Act & Energy Facility Site Evaluation Criteria.	Conducting projects authorized by the federal agencies and/or applying for certain federal permits or funding.	The federal permitting agency, or Ecology Headquarters, Shorelands and Environmental Assistance Program.	None	As contained within JARPA
U.S. Army Corps of Engineers 404 Individual Permits: Discharge of Dredge and Fill Material	To restore and maintain the chemical, physical, and biological integrity of the nation's waters.	Placing a structure, excavating (including land clearing), or discharging dredged or fill material in waters of the United States, including wetlands.	U.S. Army Corps of Engineers, Seattle District Regulatory Branch	Fees federally established; currently: $100 for companies, $10 for individuals, and $0 for public agencies.	As contained within JARPA.
U.S. Army Corps of Engineers 404 & Section 10 Nationwide Permits	Provides authorization on a nationwide level for activities with minimal environmental impacts which do not require individual permits as long as they comply with the nationwide permit.	Typical activities: navigation markers, utility lines, bank stabilization, wetland and riparian restoration, cranberry production, minor road crossings and bridges, minor dredge and fill.	U.S. Army Corps of Engineers, Seattle District Regulatory Branch	Fees Federally established (see above).	As contained within JARPA.
U.S. Army Corps of Engineers Section 10 of the Rivers & Harbors Act, Individual Permit: Work in Navigable Waters	Prohibits the obstruction or alteration of navigable waters of the United States without a permit from the Corps of Engineers.	Placement of structures and discharge of material in navigable waters of the U.S., including wetlands. Typical activities include boat docks, floats, buoys, etc.	U.S. Army Corps of Engineers, Seattle Regulatory Branch.	Fees federally established (see above).	As contained within JARPA

NOTE: The JARPA Form no longer includes the Approval to Allow Temporary Exceedance of Water Quality Standards (Short-Term Modifications). activities will either need to use the Best Management Practices described in this booklet to meet water quality standards or the discharges associated

Painting and Sandblasting Projects

Make sure you also read the General Guidance section!

◆ Keep sandblasting materials out of the water.

◆ If you plan to apply or sandblast lead-based paint, contact the nearest Ecology regional office for special instructions.

◆ Painting and sandblasting on overwater structures (*e.g., docks, floats, bridges*) may require an HPA. Contact the regional Washington Department of Fish and Wildlife office to determine whether an HPA is needed.

◆ Store, transfer and mix all paints, oils, chemicals, solvents, clean-up supplies, and other liquid or solid wastes on impervious (non-porous) surfaces away from the water body. Use drip pans when pouring liquids. Provide a barrier, such as a berm or dike, to keep them out of the water if they leak or spill.

◆ Take waste, residues, and chemicals off site for disposal at a proper facility (contact your local health department). Do not allow them to be washed into the water or down a drain.

◆ Near a water body, use buckets and sprayers no larger than two gallons.

◆ When working over a water body, suspend drip tarps to keep materials from falling into the water.

◆ Have a boat and spill containment booms available at the job site. If paint is oil-based, have oil spill absorbent booms and pads ready in case of a spill.

Boats Ramps, Bulkheads, Residential Bridges, Docks and Piers

Make sure you also read the General Guidance section!

◆ When building, treating, or painting docks, try to do as much of the work as possible on shore. Use extreme care with paints and chemicals near water. All materials that have been treated must be completely cured prior to installation.

◆ Use pre-cast or formed concrete ramps and bridges where possible.

◆ When placing piers, do not restrict the flow of water or cause water to back up behind the pier. This could cause sediment scouring.

Installing Culverts

Make sure you also read the General Guidance section!

State law requires that all man-made water crossing structures restore and maintain healthy fish populations by providing effective fish passage into and out of fish habitat in lakes, rivers and streams. Adequate fish passage through a culvert is determined by criteria described in the Washington Administrative Code (WAC 220-110-070).

Designing a culvert for fish passage can be a complex undertaking. Basic design requires an understanding of

- ◆ Fish passage criteria.
- ◆ The hydraulics of water crossing structures.
- ◆ Basin hydrology.
- ◆ Biological factors.
- ◆ Stream morphology.
- ◆ The best way to match these factors with the physical characteristics of the proposed site.

Most fish passage problems can be avoided through the use of design techniques that have a high probability of success in achieving fish passage and habitat objectives. Such techniques include:

- ◆ Those that retain the natural streambed by spanning the stream (bridges or open-bottomed culverts).
- ◆ Those that replace the natural streambed with a simulated bed (embedded metal or concrete culverts) in which flow conditions and substrates inside the structure are similar to those in the natural stream channel above and below the crossing. These culverts do not result in a loss of fish habitat.

WAC 220-110-070 describes two different approaches for permanent culverts - the **no-slope option** and the **hydraulic design option. Please consult this WAC before starting your project.**

Culvert replacement work will vary considerably in scope and scale, depending on the culvert size and project location. Because of this, it is difficult to address all concerns without reviewing individual projects.

For additional information and assistance, remember to:

Work with Washington Department of Fish and Wildlife and other regulators (local municipalities, Army Corps of Engineers, Dept. of Ecology, Conservation Districts, etc.) to obtain information, advice, and permits necessary for the project. Call (360) 902-2534 for engineering advice.

- ◆ You may need a special authorization from Ecology if you want to apply any chemical in or near the water, unless there is no chance for runoff or overspray to enter surface waters.
- ◆ Only a licensed applicator can legally apply aquatic herbicides. You must meet the label and notification requirements of any herbicide you use.
- ◆ Keep overspray from entering the water.

Erosion Control and Bank Stabilization

- ◆ Use proper erosion and sediment control practices on the construction site and adjacent areas to prevent upland sediments from entering the stream channel. See General Guidance, page 2.
- ◆ Get the National Resources Conservation Service (NRCS) field guide "Slope Stabilization and Erosion Control Using Vegetation (publication #93-30) from your local Conservation District.

Watershed Restoration Projects Under ESB 5616 and 2879

Make sure you also read the General Guidance section!

Timing

◆ Adjust your schedule for weather conditions. Rain, rain on snow, freezing, or flooding may delay your project, or necessitate more stringent erosion control measures. Cover exposed soils with plastic or mulch during the project.

This guidance applies to projects:

◆ That affect less than 10 miles of stream reach.

◆ That involve importing, removing or disturbing less than 25 cubic yards of sand, gravel, or soil.

◆ Where no vegetation is removed.

◆ That use bioengineering to restore eroded or unstable stream banks, especially using native plants.

◆ That are part of a watershed restoration plan that has undergone public review pursuant to SEPA requirements.

◆ That improve or restore native fish or wildlife habitat or water quality for the public benefit.

Qualifying projects are exempt from needing a Substantial Development Permit, but they may still need a Conditional Use Permit or variance under the Shorelines Management Act.

By following this guidance, you should be able to minimize any impacts on the water quality where you are working.

◆ Consult the Washington Dept. of Fish & Wildlife - (360) 902-2534 - regarding any restrictions on timing for fish and wildlife protection. You may need a Hydraulic Project Approval (HPA) from them.

Fencing

◆ Leave a setback of at least 10 feet from the high water line, to allow vegetation to filter runoff before it enters the water.

◆ If you're using chemically treated fence posts, allow them to dry before using them, and never place them below the water table or water line. Consider substituting recycled plastic or steel pilings.

◆ Contact your local Conservation District about working with livestock facilities near streams.

Gravel

Be sure any gravel you place in the stream is washed clean so it won't add to the turbidity.

Large Woody Debris (stumps, big logs, and root wads)

◆ When looking for a good placement for large woody debris, consider seasonal high flows, and stabilize it so it won't be swept downstream.

◆ Ask your local Conservation District, Stream Team, or Washington Department of Fish and Wildlife office for advice.

Ditch Cleanout

Make sure you also read the General Guidance section!

◆ Consult with Washington Department of Fish and Wildlife to determine whether or not the ditch is actually a stream, and whether an HPA is required.

◆ Keep the sediment and materials removed from the ditch or stream from getting back into the water. Minimize the disturbance to the ditch or stream banks.

◆ If the ditch discharges to a surface water and you have to clean the ditch when water is in it, use a hay bale or filter fabric dam, or leave a plug of material at the discharge point until the remainder of the ditch has been cleaned.

Channel Realignment Projects

Make sure you also read the General Guidance section!

In general, there is no good reason to straighten a meandering stream.

◆ You must have an HPA if your project involves re-routing a stream. Call Washington Department of Fish and Wildlife at (360) 902-2534.

◆ When creating a new channel for the stream, place a sediment barrier at the downstream end to minimize sedimentation of the stream channel. Clean out the sediment that collects before removing the barrier.

◆ Excavate the new channel, working from downstream to upstream, and leave a "plug" of sediment between the new channel and the old. When the new channel has been completed and stabilized, open up the "plug" to allow the water to flow into the new channel.

Building Small Dams and Ponds

Make sure you also read the General Guidance section!

◆ If you plan to build a dam that can store 10 or more acre-feet (3.25 million gallons) of water at top-of-dam level, you must obtain a permit from Ecology's Dam Safety office (360) 407-6623. They will help you with technical standards and permit information.

◆ If the dam connects to, or affects waters of the state, then an HPA is required from the Washington Department of Fish and Wildlife.

◆ Ponds constructed away from streams and rivers are better for water quality purposes.

◆ Make sure the design and construction of the dam or pond are strong enough to prevent collapse. Private engineering firms or your local conservation district office can provide technical advice.

◆ When you have finished putting in the pond, seed and re-vegetate the area, using native plants where possible. Your Conservation District or Washington Department of Fish and Wildlife office has information about suitable vegetation.

◆ During construction, minimize turbidity in the water. Use clean, washed rock for diversion wing dams or gravel berms. Minimize bank disturbance and protect against erosion.

◆ Dams should be provided with an overflow spillway channel large enough to pass flood flows from the upstream drainage basin.

Installing Residential Utility Pipes - sewer, septic, water, other - in water bodies, including wetlands

Make sure you also read the General Guidance section!

◆ Bore under the streambed if possible.

◆ Bed the pipeline deep enough to prevent scouring.

◆ Carefully dechlorinate hyperchlorinated water used to disinfect water pipelines, and avoid direct discharge to a surface water if possible.

◆ Minimize the amount of material removed from wetlands. Place the spoils either along the trench or away from the wetland area. When filling the trench, use the same materials if possible.

◆ If forested and scrub/shrub wetlands need to be restored by planting native species of woody vegetation, select the species carefully so that as it matures, the vegetation does not interfere with the pipeline.