

**DRAFT ENVIRONMENTAL ASSESSMENT
PIPER CREEK RESTORATION PROJECT
COTTAGE GROVE LAKE
WILLAMETTE VALLEY PROJECTS
LANE COUNTY, OREGON**

INTRODUCTION

The Cottage Grove Project is one of 13 multi-purpose water projects operated by the Corps of Engineers (COE) in the Willamette Valley. It is located in Lane County, Oregon about five miles south of Cottage Grove (Figure 1). Cottage Grove Dam, completed in 1942, is located on the Coast Fork of the Willamette River. Authorized project purposes include flood control, irrigation, recreation and improved navigation downstream.

Piper Creek, a small fish bearing tributary of the Willamette River, drains approx 623 acres of BLM and private lands, before crossing 700 feet of Corps' property and emptying into the Coast Fork of the Willamette River (Figure 1). The project site was historically a riparian zone and flood plain of the Coast Fork of the Willamette River, with tree species such as Red Alder, Willow, and Cottonwood which transitioned to Big Leaf Maple, Cedar, and Douglas fir as a function of elevation and distance from water. In the early 1900's this area was settled and areas near water such as this were cleared, leveled and used for grazing and other agriculture. This action changed the course of this creek from a slow meandering creek with gradual sloping and densely vegetated sides, to a straight irrigation style ditch. The Corps acquired the land in the early 40's to construct Cottage Grove Dam, just upstream.

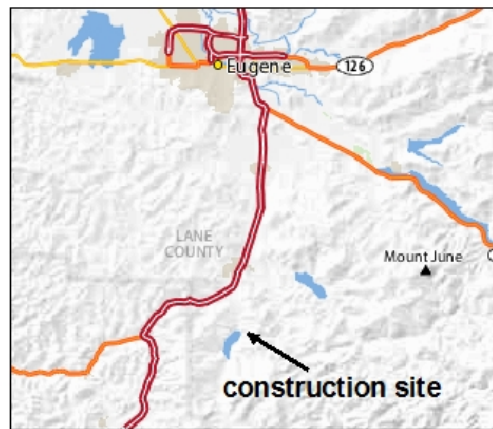
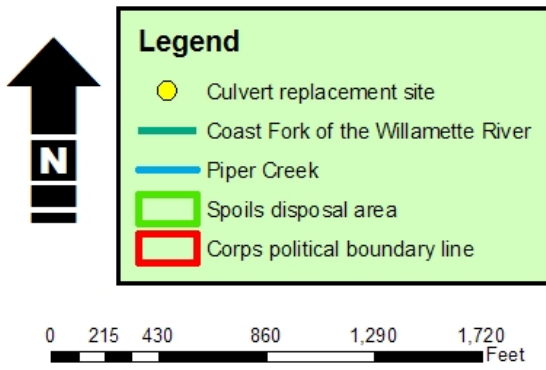
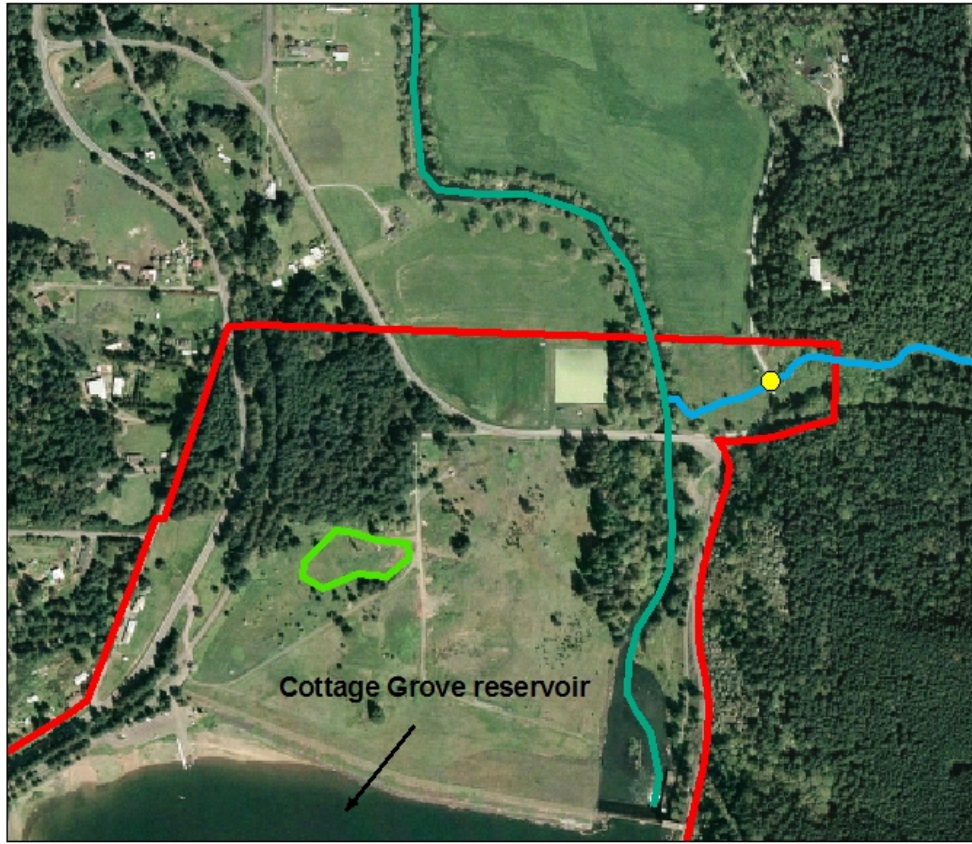
PURPOSE AND NEED

The primary purpose of this project is to restore Piper Creek to a more natural channel course and configuration; restore riparian forest habitat along the stream, and restore passage capability for aquatic species. The need for the action arises from the cumulative historical loss and degradation of riparian forest and small stream habitat in the region and their concomitant impacts on fish, wildlife and vegetative resources. The proposed action will address, in part, historical losses of these habitat types.

SITE DESCRIPTION AND CURRENT CONDITION

The proposed project site was cleared of trees prior to Corps ownership, and probably used for grazing of livestock. Where Reservoir Road, a private (reserved) access road, crosses the creek a partially caved-in 40 inch culvert consumes the creek only to release it above the creek level during low flows (June-Sept) thwarting any fish passage. The damaged culvert overtops during high water events and the creek spills over the road.

Figure 1: Piper Creek



The citizens who rely on this road as their only access have since installed another culvert (24") at a slightly higher elevation in the road bed as a backup; however this remedy has also failed to keep the creek within the culverts during high flows. The spill from the higher culvert has begun to undercut the road and erode the bank downstream of the road.

Downstream of the culvert on Piper Creek, bank erosion is severe. Much of the creek's banks are nearly vertical and undercut in some places (Figure 2). The bottom of the creek is relatively flat and consolidated so in low flows little erosion occurs. However when the water levels rise, bank erosion results (Figure 3); with little native vegetation to hold the banks together, erosion continues to worsen. This erosion is attributed to poor culvert design and the clearing and straightening of the creek's original course for agriculture.

PROPOSED ACTION

The proposed action to restore this creek corridor will include:

- a. stream channel and bank restoration;
- b. installation of three drop structures in the creek channel; and
- c. replacement of the two existing culverts with one larger culvert.

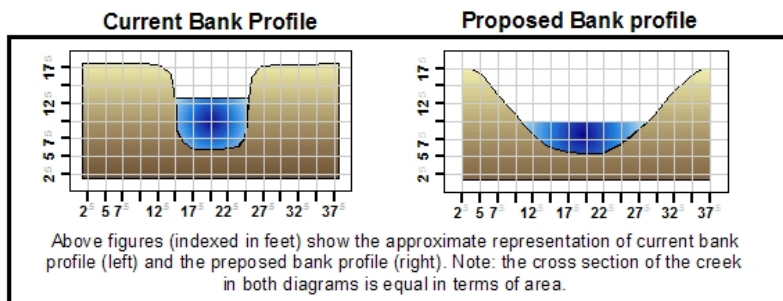
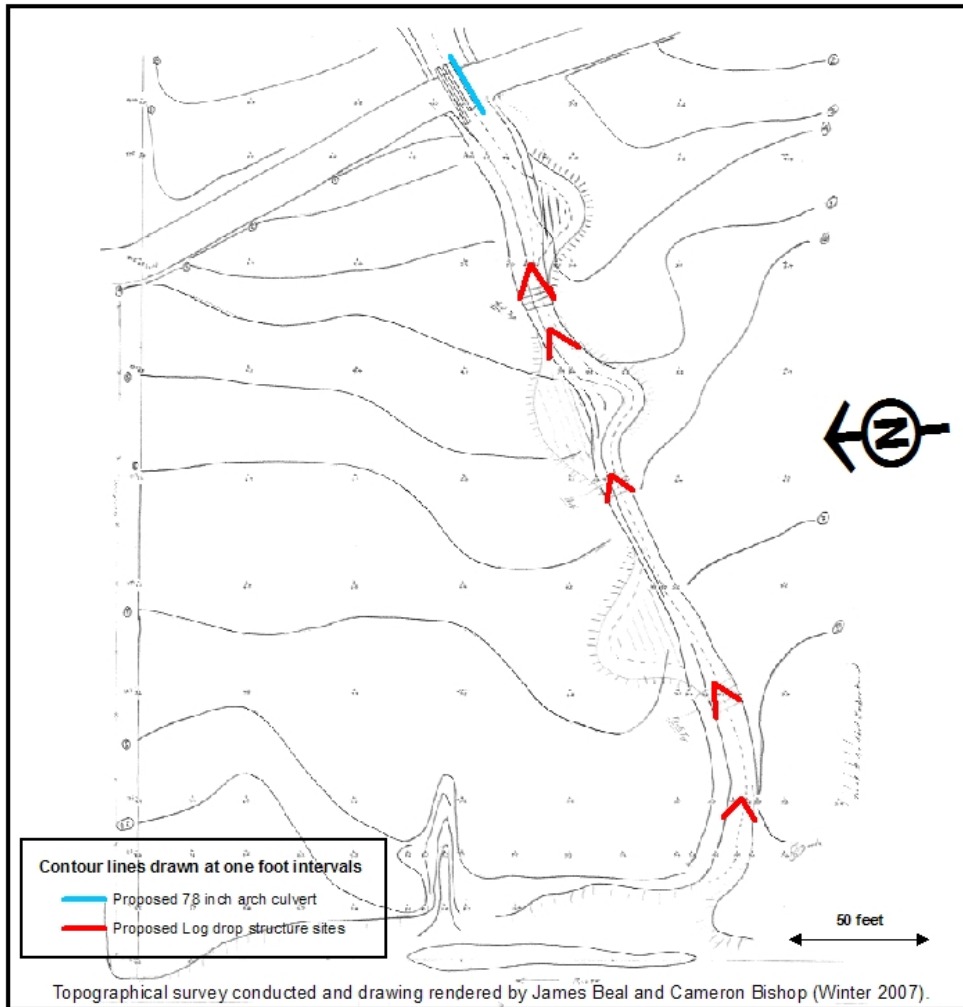
This proposed project would be completed during the summer of 2008 due to the relative low flows and subsequently lowered impact from construction during this time of year. Construction during summer would also coincide with the State's in-water work period. Construction actions are proposed to be accomplished in four stages.

1. Stream Channel and Bank Restoration: This restoration stage will address bank erosion. Where necessary, we will first widen portions of the stream bottom to no less than seven feet, and establish no more than a 45 degree bank slope with respect to the creek bottom (Figure 2). This work impacts the last 375 feet of the creek from the culvert to its confluence with the Coast Fork of the Willamette River. Soil from excavation of this portion of the project is estimated at 1,000 cubic yards and will be moved by dump truck to an area below Cottage Grove Dam, spread out and seeded with appropriate native grasses (Figure 1).

For bank stabilization and restoration of riparian forest habitat, the newly formed banks will be covered with jute mats and secured with hardwood stakes. The disturbed area will then be planted with native grasses, shrubs, and trees. This will further reduce erosion and restore this area's historical flora. This stage will have the added benefit of complementing the restoration plantings which were planted in November of 2007 by Corps personnel. This restored riparian zone will provide a continuous corridor of cover from the private and BLM forest to the east to the Coast Fork of the Willamette River.

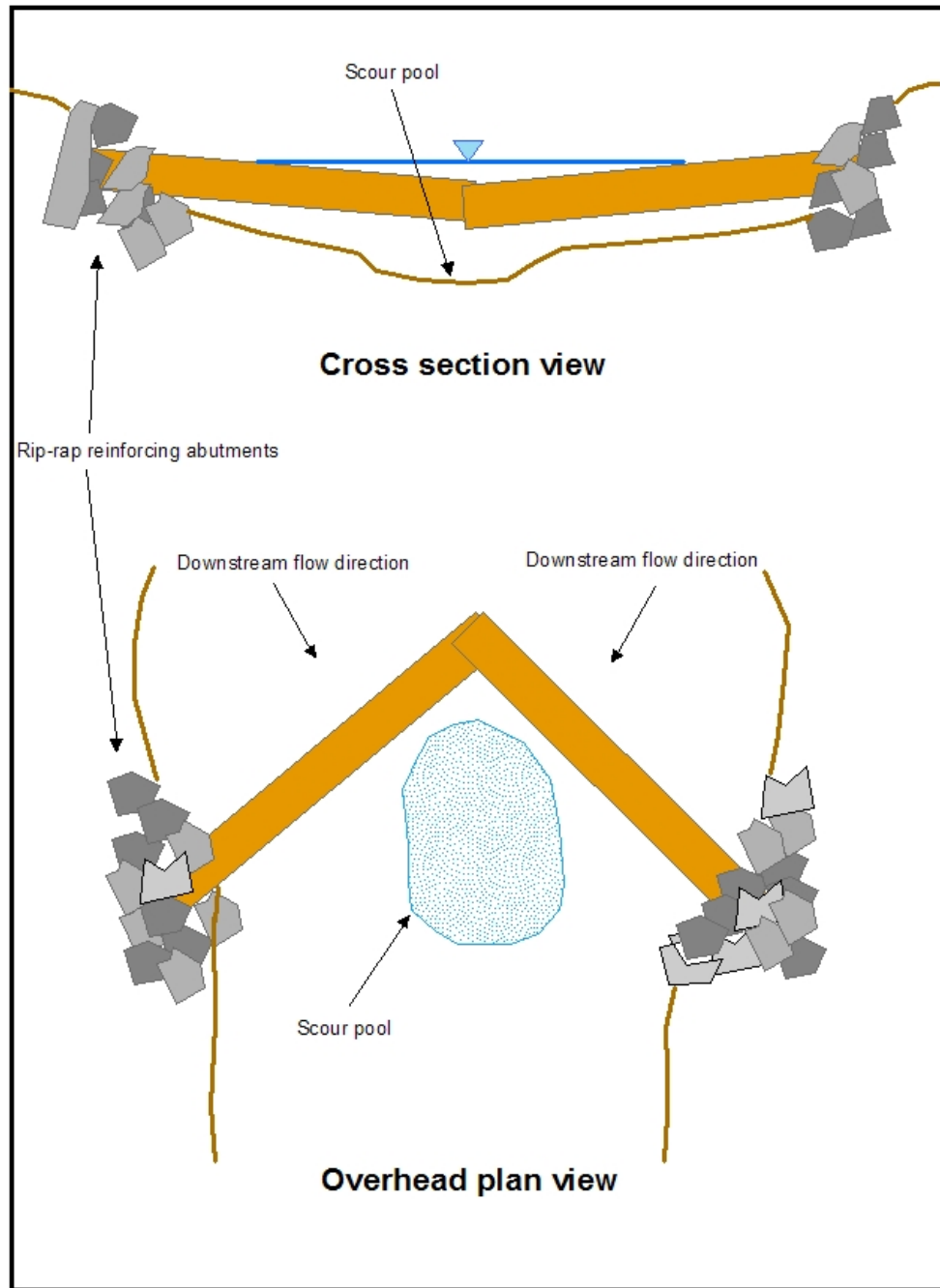
2. Drop Structure Installation: A series of three drop structures will be installed in Piper Creek (Figure 2). These structures will allow the creek to slow its descent towards the Willamette River, thus reducing erosion potential. The structures will be constructed at natural high points in the creek's channel and are designed utilizing fish passage protocol approved by the U.S. Fish and Wildlife Service, and the Forest Service. The specific design chosen for installation is an upstream V-log weir (Figure 3). This design utilizes

Figure 2: Piper Creek



two 16 inch or larger diameter logs pointed upstream joined at the center of the creek channel. These logs will be buried no less than 3 feet into the bank and reinforced with 10 inch and larger rip-rap to hold them in place. The lowest elevation of these structures is the point where the logs meet upstream causing stream flow to concentrate the scour pool on the center of the creek channel. This design will focus the hydraulic energy away from

Figure 3: Piper Creek



Upstream V-log weir design schematic

the banks ultimately reducing erosion. The maximum water drop for these structures will be no more than 6 vertical inches under low flows during the late summer. This will allow passage for juvenile cutthroat trout (*Oncorhynchus clarki*) into this watershed. Approximately 650 cubic yards of soil derived from excavating and placing these drop structures will be moved by dump truck to an area below Cottage Grove Dam, spread out and seeded with appropriate native grasses (Figure 1).

Culvert Replacement: The replacement of the two existing culverts will address aquatic species passage and road maintenance issues. The existing culverts will be removed and replaced with a new single culvert. During a 50 year flood event an estimated 125 CFS passes through Piper Creek (Erik R. Moberly, Fish Biologist, Oregon Department of Fish & Wildlife). To handle this amount of water, a large culvert is required. The culvert chosen for this task is a 14 gauge, 78 inch diameter, aluminized, “arch style” culvert (finished opening size would be approximately 63 inch tall by 87 inch wide). The new culvert will be 25 feet in length so that proper bank grades for inflow and outflow can be established.

After the old culverts are removed the creek will be excavated to 6” below current grade, and the new culvert will then be lowered in place and the road grade reestablished. Rip-rap will be installed at a 35 degree slope with respect to the road around both the culverts inlet and outlet to reduce erosion. When the culvert is in place the creek will pass through undisturbed and over time sediment will fill the bottom 3-6 inches of the culvert thereby improving aquatic species passage.

Landowners who use Reservoir Road and whose access would be disrupted by culvert replacement have been contacted and are supportive of the proposed action. An official Corps of Engineers construction sign will be posted near the existing culvert listing the dates when road access will be impossible and contact information for the project managers as soon as a date for the restoration is set. The job will be completely coordinated with the users of the road to minimize their inconvenience.

No Action Alternative

Under the no action alternative, there would be no stream channel and riparian habitat restoration nor would culvert replacement occur. The stream channel and banks would remain in their current condition and erosion would continue. Fish passage and Reservoir Road use would remain jeopardized due to the failed culvert. The area would remain unsuitable for fish passage and provide very limited riparian habitat.

AFFECTED ENVIRONMENT

General

Physical, biological, social, and cultural resources were described in detail for Cottage Grove Lake in the Master Plan for Resource Use (COE, 1989). The Master Plan is on file at both the Portland District Office and at the Willamette Valley Projects Office. It is incorporated by reference into this environmental assessment.

Soils

The proposed project area is characterized by Chapman loam soil. This soil type occupies a narrow strip immediately along the north bank of the river. It has an agricultural rating of I, II, IIs which means it is well-drained and highly suitable for intensive agricultural uses. These soils have relatively slow permeability, good woodland capability and are well-suited to wildlife management activities.

Vegetation

Vegetation adjacent to the Piper Creek is primarily grassland that appears to be regularly mowed given the short stature of the grasses and lack of residual vegetation from the previous growing season. A few scattered red alder occur on the incised, nearly vertical stream bank along with some occasional shrubs. Douglas fir and red alder occur at the edge of the grassland but lie outside the immediate project vicinity. Some trees and shrubs have been planted in the grassland area but have not grown sufficiently to become a dominant vegetative component.

The disposal area for borrow material is located immediately below Cottage Grove Dam in a formerly highly disturbed construction area. Exotic grasses cover the site.

Biological

Fish and wildlife resource use of the proposed project area at Piper Creek is probably minimal. The area lacks vegetative structure that would serve to attract a diverse species complex. Waterfowl use probably is extremely limited if it occurs at all. Songbird use would be limited to those species that occasionally use an open, lawn-like habitat condition such as robins. Amphibian use is probably very limited and may be restricted to the stream corridor. Tree frogs and perhaps red-legged frogs may make limited use of the stream corridor/grassland area during winter/spring when moisture conditions are high. Cutthroat trout are believed to use Piper Creek as residents or transitory use during good flow conditions. Black-tailed deer use of the area is probably minimal given the lack of cover. Other mammalian use, with perhaps the exception of moles, gophers and voles, is probably very limited. Fish and wildlife resource of the disposal area is probably comparable, if not less given the open nature of the area and presence immediately below the dam.

Threatened and Endangered Species

The only Federally-listed species that may occur in the general project vicinity is the Northern Spotted Owl (*Strix occidentalis caurina*). This species would not occur on the specific project area. There are no proposed threatened or endangered species present in the project vicinity.

Cultural Resources

No cultural resources are anticipated at the project location. No impacts to any cultural resources are expected from implementation of this project.

Socio-Economic Uses

The proposed project area and the disposal area have minimal socio-economic uses. A private access road (reserved) bisects the project area and is slated to have a replacement culvert installed.

ENVIRONMENTAL EFFECTS

Soils

Direct impacts to soils will occur from construction activities. Steep banks will be pulled back and reshaped to provide a less steep bank slope and better conditions for riparian vegetation establishment. Soils borrowed from the site will be redistributed and graded on a disposal area located in an area of former high soil disturbance from the dam construction. Other than the construction impacts, no significant impacts to soils are expected.

Vegetation

At the project site, vegetation will be excavated and removed when the stream banks are reshaped. These areas will be planted to natural riparian vegetation to provide suitable habitat for native species. The disposal area will be graded and reseeded with native vegetation, an improvement over the exotic grass stand currently present.

Biological

The scope of this project is small. The stream and road improvements are designed to allow passage for aquatic organisms, particularly cutthroat trout and are intended to improve their access to the upper reaches of Piper Creek. Disturbance to fish and wildlife resources from project construction would be minimal given the construction timing for low summer flows. Some disturbance to wildlife use of the area may occur during construction but it will be temporary and minor in nature. No long term negative impacts to biological resources are expected from implementation of this proposal.

Threatened and Endangered Species

The COE has conducted on-site surveys and completed a biological evaluation for federally listed species for this project and determined a *no effect* finding for northern spotted owl, a species under the jurisdiction of the USFWS. Suitable habitat for northern spotted owls does not occur at the project location; they were addressed because they do occur within the watershed. The determination is on file at the Portland District Office. No species or critical habitat exists for those species under the jurisdiction of the National Marine Fisheries Service at this location.

Cultural Resources

Survey for cultural and historical resources will be conducted prior to implementation, to confirm the absence of an impact. Field review of the site will be completed by June 15, 2008 and documentation filed with the Oregon SHPO.

Socio-Economic Uses

Construction activities will not result in any significant impact to socio-economic uses. There will be a temporary disruption of traffic on a private access road (reserved) but this will be coordinated with the landowners to minimize impacts.

COORDINATION

This Draft Environmental Assessment (EA) has been distributed for 30-day public review. Review comments will be requested from federal and state agencies as well as various property owners and interested publics. The following agencies were sent a copy of this document:

U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
Oregon State Historic Preservation Office
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Oregon Department of Water Resources
Oregon Parks and Recreation Department
Lane Council of Governments
Lane County Commissioners
Lane County Parks Department

CONSULTATION REQUIREMENTS

- a. The Nation Environmental Policy Act (NEPA, 42 U.S.C. 4321 et seq.), requires that all agencies of the federal government must conduct an appropriate environmental review before taking any action. This Environmental Assessment satisfies the requirements of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.).
- b. Clean Water Act of 1977 (33 USC 1344): The proposed action is in compliance with Section 404 (b)(1) of the Clean Water Act under Nationwide Permit No. 27, which authorizes stream restoration actions such as that proposed for Piper Creek. Section 401 Water Quality Certification for Nationwide Permit No. 27 is provided in a letter from the Oregon Department of Environmental Quality dated July 18, 2007.
- c. The Clean Air Act of 1970, as amended, established a comprehensive program for improving and maintaining air quality throughout the United States. Its goals are achieved through permitting of stationary sources, restricting the emission of toxic substances from stationary and mobile sources, and establishing National Ambient Air Quality Standards (NAAQS). Title IV of the Act includes provisions for complying with noise pollution standards. All equipment used on site will be required to meet State and Federal emission and noise standards. As part of the contracting process, all contractors that work on the proposed construction will be

- required to use appropriate Best Management Practices (BMPs) on all construction activities in order to be in compliance with this act.
- d. Coastal Zone Management Act of 1972, as amended: Not applicable. Piper Creek is located in the interior of Oregon.
 - e. The Magnuson-Stevens Fisheries Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance Essential Fish Habitat (EFH) for those species regulated under the Federal Fisheries Management Plan. The MSA requires Federal agencies to consult the NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH. Piper Creek does not support EFH-listed fish species.
 - f. Endangered Species Act (ESA) of 1973, as amended: The proposed action would have no effect on threatened or endangered species. The project area does not contain suitable habitat for listed species, thus the no effect determination. This no effect determination has been coordinated with appropriate Federal resource agencies.
 - g. The Bald Eagle Protection Act of 1940, as amended, provides for the protection of the bald eagle and golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds. The proposed action is not expected to affect bald eagle or golden eagles as stream and riparian habitat restoration action does not impact habitat utilized by these species.
 - h. Fish and Wildlife Coordination Act: The proposed action has been coordinated with the U.S. Fish and Wildlife Service in compliance with this Act. The Service will review this draft EA and their comments will be incorporated.
 - i. Wild and Scenic Rivers Act: Not applicable. The Coast Fork of the Willamette River is not a designated Wild and Scenic River.
 - j. Marine Protection, Research and Sanctuaries Act of 1972, as amended: Not applicable. Piper Creek is located in the interior of Oregon.
 - k. National Historic Preservation Act: Section 106 of the National Historic Preservation Act (NHPA) requires that all federally-assisted or federally-permitted projects account for the potential effects on sites, districts, buildings, structures, or objects that are included in or eligible for inclusion in the National Register of Historic Places. In compliance with the NHPA, the Corps will conduct investigations to determine if the proposed project will affect cultural resources. In compliance with Section 106 of the National Historic Preservation Act of 1966 as amended, a cultural resources investigation and findings report will be submitted to the Oregon State Historical Preservation Office for concurrence and comments on our No Effect determination.
 - l. The Native American Graves Protection and Repatriation Act (NAGPRA) provides for the protection of Native American and Native Hawaiian cultural items, established ownership and control of Native American cultural items, human remains, and associated funerary objects to Native Americans. It also establishes requirements for the treatment of Native American human remains and sacred or cultural objects found on federal land. This Act also provides for the protection, inventory, and repatriation of Native American cultural items, human remains, and associated funerary objects. Any discoveries will be handled according to Portland District policy.
 - m. Executive Order 11988, Flood Plain Management, 24 May 1977: The proposed action would have no adverse effect on flood plains or flood heights. The proposed action

would not raise ground elevation along Piper Creek, thus there are no effects to the flood plain or flood heights. The proposed action is not expected to encourage future development in floodplains, and is therefore in compliance with Executive Order 11988.

- n. Executive Order 11990, Protection of Wetlands, 24 May 1977: The proposed action would have no adverse effect on wetlands. Piper Creek is currently confined to an artificial channel. The proposed action would restore a more natural streambed and restore riparian forest habitat along the stream.
- o. Executive Order 12898, Environmental Justice: This executive order requires federal agencies to consider and minimize potential impacts on subsistence, low-income or minority communities. The goal is to ensure that no person or group of people should shoulder a disproportionate share of the negative environmental impacts resulting from the execution of this country's domestic and foreign policy programs. No subsistence, low-income or minority communities are expected to be affected by the proposed project. This proposed action is in compliance with Executive Order 12898.
- p. Analysis of Impacts on Prime and Unique Farmlands: The proposed work would not impact any prime or unique farmlands. The proposed action occurs on Corps of Engineer property that is not utilized for agricultural purposes.
- q. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The location of the proposed action is not within the boundaries of a site designated by the EPA or the State of Oregon for a response action under Comprehensive and Environmental Response, Compensation and Liability Act, nor is it a part of a National Priority List site.
- r. Migratory Bird Treaty Act. The proposed action is in compliance with this act. Construction would occur in late summer after completion of the nesting season. Further, habitat conditions at the Piper Creek restoration location are poor and there is a paucity of migratory birds present throughout the course of the year.