FINDING OF NO SIGNIFICANT IMPACT

THE LARSON CREEK PIPELINE AND FISH PASSAGE PROJECT
ROGUE RIVER BASIN PROJECT, OREGON

BUREAU OF RECLAMATION
LOWER COLUMBIA AREA OFFICE
PORTLAND, OR

INTRODUCTION

In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and based on the following, the Bureau of Reclamation (Reclamation) has determined that the Larson Creek Pipeline and Fish Passage Project (Project) would not result in a significant impact on the human environment.

Reclamation administers two grant programs which can cost-share the expenses of implementing projects for the conservation of irrigation water. Two grant applications have been approved for this Project; one for Medford Irrigation District (MID) to make modifications to their delivery system under the grant program "Water 2025: Preventing Crises and Conflict in the West", and one for Talent Irrigation District (TID) to modify their system under Reclamation's Water Conservation Field Services Program. Reclamation prepared a Draft Environmental Assessment (EA) for the Project to evaluate the environmental and social impacts of awarding these water conservation grant funds as required by NEPA. The purposes of the Project are to conserve water, remove fish passage barriers and improve fish habitat, and to stop the practice of using Larson Creek to transfer irrigation water.

Larson Creek is located near the city of Medford, Oregon in the Rogue River basin. Larson Creek is a small tributary of Bear Creek which is a major tributary of the Rogue River. MID and TID operate portions of their respective water delivery systems in the project area. There are three stream diversion structures on Larson Creek in the project area. TID operates one diversion on the Middle Fork, MID operates one on the Middle Fork and one on South Fork. Common to both systems is that both districts have major delivery canals that intersect with Larson Creek. TID discharges irrigation water from its canal into the Middle Fork and the MID diversions allow MID to collect TID-discharged water and all natural flow in the Middle Fork during the irrigation season. MID also diverts all natural flow in the South Fork during the irrigation season into their canal. Due to the relative proximity of the facilities and the location of Larson Creek, MID has been able to utilize TID tailwater in their system by means of their diversion on Middle Fork Larson Creek.

ALTERNATIVES CONSIDERED

The National Environmental Policy Act requires Reclamation to explore a reasonable range of alternatives and to evaluate the environmental effects of each alternative. Three alternatives are considered in the EA including the No Action Alternative and a Preferred Alternative.

Alternative A – No Action Alternative. Reclamation would not grant money from either of the Reclamation water conservation programs to TID or MID to construct modifications to the water delivery systems as described by the districts in their grant applications. The money would be used for other water conservation projects in the western United States.

Alternative B – Barnett Road Pipeline. Reclmation would cost-share grant money only from the Water Conservation Field Services Program. This funding would allow TID to construct an 8,000 foot long pipeline from the end of their canal to the MID system along Barnett Road for the transfer of tailwater. This alternative would remove one water diversion structure. This pipeline independently meets the purposes of the Project, but it does not make more stream habitat available to aquatic species because downstream diversions would remain in place.

Alternative C/Preferred Alternative – Barnett and North Phoenix Road Pipelines.
Reclamation's Preferred Alternative is the Barnett Road Pipeline described in Alternative B and a second pipeline on North Phoenix Road. The construction of the second 2,200 foot pipeline on North Phoenix Road would allow MID to remove their two stream diversions on South Fork Larson Creek. Complicating the planning and development of this additional pipeline is that previous private land developments have eliminated the historic confluence of the two forks of Larson Creek. Consequently, the only remaining connection between them is an approximately 700 foot segment of the MID canal. Typically after replacing a canal with a pipeline the canal is completely abandoned and often filled in. In this case, to entirely fill in the canal would not be prudent. Therefore, the Preferred Alternative includes making enhancements to the canal so that it can function, to the extent possible, as a natural stream course.

ENVIRONMENTAL COMMITMENTS

The following environmental commitments will be implemented as part of the preferred alterative.

- The construction of the siphon necessary for the Barnett Road pipeline will not begin until the required permits are obtained from the Army Corps of Engineers as required by section 404 of the Clean Water Act and by Oregon Division of State Lands as required by state law.
- All instream construction activities will adhere to all the conditions of the permits.
- All instream construction will only occur during the Oregon Department of Fish and Wildlife's designated instream work period.
- Reclamation will mitigate adverse effects upon the historic Medford Canal in accordance with a strategy agreed upon during consultation with the Oregon State

Historic Preservation Office (SHPO). Mitigation actions will be completed in August and September, 2004.

PUBLIC INVOLVEMENT

Reclamation sent an initial scoping letter and on January 28, 2004 to local residents, the Medford library, to local, State, and Federal agencies, and to non-governmental organizations requesting them identify to Reclamation any concerns they may have with the Project. On February 3, 2004 Reclamation issued a news release announcing the 30-day scoping comment period. We received four responses. The City of Medford sent a letter in support of the Project, one consulting firm requested to be added to the mailing list, and two comments were received from local residents. What we learned from the local residents is that the project description in the scoping letter did not clearly describe the Project.

On August 5, 2004, Reclamation sent out the Draft EA and a news release requesting comments on the Project by September 3, 2004. The Draft EA was mailed to local residents, the local library, Indian tribes, and local, State, and Federal agencies. The Draft EA was also available on Reclamation's Pacific Northwest Region website. No comments were received. The Draft EA and environmental commitments made in this FONSI will serve as the Final EA.

COORDINATION WITH INDIAN TRIBES

In March of 2004, Reclamation sent letters to representatives of The Klamath Tribes, The Confederated Tribes of the Grand Ronde Community of Oregon, The Confederated Tribes of the Siletz Indians, and the Cow Creek Band of the Umpqua Tribe of Indians. We requested information on resources of interest to the tribes. In August 2004 a copy of the Draft EA was mailed to each tribe. None of the tribes responded to Reclamation's notification regarding the Project.

ENDANGERED SPECIES ACT

Reclamation requested species lists from the US Fish and Wildlife Service and NOAA Fisheries (Services) in February 2004. Reclamation determined that there would be no effect to bald eagles, vernal pool fairy shrimp, Cook's lomatium, large-flowered woolly meadowfoam, and Gentner's mission bells. On August 24, 2004 NOAA Fisheries informed Reclamation that the project has existing ESA and Magnuson-Stevens Fishery Conservation and Management Act (MSA) coverage under the Standard Local Operating Procedures for Endangered Species biological opinion (SLOPES) issued to the Army Corps of Engineers (COE) in 2002 and revised in 2003. Therefore, no additional consultation is required for ESA listed coho salmon and MSA Essential Fish Habitat. Correspondence between NOAA and Reclamation is on file at Reclamation's Lower Columbia Area Office (LCA-6502).

NATIONAL HISTORIC PRESERVATION ACT

In consultation with the SHPO, Reclamation has determined that the Medford Canal and the Talent East Canal are contributing features to a linear historic district that is eligible for listing in the National Register of Historic Places. Reclamation and the SHPO

concurred that the MID diversion structures contribute to the historic significance of the Medford Canal, and that their removal will have an adverse effect upon the historic integrity of the canal. The TID diversion does not yet meet the minimum 50-year age for consideration as a contributing feature, but would have been considered a contributing feature when it reached that age within the next 5 years. Reclamation and SHPO concurred that mitigation of adverse effects will be through photographic documentation of the three diversion dams and the affected segment of the Medford Canal. Correspondence between SHPO and Reclamation is on file at Reclamation Pacific Northwest Regional Office (PN-6511).

CONCLUSION

Based on thorough review of the comments received, analysis of the environmental impacts as presented in the EA, ESA section 7 consultation, coordination with the various agencies and implementation of all environmental commitments identified in the Draft EA and in this FONSI, Reclamation has concluded that implementation of the Preferred Alternative would have no significant impacts on the quality of the human environment or the natural resources in the area. Therefore, this FONSI has been prepared and is submitted to document environmental review and evaluation in compliance with NEPA and an environmental impact statement will not be prepared.

Recommended:

___/s/ Tanya Sommer_____ _9/3/2004____
Tanya Sommer, Natural Resource Specialist Date

Concurrence:

__/s/ Karen Blakney_____ _9/3/2004____
Karen Blakney, ESA Program Manager Date

Approved:

_/s/ Ronald Eggers _____ _9/7/2004_____
Ronald Eggers, Area Manager Date

DRAFT ENVIRONMENTAL ASSESSMENT

LARSON CREEK PIPELINE AND FISH PASSAGE PROJECT

U.S. BUREAU OF RECLAMATION
LOWER COLUMBIA AREA OFFICE
PORTLAND, OREGON

AUGUST 2004

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ACRONYMS

BLM	U.S. Department of Interior, Bureau of Land Management
cfs	cubic feet per second
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DEQ	Oregon Department of Environmental Quality
DO	Dissolved oxygen
DSL	Oregon Department of State Lands
EA	Environmental Assessment
EFH	Essential fish habitat
EO	Presidential Executive Order
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FLWC	Fish Lake Water Company
FONSI	Finding of No Significant Impact
ITA	Indian Trust Asset
mg/L	milligrams per liter
MID	Medford Irrigation District
MSA	Magnuson Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service, now called NOAA Fisheries

NOAA	U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Fisheries; also known as NMFS
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ONHP	Oregon Natural Heritage Program
PA	Preferred Alternative
RBFAT	Rogue Basin Fish Passage Team
Reclamation	U.S. Department of Interior, Bureau of Reclamation
RRVCC	Rogue River Valley Canal Company
RRVID	Rogue River Valley Irrigation District
RVCOG	Rogue Valley Council of Governments
SHPO	Oregon State Historic Preservation Office
SONC	Southern Oregon/Northern California Coasts
TID	Talent Irrigation District
TMDL	Total Maximum Daily Load
USDA	U.S. Department of Agriculture
USFS	U.S. Department of Agriculture, Forest Service
USFWS	U.S. Department of Interior, Fish and Wildlife Service
Water 2025	Water 2025: Preventing Crises and Conflict in the West
WCFS	Water Conservation Field Services

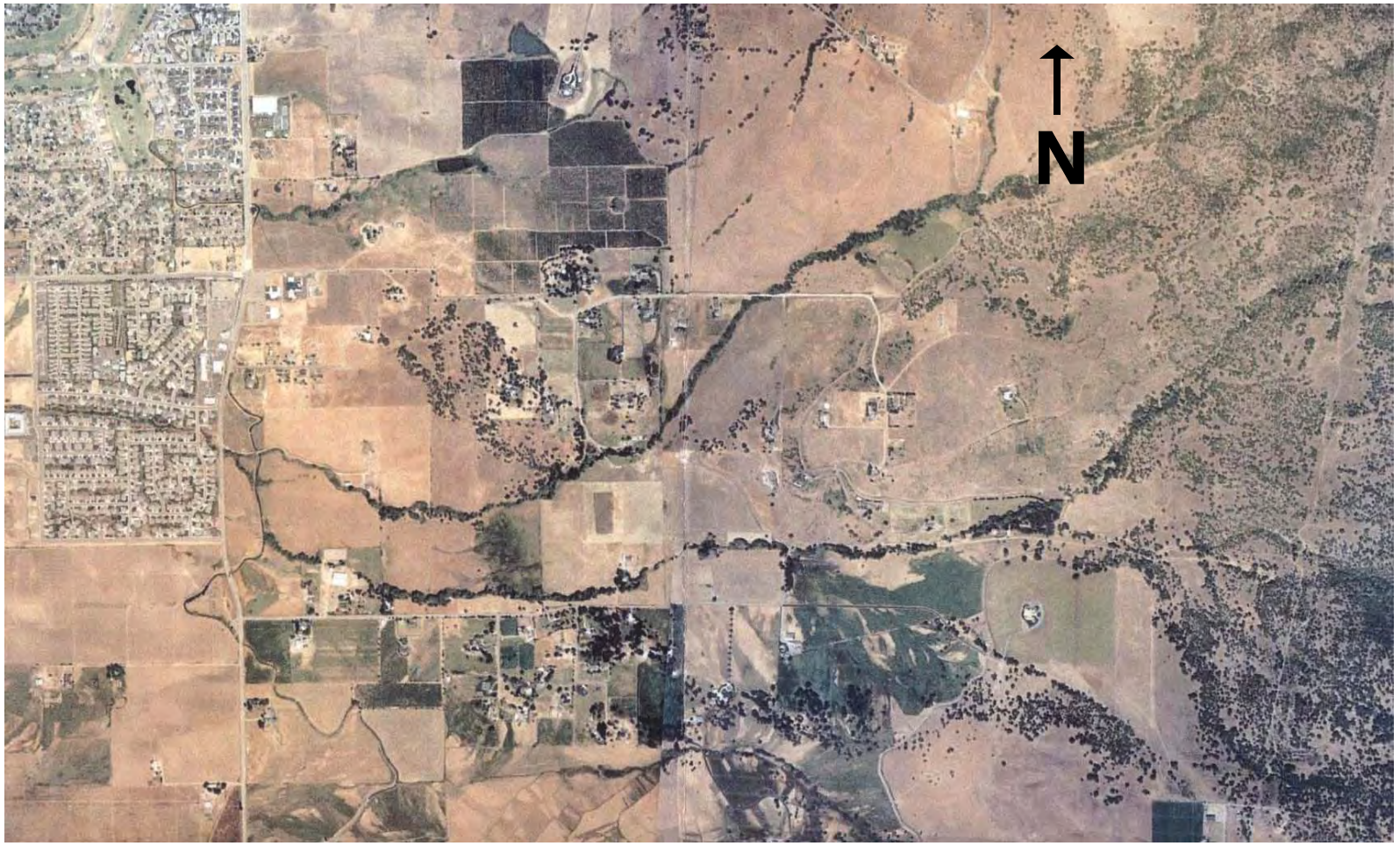

Figure 1. Aerial view of the project area.

CHAPTER 1
PURPOSE AND NEED

1.0 INTRODUCTION

The Bureau of Reclamation (Reclamation) through its Water Conservation Field Services Program (WCFSP) and its Water 2025: Preventing Crisis and Conflict in the West program is proposing to contribute funding for the construction of 2 irrigation district pipelines in southeast Medford, Oregon. Larson Creek is a tributary of Bear Creek which is located in the Rogue River basin. Installation of the pipelines would isolate the irrigation delivery system from the Larson Creek drainage, remove 3 fish passage barriers, and improve aquatic habitat and hydrologic conditions in Larson Creek by returning flows in the Middle Fork Larson Creek to more natural conditions. The streams in the project area have historically supported steelhead. Southern Oregon/Northern California Coast (SONCC) coho salmon, a threatened species under the Endangered Species Act (ESA), currently utilize the lower reaches of Larson Creek.

This Environmental Assessment (EA) has been prepared to evaluate the potential environmental and social impacts of the proposed project and to inform the public, regulatory agencies, and other interested parties. The EA findings and public comments will form the basis for a decision regarding the proposed action. Reclamation has analyzed the alternatives and mitigation measures to minimize adverse environmental impacts. This document has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and the regulations of the Council on Environmental Quality (40 CFR Part 1500).

1.1 PURPOSE AND NEED FOR THIS ACTION

The Larson Creek Pipeline and Fish Passage Project has three primary purposes:

- To conserve water,
- To remove fish passage barriers and restore fish habitat,
- To discontinue the use of Larson Creek as an irrigation canal.

Reclamation has awarded grants to Talent Irrigation District (TID) and Medford Irrigation District (MID) through the WCFSP and Water 2025. These programs are cost-share grants which provide up to fifty percent funding for water conservation projects. The irrigation districts must meet Federal guidelines and match Federal funding with non-Federal funds to receive these grants.

This EA will address funds awarded to Talent Irrigation District and Medford Irrigation District to install 10,200 feet of pipeline in the project area. The proposed pipelines would increase the efficiency of the irrigation district's respective water delivery systems by conserving 94 acre feet of water annually. Also, the project will open 3 miles of stream habitat to anadromous fish by removing 3 in-stream barriers and isolate the

irrigation delivery systems from the Larson Creek drainage. Separating the irrigation systems from the creek would stop the unnatural stream flow fluctuations that occur during the irrigation season and stop the flow of warm canal water from flowing into the in the Middle Fork of Larson Creek. Consequently, water which is heated as it is conveyed through approximately 27 miles of low gradient open canal would not enter Middle Fork Larson Creek and dramatic daily fluctuations in summer stream flows would no longer occur.

1.2 BACKGROUND

Pacific Trend Building is planning construction of a 78 lot residential development in the project area. The imminent housing development has prompted the irrigation districts to apply for Reclamation grants to leverage funding and services being contributed by the developer, an Oregon Watershed Enhancement Board (OWEB) grant, as well as their own contributions to implement this project in summer and fall of 2004 through 2005. Reclamation has become involved in this project because the irrigation districts have applied for and been approved for funds from the WCFSP and Water 2025 cost sharing grant programs.

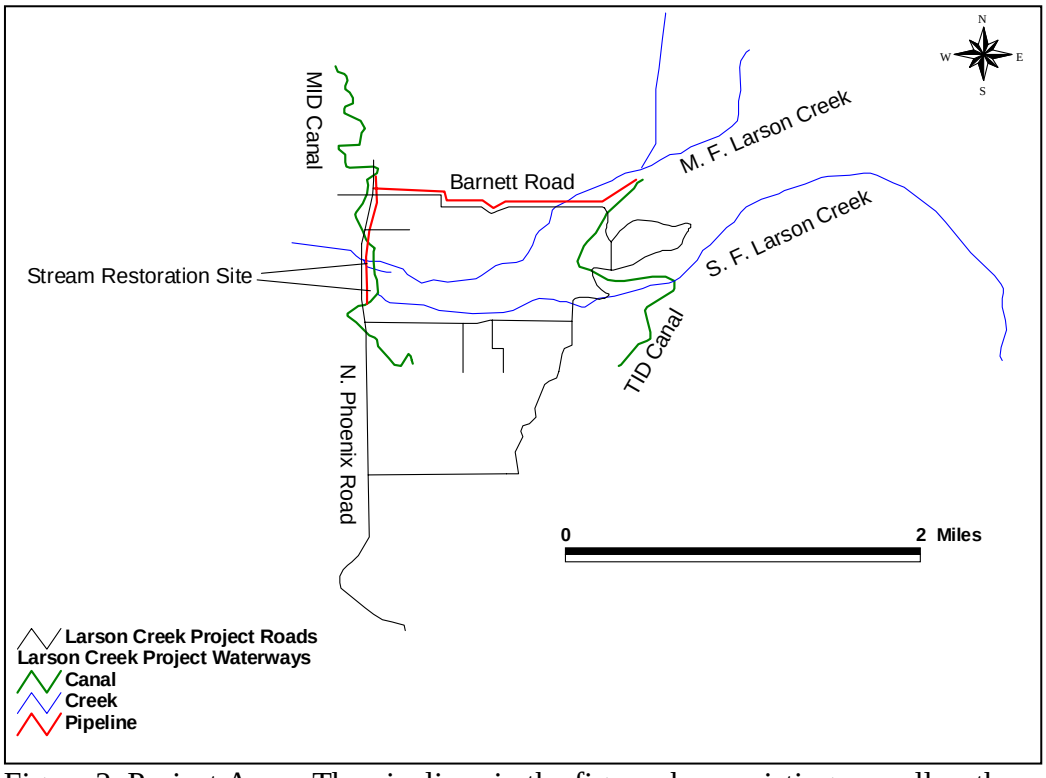

Figure 2. Project Area. The pipelines in the figure show existing as well as the proposed pipelines.

The Stonegate Estates, the new residential subdivision, is planned in the area southeast of the intersection of Barnett Road and North Phoenix Road (Figure 2). Within the area to

be developed there are natural creeks and irrigation canals with associated stream diversions. The project would replace 2,500 feet of antiquated dirt canal with a 66-inch diameter concrete pipe and add 8,000 feet of pipeline to keep irrigation water out of Larson Creek. The irrigation districts lose water to seepage and evaporation in their open dirt canals. As a result of the pipelines, 94 acre feet of water would be conserved each year. Pacific Trend Building is contributing funding to convert the open irrigation canals into buried pipeline and for canal-to-stream channel conversion and restoration in a section of MID canal. Pacific Trend Building is also deeding the land within 50 feet on either side of Middle Fork Larson Creek, South Fork Larson Creek, and Larson Creek to the City of Medford throughout the subdivision for city "greenways." The development of a housing subdivision in the project near Larson Creek has provided the irrigation districts with an opportunity to make their systems more efficient and to remove them from natural waterways by contributing to the costs of the pipeline construction and stream channel restoration.

1.2.1 Current Operation of the Irrigation Delivery Canals in the Project Area

The following description of the current operation practices of the irrigation delivery system in the project area is intended to clarify the proposed project by highlighting the current operation of canals in the Larson Creek drainage.

Figure 3. View of Middle Fork Larson Creek from Barnett Road facing north. TID canal and access road heads northeast from this location.

During the irrigation season, April through October, the canals and Middle Fork Larson Creek are utilized to transport irrigation water. Water from Emigrant Lake is released into TID's East Canal and flows approximately 27 miles in a northeasterly direction before reaching the Middle Fork Larson Creek (Figure 3 and Figure 4). TID discharges water into Middle Fork Larson Creek for two reasons. In order for TID to maintain the canal and to make water deliveries to its water users near the end of the canal it must transport an additional amount of water through to the end of the canal. This water, which is not utilized for irrigation, is termed operational spillage or tail water. Up to 9 cfs of operational spillage is released into the Middle Fork of Larson Creek and is eventually diverted downstream into the MID Canal at the point where the MID canal

crosses Middle Fork Larson Creek. The amount of operational spillage fluctuates depending on the time of day. Over the course of a day discharge is high in the morning and generally decreases to as little as less than 1 cfs in the afternoon and then increases again. This cycle reflects the water users' practice of applying more water during the warmest part of the day. During the afternoon when more water is being used for irrigation, less water is spilled into Middle Fork Larson Creek.

Figure 4. View of the TID canal approximately 0.25 miles from where it discharges into Middle Fork Larson Creek.

The second reason TID discharges water into Middle Fork Larson Creek is to supply water to its customers on the TID Cherry Lane pipeline. This pipeline begins at a stream diversion (fish passage barrier) located just north of the junction of Middle Fork Larson Creek Barnett Road. TID discharges an additional 2-3 cfs into Middle Fork Larson Creek for irrigation deliveries along this pipeline.

MID's system operates by diverting water from the North and South Forks of Little Butte Creek into a joint MID and Rogue River Valley Irrigation District (RRVID) canal. From the Joint System Canal, MID's water is diverted into the MID Canal and flows generally south, crossing the Middle and South Forks of Larson Creek to the east of the TID East canal and eventually crossing Bear Creek in the town of Phoenix, Oregon. The two MID diversions on Larson Creek are concrete and wood stop log diversion structures that divert all the flow in both forks of Larson Creek into the MID canal (figures 5 through 8). MID diverts all of the 1-3 cfs natural flow from Larson Creek (Vinsonhaler 2002) and TID's operational spillage during the irrigation season.

Figure 5. The MID diversion at Middle Fork Larson Creek and the MID canal.

Figure 6. The MID diversion at Middle Fork Larson Creek. Riparian vegetation adjacent to South Fork Larson Creek is visible in the background. Flashboards are not in place.

Figure 7. The junction of Middle Fork Larson Creek and the MID canal from the diversion structure looking downward during non-irrigation season.

Figure 8. The MID diversion structure at South Fork Larson Creek during non-irrigation season.

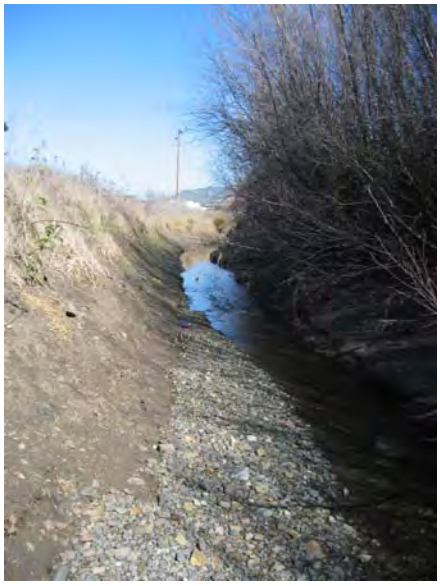
Figure 9. View of MID canal from the canal near the South Fork Larson diversion structure. This the portion of the canal that would function as restored stream channel as described in the Preferred Alternative.

A portion of the natural stream channel of Larson Creek downstream of the MID canal has been filled in and residences were built over it. The existing connection between the forks of Larson Creek is the MID canal (figure 9). When MID is not operating their canal, water in from South Fork Larson Creek reaches the MID canal and flows in the canal approximately 500 feet before reaching the Middle Fork Larson Creek. When the canals are being operated, flow between Middle Fork and South Fork Larson Creeks is in the opposite direction of natural creek flow. In other words, in the span of canal between the two forks of Larson Creek the water is flowing upstream (in a southerly direction) following the direction of flow in MID's canal. Outside of the irrigation season when the diversion boards are removed the creek flow returns to its natural flow direction.

1.2.2 WATER CONSERVATION FIELD SERVICES PROGRAM

In 1997, the Bureau of Reclamation established the Water Conservation Field Services Program (WCFSP) to encourage water conservation and efficient use of water supplies associated with Federal water projects throughout the western United States. The program provides technical and financial assistance to western water districts and other conservation partners in four key areas: 1) water management planning; 2) water education and training; 3) demonstration of new technologies; and 4) implementation of improved water management on a regional, statewide, and watershed basis throughout the western United States through numerous partnerships designed to complement and support other Federal, State and local conservation programs.

The WCFSP also supports watershed partnerships to improve fish and wildlife habitat associated with water systems or water supplies affected by Reclamation projects, and contribute to the recovery of endangered or threatened species whose habitat or survival may be influenced by conservation activities on Reclamation projects and associated watersheds.

1.2.3 WATER 2025: PREVENTING CRISIS AND CONFLICT IN THE WEST

Water 2025 is intended to focus attention on the reality that explosive population growth in western urban areas, the emerging need for water for environmental uses, and the national importance of the domestic production of food and fiber from western farms and ranches is driving major conflicts between these competing uses of water. This program recognizes that states, tribes, and local governments should have a leading role in meeting these challenges, and that the Department of Interior should focus its attention and resources on areas where scarce federal dollars can provide the greatest benefits to the west and the rest of the nation. Water 2025 provides the basis for a public discussion in advance of water crises and sets forth a framework to focus on meeting water supply challenges in the future.

1.2.4 RECLAMATION'S ROGUE RIVER BASIN PROJECT

The Rogue River Basin Project's Talent Division collects, stores, conveys, and distributes water from high elevation reservoirs to three water districts in the Rogue River basin: TID, MID, and Rogue River Valley Irrigation District. The project is authorized to provide irrigation, flood control, hydroelectric power, and other beneficial purposes such as recreation and fish and wildlife.

The Talent Irrigation District consists of approximately 15,500 irrigable acres. Medford Irrigation District has a water supply for 11,500 acres, and Rogue River Valley Irrigation District has a water supply for 8,300 acres. Additionally, the Talent Division provides electric power from the 16,000-kilowatt hydroelectric Green Springs Powerplant. Principal features of the Rogue River Basin Project include Hyatt and Howard Prairie

Dams and Reservoirs, Howard Prairie Delivery Canal, Keene Creek Dam, Green Springs Powerplant, Emigrant Dam and Lake, and Agate Dam and Reservoir.

1.2.5 AUTHORITY

The Act of August 20, 1954 (Ch. 775, 68 Stat. 752) authorized Reclamation to construct, operate, and maintain the Talent Division of the Rogue River Basin Project according to Reclamation laws. The WCFSP is authorized by Section 210 of the Reclamation Reform Act of 1982. Water 2025 is authorized by Energy and Water Development Appropriations Act, 2004, § 212, Pub. L. No. 108-137, 117 Stat. 1827 (December 1, 2003).

1.4 PUBLIC INVOLVEMENT

On January 28, 2004, Reclamation sent out a letter to 85 individuals, agencies, and organizations requesting comments on the proposed project. A news release was also distributed to the press and posted on Reclamation's website. The Medford Mail Tribune published two stories about the project. The 30-day public comment period ended on February 27, 2004. Three letters were received commenting on the proposed project. Copies of Reclamation's new release, the Mail Tribune article, Reclamation's letter, and the responses are in Appendix A of this EA.

1.5 COORDINATION WITH INDIAN TRIBES

On March 1, 2004 Reclamation sent letters to four Indian tribes who might have an interest in the project: the Cow Creek Band of the Umpqua Tribe of Indians, The Klamath Tribes, The Confederated Tribes of the Siletz Indians, and The Confederated Tribes of the Grand Ronde Community of Oregon (Appendix C). Reclamation requested information on presence of Indian sacred sites, archeological sites, and traditional cultural properties. At this time, no comments have been received from any of the tribes.

1.6 ENDANGERED SPECIES ACT

On February 27, 2004, Reclamation requested a list of threatened and endangered species under the Endangered Species Act (ESA) from both the US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries (Appendix B). NOAA notified Reclamation that the anadromous fish species SONCC coho salmon is known to be present in the project area. NOAA further advised Reclamation the project is within Magnuson-Stevens Fishery Conservation and Management Act (MSA) essential fish habitat (EFH) for coho and chinook salmon. USFWS informed Reclamation that six ESA threatened or endangered species may be present in the project area: bald eagle, coho salmon, vernal pool fairy shrimp, Gentner mission-bells, large-flowered wooly meadowfoam, and Cook's lomatium. Reclamation is consulting with NOAA Fisheries on the impacts of the project on ESA listed anadromous fish species and EFH.

CHAPTER 2
ALTERNATIVES

2.0 INTRODUCTION

This chapter describes the alternatives being considered and evaluated in this EA. It includes two action alternatives and the no action alternative. NEPA requires Federal agencies to analyze the no action alternative (40 CFR Sec. 1502.14) to clearly contrast and define the consequences of the proposed project to the human environment. The action alternatives must include a range of reasonable alternatives. Due to the nature of the proposed project the range of alternatives is limited. All the alternatives considered are analyzed in detail; no alternatives which meet the purposes of this project were eliminated from consideration. This EA will address Reclamation's Preferred Alternative of contributing funds for pipe materials to both the Barnett Road pipeline and the North Phoenix Road pipeline. In addition to the Preferred Alternative, this EA will analyze the social and environmental impacts of contributing funds to Barnett Road pipeline but not the North Phoenix Road pipeline.

2.1 ALTERNATIVE A – NO ACTION ALTERNATIVE

The No Action alternative is to withhold Reclamation's WCFSP and Water 2025 program federal grant funds. If the No Action Alternative is chosen, Reclamation would not cost-share with TID and MID for the installation of either of the proposed subsurface irrigation pipelines in the upper Larson Creek drainage as described in this EA. However, this does not necessarily mean that the pipelines would not be installed. The irrigation districts may utilize their own funds, acquire State or local government grants, or partner with private interested parties to build the pipelines. The project may be delayed, modified, or cancelled because of a loss of federal funding. Delaying or canceling this pipeline would postpone or eliminate the benefits of the project including improving aquatic habitat in Larson Creek and conserving 94 acre feet of water annually. Without implementation of the project, operation and maintenance of the irrigation canals would continue unchanged in the project area. The federal funds would be used for other undetermined water conservation projects in the western United States.

2.2 ALTERNATIVE B – BARNETT ROAD PIPELINE

The proposed Barnett Road pipeline is an 8,000 foot subsurface irrigation pipeline connecting the end of TID's East Canal with the MID canal at the intersection of North Phoenix Road and Barnett Road. The pipeline would enable TID to deliver water to their Cherry Lane pipeline and to deliver operational spillage from the East Canal to the MID canal for use in the MID system. The Barnett Road pipeline would be within the road alignment. A siphon under Middle Fork Larson Creek would be installed at the junction of the proposed pipeline and the creek. The TID diversion on Middle Fork Larson Creek would be abandoned and removed. Construction of the siphon would occur within the State's in-stream work time period (June 15-September 15) to protect aquatic species.

Permit applications to the Army Corps of Engineers (Corps) and the Oregon Department of State Lands (DSL) would be submitted for construction of the siphon and removal of the diversion as required by section 404 of the Clean Water Act (CWA) and State law. Reclamation would fund one half of the estimated $126,000 cost to construct this pipeline from the WCFSP. No Water 2025 funds would be contributed to this project. Once installed, Middle Fork Larson Creek would no longer be used to transport irrigation water.

2.3 Alternative C/ Preferred Alternative – Barnett Road and North Phoenix Road Pipelines

The Preferred Alternative includes Alternative B as described above with the addition of the North Phoenix Road pipeline described below.

2.3.1 North Phoenix Road Pipeline

The Preferred Alternative includes the construction of a 2,200 foot subsurface pipeline, one siphon under Larson Creek, the removal of 2 stream diversions, and the restoration of approximately 700 feet of stream channel. Reclamation would fund $300,000 of the estimated $602,000 project (not including the cost of the Barnett Road pipeline).

The Barnett Road pipeline described in Alternative B would connect to an open section of the Medford Main Canal near Barnett Road, just upstream of an existing subsurface pipeline that extends just south of Harbrooke Road. At the end of this existing pipeline, the new North Phoenix Road pipeline would extend approximately 2,200 feet south from the southeast corner of the intersection of Harbrooke and North Phoenix Roads. The pipeline would be inside the county road alignment along the east side of the North Phoenix Road. A siphon would be used at the point where the pipeline would intersect with Larson Creek. This technique places the pipeline under the creek, keeping the two sources of water separate from each other. Construction of the siphon would require the excavation of a temporary 10 foot wide by 30 foot long trench perpendicular to the creek channel to accommodate the proposed 66 inch pipeline and 36 inch overflow outfall. Installation of the siphon and outfall would take approximately 1 day, and then the trench would be backfilled and smoothed to return the construction area to a viable stream channel. The side slopes would be reseeded and irrigated after construction to promote rapid revegetation and to limit sediment loads within Larson Creek. Finally, disturbed areas would be planted with native trees and shrubs that are removed during construction.

Immediately after construction of the irrigation siphon and removal of flashboard diversion structures, the section of the MID canal that flows directly into Middle Fork Larson Creek would be blocked off to prevent any water or fish from entering the abandoned canal. To accomplish this, earthen embankments would be created within the MID canal at the north and south sides of the Middle Fork Larson/MID canal junction. Similarly, two additional earthen embankments would be created at the South Fork Larson Creek/MID canal junctions to preclude fish from entering the remaining portions of the canal.

This pipeline project includes the removal of MID's diversions on the Middle and South Forks of Larson Creek. With this pipeline in place, MID would abandon the section of antiquated open dirt canal between the start and end points of the pipeline. Any portions of canal that are abandoned would be filled in (with one notable exception, see 2.3.2 below). The implementation of this pipeline project would isolate irrigation water from the natural creek system, improve the efficiency of the irrigation water delivery system, remove 2 stream diversions, and make approximately 3 miles of aquatic habitat available to fish that is currently blocked by the diversion dams. The Corps and DSL have issued permits (200300790 and 31439-FP respectively) for the siphon and channel restoration as required by Section 404 of the CWA (Appendix E).

2.3.2 Converting MID Canal to Stream Channel

About 700 feet of the abandoned canal would be reconstructed into a stream channel on the South Fork Larson Creek including excavation and re-grading the alignment to create a more natural stream segment. This section of the canal represents the only viable connection for the two forks since the historical connection has been eliminated through urban development just west of North Phoenix Road. The channel would be contoured to provide an appropriate slope that minimizes the opportunity for fish entrapment. The channel restoration includes twelve rock weirs to create small pools, reshaping the steep canal banks, Himalayan blackberry removal, and planting native riparian vegetation. This portion of the project is being funded by the Oregon Watershed Enhancement Board (OWEB) and will be managed by the Bear Creek Watershed Council.

2.3.3 Storm Water

The City of Medford uses MID's open canal for storm water runoff. The new pipeline is designed to handle storm flows. During the non-irrigation season surface water runoff that enters into the MID canal north of the proposed North Phoenix Road pipeline would go through the pipeline and be discharged into Larson Creek near the site of the proposed siphon. Storm water typically flows into the canal during the winter months when irrigation water is not present. Pacific Trend has designed a storm water drainage system which will accommodate the new subdivision and meets Oregon Department of Environmental Quality (ODEQ) requirements. Storm water runoff from the subdivision would be pre-treated before discharging into Larson Creek, with no discharge into the MID canal, as per City of Medford standards. The storm water drainage system has been designed such that all storm water runoff (approximately 17 cfs for a 2 year event) would be routed through a series of catch basins, subsurface conveyance pipes, and a pollution control manhole to a 200 foot long vegetated biofiltration swale situated north of the new irrigation siphon. Most of this water does not currently discharge directly to Larson Creek, so a new point source would be created during construction of the subdivision. This new volume of water would not be detrimental to Larson Creek since the runoff would be pre-treated using the vegetated biofiltration swale and the discharge point would include a rock apron to prevent erosion.

CHAPTER 3
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.0 INTRODUCTION

This chapter describes the natural and social resources that could be affected by a decision to implement any of the three alternatives. These resources are soils, vegetation, fish and wildlife, threatened and endangered species, water quality, hydrology, wetlands, environmental justice, socioeconomics, historic properties, Indian sacred sites, and Indian trust assets. Reclamation also considered, but eliminated from detailed analysis, the following resources because there are no potential impacts: air quality, noise, geology, and toxic waste.

3.1 SOILS, VEGETATION, AND WETLANDS

3.1.1 AFFECTED ENVIRONMENT

Soils in the project area are predominantly deep, somewhat poorly drained, clay soils formed from alluvial deposits (USDA 1993). Native vegetation in upland areas is dominated by grasses, sedges, and forbs with scattered oaks. The eastern ridge has scattered woodland forest which has been harvested several times in the last century (Horton 2001). Riparian areas support willows, oaks, and other hardwoods. Both the quantity and quality of riparian vegetation are higher in the upper basin east of North Phoenix Road. Local agriculture consists largely of pasture lands which grow well in the slowly permeable soils with additional irrigation during the warm dry summer.

In the project area there are 0.46 acres of wetlands associated with Larson Creek. Pacific Trend Building has obtained Oregon Department of State Lands (DSL) and US Army Corps of Engineers (Corps) permits for disturbance to those wetlands which will result from the residential project development including construction of the North Phoenix Road pipeline siphon (Appendix E). In fall 2004 the irrigation districts will apply to DSL and the Corps for CWA section 404 permits for work in the creek associated with the construction of the Barnett siphon, the removal of 3 diversion structures, and elements of the stream channel restoration not addressed in the existing permits.

3.1.2 ENVIRONMENTAL CONSEQUENCES

ALTERNATIVE A – NO ACTION ALTERNATIVE

The no action alternative which would preclude Reclamation's involvement in this project could result in delaying or abandoning the installation of the pipelines. Should this alternative be chosen and the pipelines are not installed then there would be no changes to the vegetation and no affects to the soils. No wetlands would be impacted by the no action alternative. Disturbance to wetlands caused by the construction the

Stonegate Estates development will still occur as documented in the permit applications submitted to and approved by DSL and the Corps under section 404 of the Clean Water Act.

ALTERNATIVE B – BARNETT ROAD PIPELINE

Operation of the proposed Barnett Road Pipeline would remove some water from Middle Fork Larson Creek during the irrigation season to which the local plant community has adapted. Runoff and groundwater sources would not be affected; therefore vegetation losses are not expected to be significant. Construction of the pipeline is in previously disturbed land adjacent to the road along agricultural lands. Vegetation and soils will be temporarily disturbed during pipeline installation. Where Barnett Road intersects with the Middle Fork Larson Creek a siphon will be constructed to route the pipeline with minimal disturbance to the creek and associated riparian vegetation.

Removal of the TID diversion structure would occur during the ODFW in-stream work period. The removal activity will temporarily disturb soils in the immediate location of the diversion. No trees or native riparian vegetation will be significantly impacted by removal of the structure. The areas adjacent to the diversion are dominated by a dense stand Himalayan blackberry. Disturbed areas will be re-vegetated with native vegetation.

ALTERNATIVE C/PREFERRED ALTERNATIVE – BARNETT ROAD AND NORTH PHOENIX ROAD PIPELINES

This alternative includes impacts discussed above for construction and operation of the Barnett Road Pipeline.

The construction of the North Phoenix Road pipeline, siphon, and removal of the two MID diversion structures would temporarily disturb soils, riparian plants, and roadside vegetation. Impacts would be localized and minimized to the extent possible. No trees would be removed and disturbed areas would be re-vegetated with native plants. All work associated with the siphon would be conducted during the ODFW in-stream work period (June 15 – September 15).

To install the siphon a 10-foot wide by 30-foot long trench would be temporarily excavated perpendicular to the stream channel to accommodate the 66-inch diameter pipeline and 36-inch diameter storm water overflow outfall. Riprap would be placed adjacent to the siphon to stabilize the banks. Construction in the creek should be completed in approximately one day. Several options for construction of the proposed siphon were considered during the planning phases of this project. Directional boring beneath the creek was investigated to eliminate the need for trenching, but hard bedrock in the vicinity of the proposed siphon makes this option impracticable. Installation of a pipeline above Larson Creek was also determined to be infeasible due to the large diameter of the pipe (66 inches) and the inherent risk of failure during flood events. Use of a smaller diameter pipe would not convey a sufficient volume of water and would potentially cause flooding upstream of the pipeline inlet. Similarly, the 36-inch storm

water flow control structure is proposed as per City of Medford standards to prevent flooding due to the limited capacity of the existing irrigation canals and ditches.

Two small wetland swales (total of 0.46 acres) adjacent to the MID canal would be indirectly impacted by this alternative. The occurrence and characteristics of the swales is likely due to seepage from the canal and they would not be present in their current size without the canal seepage water. The impacts have been disclosed to DSL and the Corps through the CWA section 404 permitting process. The permitting agencies did not require mitigation for the possible hydrological impacts to the swales. The hydrological changes associated with preferred alternative may result less in water present in the swales during the irrigation season. The swales may be reduced in size and may undergo a decrease and change in plant species composition over time as a result of the project.

Modification of a portion of the MID canal into stream channel involves removing a thick infestation of Himalayan blackberry, recontouring the steep sides of the canal to provide a more appropriate slope, and replanting the area with native trees, shrubs, and herbs.

3.1.3 CUMULATIVE IMPACTS

The subdivision development planned within the project area would likely have future impacts to the vegetation and soils in the project area. However, riparian vegetation and soils will be protected or replaced through mitigation measure as required by State and Federal laws. The land developer is deeding land within 50 feet on both sides of the creeks to the City of Medford throughout the entire development for "greenspace." The City plans to maintain the riparian areas as public greenways and may route bicycle and pedestrian trails through them.

3.1.4 MITIGATION

Mitigation measures for the construction of the siphon would include implementing erosion control measures before, during, and after siphon construction. The construction activity would be monitored for turbidity. A maximum of a 10% increase in turbidity 100 feet downstream of the construction will be permitted during construction as required by DSL. To minimize erosion, jute and coir matting would be used within the channel and along the banks to stabilize the topsoil. Also, in-stream sediment curtains or mats would be installed to further reduce sediment transport. A qualified professional would install the matting using wooden and degradable steel "staples" to secure the matting to the ground. A small amount of riprap would line the Larson Creek channel at the siphon bypass structure and subdivision storm water outfall to prevent scouring during high-flow periods. Finally, a native seed mixture would be broadcast on all other slopes adjacent to the erosion control matting and riprap. Native trees and shrubs would be planted following the dormant season. If necessary, a temporary irrigation system would be set up to achieve adequate ground cover prior to autumn rains. On an as needed basis, other erosion control measures and best management practices would be applied elsewhere on the site. This may include silt fencing, hay bales, and erosion control blankets as

prescribed by the City of Medford. Siphon construction and diversion removal will be conducted during the ODFW approved in-stream work period.

3.2 HYDROLOGY

3.2.1 AFFECTED ENVIRONMENT

The Larson Creek subbasin is an 8 square mile drainage extending approximately 6.6 miles east from Bear Creek into the foothills of the Cascade Range. The Larson Creek subbasin includes Lazy Creek which parallels Larson Creek in the lower basin. The upper reaches of Larson Creek are characterized by narrow shallow channels with seasonal ephemeral flows (Horton 2001). Average winter (October through April) flows in Larson Creek are approximately 10 cfs and summer flows average 2-10 cfs (Horton 2001). A significant amount of the summer flow in Middle Fork Larson Creek upstream from the MID canal is irrigation water from the TID canal. Both the Middle and South Forks of Larson Creek in the project area currently are surrounded by agricultural lands; applied irrigation water returns to Larson Creek as subsurface flow.

Approximately 0.5 miles of the lowermost part of South Fork Larson Creek (west of North Phoenix Road) has been filled in and developed for housing. Since the historic hydrological connection is no longer viable, the MID canal represents the best alternative to restoring a naturally functioning drainage. A segment of the MID canal, approximately 700 feet in length, in the project area now functions as stream channel during non-irrigation season when MID is not diverting Larson Creek into its canal. The direction of flow during the irrigation season runs from the north to the south, whereas the natural drainage pattern is from southeast to northwest (south to north in the canal segment).

Current operation of the irrigation canals in the project area result in an altered hydrologic condition in Middle Fork of Larson Creek. At the end of the TID East Canal, tailwater and water deliveries to the Cherry Lane lateral diversion in Middle Fork Larson Creek flow into the natural channel. The diversion is located on Middle Fork Larson just north of where the creek crosses Barnett Road. The water deliveries are made to the Cherry Lane lateral via the diversion, while the tailwater and any additional water not diverted into the Cherry Lane lateral are conveyed approximately 1.5 miles to the junction of the creek with the MID canal. The tailwater and delivery flows can range from less than 1 to as much as 9 cfs and fluctuate throughout out the day based on irrigation needs. All of the flow from Middle Fork Larson Creek is then diverted into the MID canal.

Demands for irrigation water tend to be highest in the afternoon resulting in lower flows in the creek. MID diverts the all the water from Middle Fork Larson Creek into its system for distribution to MID irrigators, which includes the TID tailwater, surplus delivery water intended for the Cherry Lane lateral and any natural flow. Unless there is a flood event, the creek immediately below the downstream MID diversion (i.e. the mainstem Larson Creek) remains essentially dry during the irrigation season.

3.2.2 Environmental Consequences

Alternative A – No Action Alternative

Without the implementation of either of the action alternatives presented in this EA, the natural channel of Middle Fork Larson Creek would continue to be used to transfer irrigation water from TID to MID and to make irrigation deliveries. The no action alternative is the least desirable option for improving the hydrologic condition of Larson Creek because the negative effects of irrigation on its hydrology would not be abated. Flows in Middle Larson Creek from April through October would continue to be higher than the natural hydrograph with daily wide flow fluctuations. Middle and South Fork Larson creek would continue to be completely diverted into the MID canal during the irrigation season.

Alternative B – Barnett Road Pipeline

The installation of the Barnett Road pipeline would eliminate the discharge of TID tailwater and delivery water into the Middle Fork Larson Creek. The pipeline would transfer TID tailwater to MID through the underground pipe. The Cherry Lane lateral users would receive their water deliveries directly from the pipeline. The effect of these changes on the hydrology Middle Fork Larson Creek would reduce summer flows by the amount of water that TID discharges into the creek which can be as much as 9 cfs and varies throughout the day. Runoff and subsurface flow from water applied to agricultural lands would continue to flow back to the creek as long as there is irrigated agricultural land in the project area. Installing the Barnett Road Pipeline would affect flows in Middle Fork Larson Creek from the TID canal to the MID canal by reducing flows in that reach. This alternative does not include changes to the MID system; therefore, MID would continue to divert all the creek flow into its canal. Larson Creek flows below the MID canal would not change from the current conditions.

Alternative C/Preferred Alternative – Barnett Road and North Phoenix Road Pipelines

This alternative includes impacts discussed above for construction and operation of the Barnett Road Pipeline.

The North Phoenix Road pipeline would not impact hydrologic conditions in South Fork Larson Creek above the MID diversion structures. TID does not discharge into this creek or use it to deliver water to other parts of their system. By installing the North Phoenix Road pipeline MID would no longer divert flows from the Middle and South Forks of Larson Creek. As the system currently operates, MID diverts all the flow during the irrigation season leaving the creek essentially dry immediately below the diversion structures. If the pipelines are constructed, the diversion structures would be removed, and water in the creek would continue unimpeded by irrigation diversion from the headwaters to the confluence with Bear Creek.

The construction of the pipelines would isolate the irrigation infrastructure from the Larson Creek drainage. Downstream from the MID diversion structures there would be more flow in the summer than under the current conditions. Upstream from the MID diversions on Middle Fork Larson Creek there would be as much as 9 cfs less water in the stream during the summer months. The water level would not oscillate on a daily basis. These changes would be a return to a more natural hydrology for this creek.

3.2.3 CUMULATIVE IMPACTS

Future residential development in the project area could have impacts to the hydrology in the Larson Creek drainage. With or without a decision to implement either of the action alternatives a change from predominantly agricultural lands to predominantly residential housing is occurring. This change will impact water drainage patterns in the Larson Creek subbasin. The increase in impervious surfaces, such as roads, roofs, and lawns, will result in more surface runoff. As development in the area progresses there will be less subsurface return flow from irrigated lands.

3.2.4 MITIGATION

No mitigation is required since no significant negative impacts to hydrology are expected to result from implementation of the proposed pipeline project.

3.3 WATER QUALITY

3.3.1 AFFECTED ENVIRONMENT

Currently, Larson Creek is listed by the Oregon Department of Environmental Quality (Oregon DEQ) as a water quality limited stream under Section 303(d) of the Clean Water Act (ODEQ 2004). Potential salmonid spawning and rearing habitat is impaired by high temperatures, pH levels, and low dissolved oxygen (DO) in the 6.6 mile reach of the creek used to convey irrigation water. Larson Creek flows into Bear Creek, a tributary of the Rogue River, which is also a stream listed under Section 303(d) by Oregon DEQ for temperature and fecal coliform bacteria. Contact recreation is impaired by high counts of fecal coliform bacteria in Larson Creek.

Based on water quality data obtained from 2002 Monitoring Program Report of the Talent Irrigation District Canal System (Coffan 2003) and the Bear Creek Watershed Assessment by the Rogue Valley Councils of Government (RVCOG 2001), the water quality degrades as it flows through the irrigation system based on multiple parameters. The parameter of most concern is temperature according to both studies.

There is a large temperature variation between the input water to the TID Canal from Emigrant Lake and the output water to Middle Fork Larson Creek during the months of May through September. The water quality data collection site is indicated in Figure 10. There are no data collection sites upstream of the irrigation system on the Middle Fork

Larson Creek or at any location on the South Fork Larson Creek. The TID Canal ends as the tailwater flows into Middle Fork Larson Creek with temperatures increasing on average nine degrees Celsius from the input (Coffan 2003). The minimum temperature at the collection site was 11.8°C on May 1, 2002. The maximum temperature was 27.8°C collected July 26, 2002. The high temperatures are not suitable for salmonid spawning and rearing.

Oregon's temperature standards for spawning and rearing salmonid fish species are 12.8°C and 17.8°C, respectively. Oregon's natural conditions criteria for temperature states that when natural thermal potentials exceed set biologically-based standards, the recorded temperatures will be deemed the applicable temperature criteria for the specific water body. The presence of irrigation water does not allow Larson Creek to be listed as a natural water body.

Temperature data from the reach of the Middle Fork Larson Creek used to convey irrigation water collected between May and September for the 2002 Monitoring Program Report of the Talent Irrigation District Canal System (Coffan 2003) met the Oregon temperature requirements in May for both standards and in June for only the rearing standard. In the remaining months, the temperature exceeded Oregon's salmonid fish standards. Currently, Larson Creek is not suitable for fishery habitat due to high summer temperatures, marginal aquatic and riparian habitat quality, and limited stream flows (RVCOG 2001).

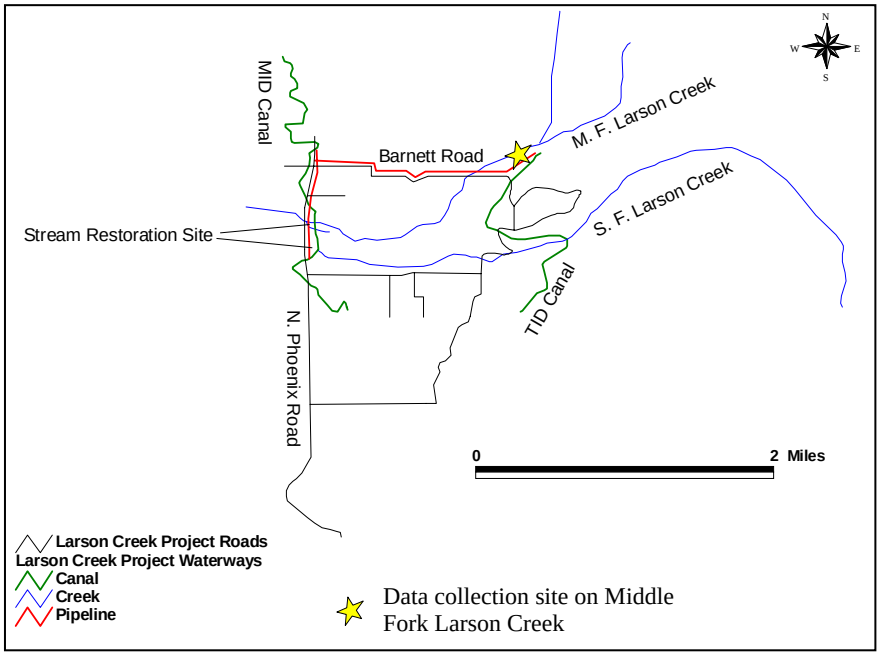

Figure 10. Water quality data collection site in 2002.

Variable stream flows occur daily during irrigation season ranging from 0.5 cubic feet per second (cfs) to 9 cfs. The variability contributes to the increased levels of sediment in the creek. When the flow of Middle Fork Larson Creek was measured at 0.5 cfs, the

sediment content, measured as suspended solids was 8 mg/L. Another sample was taken when the flow was 9 cfs at the same location and the suspended solids value was 60 mg/L indicating stream flows contribute to the increased levels of sediment and turbidity (Coffan 2003).

For the parameters bacteria, pH, and DO, the data was restricted to specific locations. In addition, these parameters were not discussed as areas of primary concern for the Larson Creek Watershed in the reports listed above. However, these parameters are important factors to water quality which affect natural aquatic habitat.

In the last 25 years approximately 43 percent of agricultural lands have changed their water application methods from flood to sprinkler or drip irrigation (Reclamation 2001). These changes have lowered the amount of irrigation surface runoff, subsurface return flow, and sediment loading downstream to Bear Creek. Despite the reduction, sediment and turbidity levels in Bear Creek remain a concern to local management entities because of the contribution from the development of the surrounding areas, which includes road building, subdivision construction, and land clearing, along with continued agricultural activities. As the sediment is added, the turbidity levels increase.

3.3.2 Environmental Consequences

Alternative A – No Action Alternative

Middle Fork Larson Creek would continue to receive water from the TID canal during the months of May through September. Water quality in Middle and South Fork Larson Creek would remain poor. Parameters particularly important to aquatic organisms (temperature, pH, and dissolved oxygen levels) would not be improved. Fluctuations in flow associated with storm runoff and irrigation operations would continue to result in channel erosion and high sediment levels in the creek. Bacteria levels would continue to exceed contact recreation standards. Larson Creek would remain listed by Oregon DEQ under Section 303(d) of the CWA. This alternative is not advantageous to the restoration of natural habitats for fish or other aquatic species. Control of sediment inputs from agricultural lands would be dependent on non point source controls exercised by Oregon DEQ.

Alternative B – Barnett Road Pipeline

The implementation of the Barnett Road Pipeline alternative would remove the irrigation water, and its effects on water quality, from Middle Fork Larson Creek. The TID canal would be connected directly to the MID Canal through the proposed pipeline which would eliminate irrigation delivery and tailwater from stream channel. As a result, a more natural flow regime would be reestablished in the Middle Fork Larson Creek. Channel erosion from unnaturally high flows and sedimentation associated with discharged irrigation water would be reduced.

Some of the effects of this action on water quality in Larson Creek are uncertain because water quality data are not available from the creek upstream of the TID Canal to use as comparison data. However, effects associated with the discharge of irrigation water into the natural creek channel will be eliminated. Oregon DEQ has water temperature standards for salmon bearing streams. These standards may not apply to a natural stream if its temperature is higher than the standard under natural conditions. Currently, Larson Creek does not qualify as a natural stream under the temperature rules because it is used to transport irrigation water. Because the temperature of the water in Middle Fork Larson Creek under natural conditions is unknown, removing the warm water input may not significantly reduce the temperature in the creek. At lower flows, water temperature can increase more rapidly.

Establishment of natural habitat conditions is possible for Middle Fork Larson Creek but not likely for South Fork Larson Creek. South Fork Larson Creek would continue to be directly diverted by MID Canal and other irrigators. For this alternative, precautions must be taken during construction to avoid introducing additional sediment in Middle Fork Larson Creek. Larson Creek would likely continue to be listed under Section 303(d) by Oregon DEQ until Total Maximum Daily Load (TMDL) implementation brings Larson Creek into compliance with water quality standards.

Alternative C/Preferred Alternative – Barnett Road andNorth Phoenix Road Pipelines

This alternative includes impacts discussed above for construction and operation of the Barnett Road Pipeline.

The installation of the North Phoenix Road Pipeline in addition to the Barnett Pipeline would isolate the Larson Creek drainage from the irrigation delivery system and would return the flow regime of the Middle Fork and the South Fork of Larson Creek to more natural conditions reducing the sediment and turbidity levels. Effects on temperature, pH, dissolved oxygen, and bacterial levels are uncertain due to a lack of data on the Larson Creek system upstream of the irrigation system. The increase in trees and shrubs planned for the conversion of the MID canal to functional stream channel may provide some thermal relief.

3.3.3 Cumulative Impacts

Terminating the use of Larson Creek as part of the irrigation delivery system will restore flows to a more natural condition and improve habitat. Setbacks are expected to mitigate for effects of urban development in the area. Project development is expected to reduce sediment and turbidity issues associated with fluctuating irrigation system flows.

3.3.4 Mitigation

No mitigation is required since this project is expected to return flows and habitat to more natural conditions. Oregon's natural conditions criteria for temperature states that when

natural thermal potentials exceed set biologically-based standards, the recorded temperatures will be deemed the applicable temperature criteria for the specific water body. Measures to limit a temporary increase in turbidity during in stream construction are described in the "Soils, Vegetation, and Wetlands" section of this document. Also, measures to prevent petroleum products, chemicals, or other deleterious waste materials will be practiced in accordance with all applicable laws and permits. No waste materials will be allowed to enter the stream, canals, or wetlands. No wood treated with leachable preservatives will be placed in a waterway. Machinery refueling will occur off-site or in a confined designated area to prevent spillage into water bodies.

3.4 THREATENED AND ENDANGERED SPECIES

On February 27, 2004 Reclamation made written requests to USFWS and NOAA Fisheries to provide a list of ESA threatened and endangered species that may occur in or be affected by the proposed project (Appendix B). NOAA Fisheries' response indicates that threatened Southern Oregon/Northern California (SONC) coho salmon are present in the project area. In addition, the project area is also designated as essential fish habitat (EFH) for coho salmon and Chinook salmon pursuant to the Magnuson Stevens Act (MSA). USFWS notified Reclamation that bald eagle, coho salmon, vernal pool fairy shrimp, and three plant species may occur in the project area (Table 1).

Reclamation is required to determine whether its proposed federal action (i.e. the preferred alternative) has the potential to affect species listed under section 7 of the ESA. Reclamation is consulting with NOAA Fisheries on the effects of the Preferred Alternative on SONCC coho as required by the ESA and SONCC coho and Chinook salmon as required by the MSA. The ongoing consultation must be completed before the selection of an alternative and before any construction activities can occur.

SPECIES	ESA STATUS*	MSA STATUS	AFFECT OF PROPOSED PROJECT
Bald Eagle (*Haliaeetus leucocephalus*)	T		No Effect
SONC Coho Salmon (*Oncorhynchus kisutch*)	T	*	Not Likely to Adversely Affect
Chinook Salmon (*Oncorhynchus tshawytscha*)	NL	*	Not Likely to Adversely Affect
Vernal Pool Fairy Shirmp (*Branchinecta lynchi*)	T		No Effect
Cook's Lomatium (*Lomatium cookii*)	E		No Effect
Large-Flowered Woolly Meadowfoam	E		No Effect
Gentner Mission Bells (*Fritillaria gentneri*)	E		No Effect

Table 1. ESA and MSA species. *T – Threatened, E – Endangered, NL – Not Listed

3.4.1 AFFECTED ENVIRONMENT

BALD EAGLE

In 1967, the Secretary of the Interior listed bald eagles south of the 40th parallel as endangered under the Endangered Species Preservation Act of 1966. Following enactment of the Endangered Species Act of 1973, the USFWS listed the species as endangered throughout the lower 48 states, except in Michigan, Minnesota, Oregon, Washington, and Wisconsin. Due to the overall population increase, the bald eagle was reclassified in 1995 from endangered to threatened in all 48 lower states (Federal

Register 60:36000). Most recently, in 1999, the USFWS proposed delisting this species because eagle populations are rebounding significantly and overall goals of the recovery program have been met. At such time when the USFWS removes the bald eagle from the threatened and endangered species list it will remain protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

The breeding season for bald eagles in the Pacific Northwest generally extends from January to mid August. Chicks are usually fledged in July but may remain near the nest for several weeks after fledging. Bald eagles are extremely sensitive to human disturbance during the breeding season. Human activities are known to cause abandonment of nests and failed attempts at reproduction.

VERNAL POOL FAIRY SHRIMP

The vernal pool fairy shrimp was listed by USFWS as a threatened species in September 1994 (Federal Register 59:48136). Critical habitat was designated on August 3, 2003 (Federal Register 68:46684).

Vernal pool fairy shrimp are found in 27 counties across the Central Valley and the coast ranges of California, inland valleys of southern California, and southern Oregon (Federal Register 67:59884). In Oregon, vernal pool fairy shrimp are only known to occur in Jackson County north of Medford.

COOK'S LOMATIUM

Cook's lomatium was listed by USFWS as an endangered species effective December 9, 2002 (Federal Register 67:68004). Critical habitat has not been designated. This plant species is known to occur in vernal pools in the Agate Desert in Jackson County and French Flat in Josephine County.

LARGE-FLOWERED WOOLLY MEADOWFOAM

The large-flowered woolly meadowfoam was listed by USFWS as an endangered species effective December 9, 2002 (Federal Register 67:68004). Critical habitat has not been designated. The current distribution of this species is in vernal pools of the Agate Desert, north of Medford, in Jackson County.

GENTNER MISSION BELLS

Gentner mission bells was federally listed by USFWS as endangered on January 10, 2000, without designated critical habitat (Federal Register 64:69195). A recovery plan was published by the USFWS on August 28, 2003 (Federal Register 68:51793).

Gentner mission bells inhabits the rural foothills of the Rogue and Illinois River valleys at elevations between 1,004 to 5,064 feet. The distribution of this species is localized within a 30 mile radius of the Jacksonville Cemetery in Jacksonville, Oregon. Approximately 73 percent of the known individuals occur within a 7 mile radius of the Jacksonville Cemetery (USFWS 2003). Its habitat is characterized by upland grasslands and open woodland edges dominated by Oregon white oak (*Quercus garyana*), California

black oak (*Quercus kelogii*), madrone (*arbutus menziesii*), Douglas fir (*Pseudotsuga menziesii*), or Ponderosa pine (*Pinus ponderosa*).

3.4.2 Environmental Consequences

Alternative A – No Action Alternative

A decision to implement Alternative A would have no effect on bald eagles, vernal pool fairy shrimp, and listed plant species in the project area. No changes would occur to the current operation and maintenance of irrigation canals in the Larson Creek subbasin and fish passage barriers would remain in place. The negative impacts of fish passage barriers and altered hydrological conditions would continue to impede recovery of SONCC coho salmon. The habitat conditions for Chinook salmon and Coho salmon would neither improve nor degrade from the current conditions.

Alternative B – Barnett Road Pipeline

The installation of the Barnett Road Pipeline would have no effect on bald eagles, vernal pool fairy shrimp, and listed plant species in the project area. The unnaturally high flows in Middle Fork Larson Creek would be eliminated, but this would not benefit aquatic species because the two MID diversions would remain installed thereby blocking fish passage into Middle Fork Larson Creek. With the diversions in place, no water above the MID canal will enter Larson Creek below the MID canal when the flash boards are in place, as is currently the case. Hydrologic conditions in Middle Fork Larson Creek would be normalized, but there would be no benefit to SONCC coho salmon and Chinook salmon individuals or their accessible habitat.

Alternative C/Preferred Alternative – Barnett Road and North Phoenix Road Pipelines

SONC coho and Chinook Salmon

The preferred alternative will impact the Larson Creek subbasin by vastly improving the functional attributes of the creek. The construction of the pipelines and removal of instream fish passage barriers combined with the resulting natural change in hydrology in Larson Creek will have a beneficial effect on coho salmon, coho salmon EFH, and chinook salmon EFH. Therefore, the preferred alternative may affect, but is not likely to adversely affect these species.

Bald Eagle

There are 15 bald eagle breeding territories in Jackson County generally at or near large lakes and reservoirs or near the Rogue River where aquatic prey is the most readily available. No nests are located within several miles of the project area. The proposed project will have no effect on bald eagles, their habitat, or prey.

VERNAL POOL FAIRY SHRIMP

The project area does not have the hard pan soil layer needed for the formation of vernal pool wetlands. An ONHP database search did not identify any known occurrences of this species in the project area. The closest record of a known fairy shrimp population is approximately 8 miles north of the project area. Therefore, the proposed project will have no effect on vernal pool fairy shrimp.

COOK'S LOMATIUM

Cook's lomatium is adapted vernal to pool habitats which are absent from the project area. Within Jackson County this species is found north of Medford with one known exception. A population of *Lomatium cookii* occurs at the Medford Airport approximately 6 miles from the project area. The proposed project will have no effect on Cook's lomatium.

LARGE-FLOWERED WOOLLY MEADOWFOAM

The proposed project area is south of the Agate Desert and does not have the vernal pool wetland habitat necessary for this species' survival. Therefore, the proposed project will have no effect on large-flowered woolly meadowfoam.

GENTNER MISSION BELLS

The proposed project area is within Recovery Unit 1 of the USFWS's recovery plan for *Fritillaria gentneri*, but east of any known occurrences of this species in the recovery unit. Based on the presence of grassland and scattered oaks upslope from the TID East Canal, suitable habitat may exist in those upper drainage areas. The proposed project would not cause any changes to vegetation or hydrology above the TID canal. Therefore, potential habitat, if it exists, would not be affected by the proposed project. Areas of pipeline construction are all within previously disturbed road alignments. Hydrological changes that will result from the installation of the pipelines would have no effect on Gentner mission bells habitat. Impacts from grazing and agriculture in the project area have altered the upland plant community to non-native grasses and forbs and agricultural species. The proposed project will have no effect on *Fritillaria gentneri*.

3.4.3 CUMULATIVE IMPACTS

In addition to past, ongoing, and future improvements to habitat for ESA species planned by Reclamation, other organizations are working to aggressively improve habitat and promote recovery of threatened and endangered species in the Rogue River basin. In the Larson Creek drainage several culverts downstream of the project area are partial (low-flow) fish passage barriers. Reclamation anticipates that the City of Medford will replace these culverts to further promote use of Larson Creek by aquatic species.

3.4.4 Mitigation

No project mitigation is being proposed because negative impacts are expected to negligible and insignificant. All construction related activities will use best management

practices to attenuate any localized temporary impacts. Also, Reclamation will comply with mitigation requirements, if any, that result from consultation with NOAA Fisheries.

3.5 Fish and Wildlife

3.5.1 Affected Environment

Due to the degraded water quality of Larson Creek, the stream passage barriers, and busy streets and human disturbance located nearby, the potential for a diverse native wildlife community is limited. Riparian trees and shrubs provide cover, resting, and some nesting habitat for neotropical migrant bird species and other passerine birds. Amphibians and turtles are unlikely to be present because poor water quality, limited underwater cover, and limited basking sites. There is no evidence of beavers or other mammals; although, small rodents, moles, and shrews may be present.

Alternative A – The No Action Alternative

No change in habitat for aquatic or terrestrial wildlife species would occur.

Alternative B – Barnett Road Pipeline

No change would occur to habitat for terrestrial species. Aquatic and semi-aquatic species would benefit if water quality improves. They will also benefit from the stabilization of summer flows in Middle Fork Larson Creek and the removal of the TID diversion structure near Barnett Road.

Alternative C/Preferred Alternative – Barnett Road and North Phoenix Road Pipelines

This alternative includes impacts and benefits discussed above for construction and operation of the Barnett Road Pipeline.

This alternative offers the greatest improvement for habitat conditions in the project area. The removal of the stream diversions and the channel improvements to the existing canal which will include planting of woody and non-woody vegetation and creating gently sloping banks will improve habitat for fish and wildlife species.

3.5.2 Cumulative Impacts

Steady population growth in Medford and the surrounding area is creating a demand for more housing. Over time, subdivisions are likely to be constructed in much of the nearby remaining agricultural lands. Residential neighborhoods, as with agricultural lands, do not tend to support diverse populations of native wildlife species.

3.5.3 Mitigation

No negative impacts to fish and wildlife have been identified, therefore no mitigation is proposed.

3.6 Environmental Justice and Socioeconomics

The February 11, 1994 Presidential Executive Order 12898 (EO) defines environmental justice as "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations." The EO is intended to protect minority and low-income communities from discriminatory projects or practices which can result in a more hazardous or degraded human environment caused by a Federal action. Federal agencies are directed to analyze the effects of Federal actions on minority and low-income communities and to avoid those impacts to the extent that is practicable.

3.6.1 Affected Environment

Medford is located in Jackson County, Oregon. Population growth in the county has increased by 23.8 percent from 1990 through 2000; a slightly higher growth rate than was seen statewide in the same period (table 2). There are 68,080 people living in Medford, Oregon. Over ninety percent of the population is white (http://www.ci.medford.or.us, accessed April 2004). Larson Creek is located on the east side of Medford where average home sales are approximately 1.56 times greater than in West Medford. The proposed pipelines are located beyond the eastern edge of current residential development in predominantly agricultural land. However, future residential development is planned in the area.

U.S. Census Bureau 2000 Statistic	Jackson County	Oregon
Total population	181, 269	34,211,399
Population % change 1990 to 2000	23.8	20.0
% White	91.6	86.6
% Hispanic or Latino	6.7	8.0
% American Indian or Alaska Native	1.1	1.3
% Asian	0.9	3.0
% Black or African American	0.4	1.6
% Native Hawaiian or Pacific Islander	0.2	0.2
% Persons reporting some other race	2.9	4.2
% Persons below poverty	13.8	11.6
% Children below poverty	20.3	16.3

Table 2. 2000 Jackson County, Oregon census statistics. The table includes statewide statistics for comparison.

3.6.2 ENVIRONMENTAL CONSEQUENCES

None of the alternatives presented in this EA will cause disproportionately adverse social, economic, or human health impacts to local minority or low-income populations. The WCFSP and Water 2025 receives project proposals from irrigation districts that operate facilities in Federal reclamation projects or other project proponents whose projects will conserve water. The recipients must match those funds with their own non-federal resources. Allocation of limited water conservation funds is determined by selecting projects that will have the greatest beneficial impact on water conservation. The North Phoenix Road and Barnett Road pipelines provide such an opportunity. The proposed action will also enable the districts to isolate the irrigation distribution system from the natural drainage and promote fish habitat restoration in the project area.

3.6.3 CUMULATIVE IMPACTS

The proposed project will not impact, significantly or incrementally, the economic, social or human health conditions of non-white or low-income populations.

3.6.4 MITIGATION

No mitigation for environmental justice or socioeconomics is being proposed since adverse impacts to low-income or minority communities have not been identified.

3.7 HISTORIC PROPERTIES

3.7.1 EXISTING CONDITION AND CUMULATIVE IMPACTS

ARCHEOLOGICAL RESOURCES

Native peoples claiming the lands around Medford, Oregon, are the Penutian-speaking Takelma, and the Hokan-speaking Shasta Indians (Jenkins and O'Neill 2001). Both groups traditionally resisted intrusions by others into their territory. Consequently, they were unable to peacefully stem the tide of euro-american settlement and their numbers dwindled rapidly throughout the 19th century. In the mid- 1850's the Shasta and Talkema were removed with other nearby tribal peoples northward to the Grande Ronde Reservation. By the early 20th century any evidence of a Takelma tribal entity had disappeared (Ruby and Brown 1992: 189, 238).

A small number of sites in the vicinity of Medford have been investigated archeologically, and they suggest that people have occupied the region for the 12,000-year span typical for the North American continent. The typical North American pattern of greater numbers of occupations dating to the mid to late Holocene (circa 900-1500+) undoubtedly holds in the Medford vicinity (cf. Jenkins and O'Neill 2001). Limited archeological investigations in the Rogue River valley, for example, suggests numerous village sites dating to the late prehistoric periods, many with semi-subterranean houses, lying on terraces, or promontories, of both the major and tributary streams (Fagan et al

1994). The presence of ceramics, a diversity of site types reflecting specialized resource procurement across the landscape, food storage, and evidence for trade networks demonstrate successful adaptations to the land through time. Because climates, cultures and landscapes change through time it is difficult to generalize about where sites can be predicted to occur based on modern-day conditions, and there is always the potential that evidence of earlier occupations will surface during project implementation.

A review of the literature housed at the Oregon State Historic Preservation Office (SHPO) in Salem yielded no historic properties recorded, as well as no previous archeological investigations or surveys on or adjacent to the project area. There have been a number of large and small-scale surveys performed throughout Jackson County over the past couple of decades, although professional investigations in the area have occurred since at least the early 1930's. The trend of archeological research in the broader geographical context is that of intense scrutiny within the major drainages, such as the Rogue, Umpqua, and Applegate rivers, and Bear Creek, while the lesser drainages occupying largely the more mountainous and upland locales are investigated less intensively. Larson Creek, a tributary of the Rogue River through Bear Creek, has not elicited research interest to date.

The right-of-way for the pipeline along Barnett and North Phoenix roads, as well as the siphon placement under Middle Fork Larson Creek was examined visually for material evidence of archeological sites. None were found, and a report of findings to document compliance with Section 106 of the National Historic Preservation Act will be filed with the Oregon SHPO.

CANAL SYSTEMS

Appendix D provides an overview of the historic development of irrigation in Bear Valley and creation of the MID and the TID irrigation systems. Briefly, in 1909 the Rogue River Valley Canal Company (RRVCC) made plans to construct a high-line canal that would extend from Bradshaw Drop, around the east side of the Bear Creek Valley south to Phoenix, cross Bear Creek, and then swing northward. The section of this canal east of Bear Creek is now known as the Medford Canal (or sometimes the East Main Canal or MID Canal). However, the canal was not actually constructed until the 1920's, after MID contracted with the RRVCC for completion of the canal and improved storage facilities. In 1929, ownership of the RRVCC facilities and water rights were assumed by MID and the Rogue River Valley Irrigation District (RRVID), with MID taking ownership of the Medford Canal. The RRVID and MID irrigation distribution systems extant today are substantially the systems established by 1929, although, since the 1950's, both of the irrigation districts have been incrementally replacing or modifying elements of their distribution systems as they aged. However, the MID facilities involved in the Preferred Alternative (the section of the MID Canal and the MID's diversions on the Middle and South Forks of Larson Creek) remain unmodified since their original construction in the 1920's.

The TID, organized in 1916, and by 1930 they had constructed two storage reservoirs and a system of canals that included the East Canal. In 1954, Reclamation obtained

authorization to construct the Talent Division of the Rogue River Basin Reclamation Project (Project). The focus of that Project was to construct new and enlarge existing reservoirs to expand the water supply for the area, and to enlarge and extend the TID delivery system. Among other actions, the East Canal was widened, a new headworks constructed, and all internal structures replaced. The diversion at Larson Creek to be removed under Alternatives B and C was constructed in 1958, and the segment of the East Canal below the diversion was widened at that time. At some later time, the segment of the East Canal was converted from open ditch to concrete pipe.

It is Reclamation's determination that the Project should be considered eligible to be a National Register Linear or Discontinuous Historic District (historic district). The three irrigation systems encompassed by the Project were integral in the historic development of Bear Valley, and their history illustrates a common theme of irrigation development elsewhere in Oregon and throughout the West.

Reclamation has determined that the Medford Canal is a contributing element of the historic district, and that the segment of the Medford Canal and the two diversion structures affected under the Preferred Alternative contribute to the canal's historic significance.

Reclamation has determined that, due to alterations in the 1950's, the TID East Canal lacks sufficient physical integrity to be representative of the early phase of irrigation development of the Bear Valley. It does represent the 1950's Federal phase of irrigation development in Bear Valley, but facilities of that time period do not yet meet the 50 minimum age criteria for the National Register. Also, the segment that will be abandoned under the Preferred Alternative lacks sufficient physical integrity to be representative of the 1950's Federal phase of irrigation development. Therefore, East Canal features that would be affected under the Alternatives B and C do not contribute to the historic character of the larger East Canal. In July, 2004, Reclamation initiated consultations with the SHPO concerning designation of the historic district, and whether the MID Canal or affected elements of the TID East Canal are contributing features to the historic district.

TRADITIONAL CULTURAL PROPERTIES

On March 1, 2004 Reclamation sent letters to four tribes who might have an interest in the undertaking. These are The Cow Creek Band of the Umpqua Tribe of Indians, The Klamath Tribes, The Confederated Tribes of the Siletz Indians, and The Confederated Tribes of the Grand Ronde Community of Oregon. Reclamation requested information on presence of Indian sacred sites, archeological sites, and traditional cultural properties. As of this time, no response has been received from the tribes. Therefore, Reclamation is aware of no traditional cultural properties or other resources of cultural importance to tribes in or near the areas of potential effect.

3.7.2 EFFECTS (ENVIRONMENTAL CONSEQUENCES)

ALTERNATIVE A – NO ACTION ALTERNATIVE

If project proponents were to implement actions without Reclamation's involvement, then there is the potential to adversely affect historic properties because they would alter the MID Canal. However, this would not be an undertaking on Reclamation's part.

ALTERNATIVE B – BARNETT ROAD PIPELINE

The Barnett Road Alternative would have no effect upon National Register eligible historic properties. No archeological sites are present in the pipeline alignment, and the extent of past disturbance from road construction along the pipeline route makes it unlikely that undetected and intact sites would be impacted. The only changes to the Project irrigation system is to either abandon or remove a TID diversion structure that does not yet meet the minimum age for consideration as an historic property, and potential abandonment of a short segment of the TID East Canal that has no physical integrity for either the original or late the 1950's era's of irrigation development. As there would be no adverse effect upon eligible properties, no mitigation is proposed.

ALTERNATIVE C/PREFERRED ALTERNATIVE – BARNETT ROAD AND NORTH PHOENIX ROAD PIPELINES

The effect of the Barnett Road element is as discussed above for Alternative B. For the North Phoenix Road Pipeline, there would be no effect upon archeological sites as none were found during survey of potential impact areas for either pipe placement or canal modifications. Both of those areas have been extensively altered in the past by road or canal construction, and so there is little potential for undetected intact cultural deposits. However, the proposed action will have an adverse effect upon the historic integrity of the Medford Canal due to removal of the two diversion structures and alteration of a segment of the canal.

3.7.3 CUMULATIVE EFFECTS

Loss of this segment of the Medford Canal and removal of two small diversions, although an adverse effect, are in and of themselves not of sufficient magnitude to meaningfully diminish the historic integrity of the larger canal and overall Project facilities. However, similar water conservation and barrier removal actions are ongoing, and are likely to continue in the future over much of the MID and larger Project irrigation canals. Over time, the cumulative effect could be sufficient to so degrade the historic integrity of the canals that they no longer can be considered to be contributing elements to the historic district

3.7.4 MITIGATION

Proposed mitigation is to collect large-format black-and-white photographs of the affected MID diversion structures and canal. The photographs will be collected, processed, and packaged in accordance with Historic American Engineering Record standards. Although the TID diversion dam is not yet 50 years in age, and so is not

historically significant, Reclamation will also photograph that diversion. In July, 2004, Reclamation initiated consultation with the Oregon SHPO on the effect of the Preferred Alternative (or Alternative B) upon historic properties and treatment of any adverse effects.

3.8 Indian Trust Assets

Indian trust assets are legal interests in property held in trust by the United States for Indian tribes or individuals. Examples of things that may be trust assets are lands, mineral, hunting and fishing rights, and water rights. The United States has an Indian trust responsibility to protect and maintain rights reserved by or granted to Indian tribes or Indian individuals by treaties, statues, and Executive orders, which are sometimes further interpreted through court decisions and regulations. This trust responsibility requires Reclamation to take all actions reasonable necessary to protect trust assets.

3.8.1 Affected Environment

No Indian owned lands, federally recognized Indian reservation, or ceded lands have been identified within the work area where traditional use rights are retained by a federally recognized Indian tribe.

3.9 Indian Sacred Sites

3.9.1 Affected Environment

Executive Order 13007 defines Indian sacred sites as “any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion.” The provisions of Executive Order 13007 apply only on Federal lands. Traditional practitioners have no access to private land. Therefore, there can be no federally protected Indian sacred sites in the project are of potential effect.

CHAPTER 4
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CHAPTER 5
REFERENCES

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APPENDIX A
PUBLIC INVOLVEMENT

1. January 28, 2004 scoping letter
2. Mailing List
3. February 3, 2004 News Release
4. Four comments received
5. Mail Tribune article

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Lower Columbia Area Office
825 NE Multnomah Street, Suite 1110
Portland, Oregon 97232-2135

IN REPLY
REFER TO:

LCA-6502
ENV-4.10

JAN 28 2004

SUBJECT: Comments Requested on the Proposed Larson Creek Fish Passage Project

Ladies and Gentlemen:

The Bureau of Reclamation is proposing to contribute funding to the Larson Creek Fish Passage Project in Medford, Oregon. The Larson Creek drainage is a tributary to Bear Creek in the Rogue River Basin. The project will replace two sections of open canal with approximately 10,200 feet of buried pipeline, restore a section of the creek bed that is currently being used as a canal, and eliminate three fish passage barriers.

A new residential development currently underway prompted the proposal of this fish passage project. The development is located southeast of the intersection of Barnett Road and North Phoenix Road on the east side of the city of Medford. Reclamation funds would be used to replace portions of the open canals operated by Medford Irrigation District and Talent Irrigation District with a buried pipeline along Barnett Road (about 8000 feet) and along North Phoenix Road (about 2,200 feet). As a result of this action three fish passage barriers in Larson Creek currently used to channel irrigation water will be eliminated and 3 miles of steam channel upstream of the diversions will become accessible to fish. The lower reaches of Larson Creek are currently used by Coho salmon and the project area historically supported Steelhead runs.

Reclamation cannot provide funding for the proposed project until a National Environmental Policy Act (NEPA) review of the proposed federal action is evaluated. In accordance with NEPA, Reclamation is required to identify environmental and social issues that may be of concern or potentially significant in the area within which a Federal action may be undertaken. We are seeking your assistance to identify any possible social and environmental impacts or concerns that may result if the proposed project is funded.

Your written comments should be submitted by February 27, 2004 to the above address. If you have questions, please contact me at 503-872-2846 or at tsommer@pn.usbr.gov.

Sincerely,

Tanya Sommer

Tanya Sommer
Natural Resource Specialist

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NEWS RELEASE

A Century of Water for the West 1902-2002

Pacific Northwest Region
Boise, Idaho
Feb. 3, 2004

Contact: Contact: Ron Eggers (503) 872-2795
Tanya Sommer 503-872-2846
TDD: 711

Reclamation Seeking Issues to be Identified for Larson Creek Fish Passage Analysis

The Bureau of Reclamation is seeking identification of issues, impacts, or concerns that may result from a fish passage project in Medford, Oregon. Written comments are requested by February 27.

Reclamation's Water Conservation Field Services Program is proposing to contribute half of the funding to the Larson Creek Fish Passage Project in Medford, Oregon. The Larson Creek drainage is a tributary of Bear Creek in the Rogue River Basin. The project would replace 2 sections of open canal with approximately 10,200 feet of buried pipeline, restore a section of the creek bed that is currently being used as a canal, and eliminate 3 fish passage barriers.

Reclamation funds would be used to replace portions of open canals operated by Medford and Talent Irrigation Districts with a buried pipeline. These irrigation districts are contributing fifty percent to the project. As a result, three fish passage barriers in Larson Creek currently used to channel irrigation water would be eliminated and three miles of steam channel upstream of the diversions would become accessible to fish. The lower reaches of Larson Creek are currently used by coho salmon and the project area historically supported steelhead runs.

A new residential development currently underway prompted the proposal of this fish passage project. The development is located southeast of the intersection of Barnett Road and North Phoenix Road on the east side of the city of Medford.

Reclamation will complete the environmental assessment required by the National Environmental Policy Act (NEPA). The first step in this process is identifying issues and concerns. An environmental assessment is expected to be completed during the summer of 2004 and construction could begin in the fall.

To be placed on a mailing list or to identify possible social and environmental impacts or concerns if the proposed project is funded, please write to Tanya Sommer, Bureau of Reclamation, Lower Columbia Area Office, 825 NE Multnomah Street, Suite 1110, Portland OR 97232, or call (503) 872-2846. Comments are requested by February 27.

Reclamation is the largest wholesale water supplier and the second largest producer of hydroelectric power in the United States, with operations and facilities in the 17 Western States. Its facilities also provide substantial flood control, recreation, and fish and wildlife benefits.

- # -

Jones & Stokes

BUREAU OF RECLAMATION OFFICIAL FILE COPY MAR - ' -			ACTION MADE BY
TO	INIT	DATE	
6502	TB	3/29	
FILE			

Memorandum

Date: March 24, 2004

To: Tanya Sommer, Bureau of Reclamation

cc: Greg Summers, Portland

From: Alan Solbert, Sacramento

Subject: **Larson Creek Fish Passage Analysis**

Please add the following to your mailing list for the subject project:

Alan Solbert
Jones & Stokes
2600 V Street
Sacramento, CA 95818

Greg Summers
Jones & Stokes
317 S.W. Alder Street
Portland, OR 97204

We are particularly interested in any comments you receive on the proposed project as we are working on the Feasibility Study/EIS for the WISE Project. Thank you for your assistance.

OFFICE OF
THE CITY COUNCIL
E-mail: cnclmed@ci.medford.or.us

CITY OF MEDFORD
411 WEST 8TH STREET
MEDFORD, OREGON 97501

TELEPHONE (541) 774-2000
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www.ci.medford.or.us

February 24, 2004

Ms. Tanya Sommer
Natural Resource Specialist
U.S. Bureau of Reclamation
825 NE Multnomah Street, Suite 1110
Portland, OR 97232-2135

Re: Proposed Larson Creek Fish Passage Project

Dear Ms. Sommer:

The City of Medford believes that the potential environmental and social impacts of Bureau of Reclamation funding for the Larson Creek Fish Passage Project are significant and positive. The city fully supports the Larson Creek Fish Passage Project, which is located in our newly developing Southeast Area, a specifically planned area that may ultimately house up to 10,000 residents.

The proposed project is an essential component in assuring that the streams in this urbanizing area are restored to fully functioning ecosystems. The City has supported this goal by requiring "Greenways" along the streams in the area (various forks of Larson Creek) of 50 feet in width along each side, and by providing citywide regulations for "Riparian Corridors" (100 foot wide corridors centered on streams providing salmonid habitat). The Greenway and Riparian Corridor designations also apply to the section of creekbed to be restored by this project. The Greenways will ultimately be open to public access and contain shared-use paths and other public amenities.

In addition to the removal of fish passage barriers, the project will result in the more appropriate conveyance of irrigation and storm water flows, and reduces their negative impacts on the natural streams. Please feel free to contact Suzanne Myers, Associate Planner, in the Medford Planning Department if you should need additional information from the City. We seriously hope that the BOR is able to contribute to this worthwhile expenditure of various public and private funding.

Sincerely,

Sal Esquivel
Council President

cc: Steve Mason, Project Coordinator
Larry Beskow, Medford City Engineer
Scott Archer, Medford Parks & Rec. Director
Robert Scott, Medford Planning Director
Lou Mahar, Property Owner

From: "john and lynne forsyth" <jlforsyth@charter.net>
To: <tsommer@pn.usbr.gov>
Date: Mon, Feb 16, 2004 4:49 PM
Subject: Larson Creek Fish Passage Project

To: Tanya Sommer
Natural Resource Specialist
Bureau of Reclamation
U.S. Dept. of Interior
825 NE Multnomah St., Suite 1110
Portland, Oregon 97232-2135

From: John W. Forsyth
4611 Cloudcrest Dr.
Medford, Oregon 97504

Re: Larson Creek Fish Passage Project

Dear Ms. Sommer:
Our family lived adjacent to Larson Creek in Medford for over 25 years, so I am well acquainted with the creek, the surrounding riparian habitat, the past development and some idea of the proposed new development. I recall very clearly the presence of "trout" (which I assume were small steelhead) in Larson Creek in the early 1970's. I strongly support the removal of fish passage barriers which might allow steelhead to again use this area for spawning. However, putting two miles of Larson Creek underground in a pipe certainly does NOT make any sense to me or (I suspect) to the fish (although, since there are now NO fish in Larson Creek, thanks to the manner in which the riparian habitat was previously "developed," I have not been able to ask any of them how they might feel about this!) So, I write to you on behalf of the steelhead who might have been, in hopes they might be encouraged to live there again.

In summary:
1. I strongly support the removal of fish barriers in Larson Creek and the return of the irrigation ditch to its previous state.
2. I strongly oppose putting any part of Larson Creek underground, other than where streets and roads pass over it.
3. I suspect the pipe business is the idea of greedy developers, who simply want to usurp the creek and its riparian habitat for building more houses.
4. I further suggest you ask the developers to go back to the drawing board and design a plan which preserves the remaining natural riparian area of Larson Creek and incorporates it into an overall plan to reintroduce steelhead into this area.

Thank you for your consideration. Please let me know what you decide.

Respectfully,

John W. Forsyth

cc: Doug and Linda Hildreth

CC: <firebird@mind.net>

From: "Linda Hildreth" <firebird@mind.net>
To: <tsommer@pn.usbr.gov>
Date: 2/2/04 4:21PM
Subject: Larson Creek

Dear Tanya,

We are in receipt of your Jan 28 letter re Larson Creek Fish Project.
We have lived on Santa Barbara, at the east end of Coal Mine Road for over 20 years.
Larson Creek comes off Mt Baldy and runs west about 50 yards below our house.

As you may know, this spring fed creek flows all year, but is a trickle in the summer and can be a torrent in the early spring.
Certainly no fish larger than a couple inches could reach this point in the summer.
Any closed pipe should consider the spring floods.

Your note does not indicate exactly where the buried pipe will be located. Two miles of pipe does not sound to us like you are "reclaiming" the natural creek.
It would seem that simply removing the three fish barriers would be a lot cheaper than two miles of pipe. It is also a bit hard for us to believe that fish will swim "upstream" and underground for two miles.
And again, the creek east of North Phoenix is just too small in the summer for fish. There may well be three miles of creek east from North Phoenix, but fish would never go there.

We are well aware of the location of the new residential development which you state prompted the proposal. But it is also hard for us to conceive that the developers have the slightest concern for the welfare of a few fish. It would seem to us very logical that they would like the creek underground so that they could squeeze in more homes where the creek used to be. I would be very surprised if this was about anything but money.

The spring floods are real. About 12-15 years ago we installed larger culverts where Larson Creek goes under Santa Barbara (Santa Barbara is a public road, but privately maintained financially by the home owners). This was to try to prevent the annual flooding of the road during heavy spring rains. We installed two 4 foot diameter culverts and a 2 foot diameter culvert, and built up the roadbed considerably. Since then, on three or four occasions, there has been flooding over the road. This is in the face of low annual snow and rain levels the past several years.

My point is I would doubt that whoever is planning the 2 miles of underground pipe has planned to install one of sufficient size to handle the potential flood waters. Particularly if the Medford water district will be dumping water into the pipe too. Talent irrigation district dumps into Larson a few hundred yards downstream of Santa Barbara.

The current Larson Creek Bed is large enough to handle the vast majority of spring floods. This is of course a natural stream bed which supports a variety of wildlife and serves as an aesthetic attribute for residents. It is very difficult for us to picture an underground pipe

as "reclaiming" anything.

We have no problem removing existing fish barriers. That would be easy and cheap and accomplish the goal of allowing fish to get as far up Larson Creek as they could.
We do have a social problem with using our tax monies to aid and abet developers destroying Larson Creek.

Sincerely
Doug and Linda Hildreth
4870 Santa Barbara
Medford, OR 97504
firebird@mind.net

February 13, 2004

Housing project gives nod to salmon habitat

Plans for a new subdivision include restoration of North, South forks of Larson Creek

By MARK FREEMAN
Mail Tribune

☐ Steve Mason, a private fisheries biologist,walk along a stretch of the south fork of Larson Creek, now used as an irrigation ditch.

Mail Tribune / Bob Pennell

Plans to resurrect two east Medford creeks inside a housing development could become a blueprint for how the Northwest can build subdivisions that not only are salmon-friendly, but salmon- enhancing.

A coalition of two irrigation districts, developer Lou Mahar, the Bear Creek Watershed Council, and several state and federal agencies hope to transform two Larson Creek tributaries into viable spawning and rearing habitat for wild steelhead and coho salmon.

The two streams — the North and South forks of Larson Creek — run through Stonegate Estates, a planned 203-home, 96-condominium subdivision off North Phoenix Road. They are about 2.5 miles east of Larson Creek's confluence with Bear Creek near Medford's Interstate 5 south interchange.

The North and South forks, which no longer meet naturally, are now blocked to fish passage by open-air irrigation canals, and one 500-foot stretch of the South Fork has been used as an irrigation ditch for decades.

But the groups plan to divert irrigation water through more than a mile of new, buried water lines, opening the way for re-uniting and enhancing the damaged creek areas within Medford's 1,000-acre Southeast Plan.

The work, state fish biologists say, will transform about three miles of heretofore unproductive waterways into new, viable steelhead habitat as houses spring up around it.

"We're looking at having a salmon stream right in the middle of town," says Steve Mason, a private fisheries biologist organizing the effort. "It shows how you can have a naturally functioning stream in a city."

New development around free-flowing streams is normally associated with bad news for salmon, which need cool, clean water to breed and feed. But experts say this project, estimated at about $650,000, could provide a template for cohabitation of people and steelhead.

"If it all gets pulled off, this will be a real good example for how you really can have fish in an urban setting," says Jerry Vogt, an Oregon Department of Fish and Wildlife biologist working on the project. "You're going to have new houses built in an area with a stream where, hopefully, fish will be spawning."

Mason says the construction and habitat work could begin as early as June and could be finished this fall, provided some public funding comes through.

The Oregon Watershed Enhancement Board (OWEB), which funds salmon-restoration efforts in the state, next month will announce whether it will grant a $150,000 request for the in-stream improvements. The federal Bureau of Reclamation is now conducting a required environmental assessment before the agency can contribute about $125,000 toward the pipeline portions of project.

The Talent Irrigation District and Medford Irrigation District together have already pledged about $125,000, mostly in equipment and labor for the work, Mason says.

Mahar's Pacific Trend Building Co., which is developing the land immediately around the two creeks, has paid an undisclosed amount for the project's design and will do some of the construction, Mason says.

But the group remains about $100,000-$125,000 short of making the concept a reality, and Mason is seeking public or private funding to cover the gap.

Backers believe the benefits for steelhead — and possibly for threatened wild coho salmon, which are present in low numbers within the Bear Creek basin — make the project sellable to agencies like OWEB, which is charged with improving Oregon's ability to grow and sustain wild salmon runs.

"In today's world, we have to be environmentally friendly," TID Manager Jim Pendleton says. "Everybody feels good about these types of projects, and everybody benefits from this."

Mahar declined to comment on the project.

Historically, TID and MID have used the creeks and the mud-bottomed canal to deliver water to their irrigators as well as pass as much as 8 cubic feet per second of water from TID to MID. To operate the canals, the irrigation districts have rights to block most flows into Larson Creek.

But that canal system needs to be altered for Mahar to develop the Stonegate Estates area east of North Phoenix Road and north of Coal Mine Road.

Plans are to create two underground pipelines — one along the North Fork and a second paralleling North Phoenix Road — so the two districts can fulfill their water requirements to irrigators.

"That created a nice window of opportunity to do something," Mason says.

By removing the diversion points and allowing more water to flow in the streams, the area can be accessible to steelhead, Vogt says.

Wild steelhead occasionally stray into the South Fork, but any progeny from the spawning fish get trapped in fields because they are blocked from successfully migrating to Bear Creek, Vogt says.

If done, the project would remove three areas where upstream passage is blocked, plus remove the downstream impediments. Plans also are to restore a section of the South Fork so the two streams will again meet naturally to form Larson Creek.

Those steelhead that migrate into the area would then find rock weirs helping create gravely pools. They allow steelhead to jump systematically up the now barren stretches.

The project also calls for creating riparian zones to protect the creek while adding a bike path and possibly even viewing areas with signs telling visitors of the wild steelhead's life cycle.

"Not only do we want steelhead migration, we want to make it possible for people to connect with that," Mason says.

Theoretically, the streams also will be open for use by wild coho if or when the threatened species increases its presence in the Bear Creek basin, Vogt says.

"If we get enough fish back to Bear Creek, they'll be able to take advantage of that habitat."

Reach reporter Mark Freeman at 776-4470, or e-mail mfreeman@mailtribune.com

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You can find this story online at:
http://www.mailtribune.com/archive/2004/0213/local/stories/01local.htm

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APPENDIX B
ENDANGERED SPECIES ACT COORDINATION

1. February 27, 2004 species list request to U.S. Fish and Wildlife Service

2. February 27, 2004 species list request to NOAA Fisheries

3. March 24, 2004 species list from NOAA Fisheries

4. April 9, 2004 species list from U.S. Fish and Wildlife Service

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Lower Columbia Area Office
825 NE Multnomah Street, Suite 1110
Portland, Oregon 97232-2135

IN REPLY REFER TO:

LCA-6500
ENV-7.00

February 27, 2004

To: State Supervisor, U.S. Fish and wildlife Service, Oregon State Office, 2600 S.E. 98th Avenue, Suite 100, Portland, OR 97266
Attn: Kemper M. McMaster

From: Karen A. Blakney
ESA Program Manager

Subject: Request for List of Threatened and Endangered Species Under the Endangered Species Act for the Proposed Larson Creek Fish Passage Project

The Bureau of Reclamation's Water Conservation Field Services Program is proposing to contribute funds to the Larson Creek Fish Passage Project in Medford, Oregon. The Larson Creek Drainage is a tributary of Bear Creek in the Rogue River Basin. The project would replace two sections of open canal with approximately 10,200 feet of buried pipeline, restore a section of the creek bed which will no longer be used to deliver Project water after the completion of the pipeline, and eliminate three fish passage barriers.

As part of Reclamation's National Environmental Policy Act compliance procedure, we are formally requesting information on any listed and/or proposed endangered and threatened species that may be present in the project area, as required by the Federal Endangered Species Act (ESA) of 1973. We request that your species list cover the townships below:

Jackson County, Oregon T37S: R1W S33

We would appreciate receiving the ESA species list at your earliest convenience. Please send your response and any other correspondence related to this project to me at the above address. You should contact Ms. Tanya Sommer at 503-872-2846 if you have any questions regarding this project.

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Lower Columbia Area Office
825 NE Multnomah Street, Suite 1110
Portland, Oregon 97232-2135

IN REPLY REFER TO:

LCA-6500
ENV-7.00

February 27, 2004

Mr. Michael P. Tehan
Chief, Oregon State Branch
Habitat Conservation Division
NOAA Fisheries
525 N.E. Oregon Street, Suite 500
Portland, OR 97232-2737

Subject: Request for List of Threatened and Endangered Species Under the Endangered Species Act for the Proposed Larson Creek Fish Passage Project

The Bureau of Reclamation's Water Conservation Field Services Program is proposing to contribute funds to the Larson Creek Fish Passage Project in Medford, Oregon. The Larson Creek Drainage is a tributary of Bear Creek in the Rogue River Basin. The project would replace two sections of open canal with approximately 10,200 feet of buried pipeline, restore a section of the creek bed (which will no longer be used to deliver Project water after the completion of the pipeline), and eliminate three fish passage barriers.

As part of Reclamation's National Environmental Policy Act compliance procedure, we are formally requesting information on any listed and/or proposed endangered and threatened species that may be present in the project area, as required by the Federal Endangered Species Act (ESA) of 1973. We request that your species list cover the township below:

Jackson County, Oregon T37S: R1W S33

We would appreciate receiving the ESA species list at your earliest convenience. Please send your response and any other correspondence related to this project to me at the above address. You should contact Ms. Tanya Sommer at 503-872-2846 if you have any questions regarding this project.

Sincerely,

Karen A. Blakney
ESA Program Manager

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
525 NE Oregon Street
PORTLAND, OREGON 97232-273

BUREAU OF RECLAMATION OFFICIAL FILE COPY			ACTION MADE BY
MAR 29 '04			
TO	INIT	DATE	
1500	KAB	3/30/04	
1502		4/5/04	
FILE			

Reply to:
OHB2004-0074

March 24, 2004

Karen A. Blakney
ESA Program Manager
Bureau of Reclamation
Pacific Northwest Region
825 NE Multnomah Street, Suite 1110
Portland, OR 97232-2135

Re: Species List Request for Larson Creek, Jackson County, OR

Dear Ms. Blakney:

This responds to your February 27, 2004, letter requesting a list of threatened and endangered species within Larson Creek, near the town of Medford, Oregon. This inventory only includes species under NOAA's National Marine Fisheries Service's (NOAA Fisheries) jurisdiction that occur in the Pacific Northwest. The U.S. Fish and Wildlife Service should be contacted regarding the presence of species falling under its jurisdiction.

One listed anadromous fish species is known to be present in the proposed action area. NOAA Fisheries listed Southern Oregon/Northern California (SONC) coho salmon as threatened under the Endangered Species Act (ESA) on May 6, 1997 (62 FR 24588). Interim protective regulations for SONC coho salmon were issued under section 4(d) of the ESA on July 18, 1997 (62 FR 38479). The lower reaches of Larson Creek are identified as spawning and rearing habitat for SONC coho salmon.

Because this species is present in the project area, any Federal permitting agency involved in this project will need to initiate the consultation process with NOAA Fisheries as per 50 CFR Part 402.10. Please refer to the ESA section 7 implementing regulations (50 CFR Part 402) for information on the consultation and conference process.

The project area is also designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (PL 104-297), as essential fish habitat (EFH) for coho salmon and chinook salmon. Federal consultation requirements exist for these species under the MSA, pursuant to section 305 (b) and (16 USC 1855 (b)), which requires development of conservation recommendations for proposed activities that may adversely affect designated EFH.

This letter constitutes the required notification of the presence of a federally-listed threatened or endangered species or critical habitat under NOAA Fisheries' jurisdiction in the permit area that may be affected by the proposed project. Questions regarding this letter should be directed to Ken Phippen of my staff in the Oregon Habitat State Office at 541.957.3385.

Sincerely,

for Michael P. Tehan
Director, Oregon State Habitat Office
Habitat Conservation Division

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon Fish and Wildlife Office
2600 SE 98th Avenue, Suite 100
Portland, Oregon 97266
Phone: (503) 231-6179 FAX: (503) 231-6195

TAKE PRIDE IN AMERICA

BUREAU OF RECLAMATION OFFICIAL FILE COPY			ACTION MADE BY
APR 12 2004			
TO	INIT	DATE	

APR 9 2004

Reply To: 8330.02031 (04)
File Name: Sp0203.wpd
TS Number: 04-1769

Karen Blakney
U.S. Bureau of Reclamation
825 NE Multnomah Street, Suite 1110
Portland, Oregon 97232-2135

Subject: Larson Creek Fish Passage Project
USFWS Reference # (1-7-04-SP-0203)

Dear Ms. Blakney:

This is in response to your letter, dated March 1, 2004, requesting information on listed and proposed endangered and threatened species that may be present within the area of the Larson Creek Fish Passage Project in Jackson County. The Fish and Wildlife Service (Service) received your correspondence on March 1, 2004.

We have attached a list (Enclosure A) of threatened and endangered species that may occur within the area of the Larson Creek Fish Passage Project. The list fulfills the requirement of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). U.S. Bureau of Reclamation (BR) requirements under the Act are outlined in Enclosure B.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems on which they depend may be conserved. Under section 7(a)(1) and 7(a)(2) of the Act and pursuant to 50 CFR 402 *et seq.*, BR is required to utilize their authorities to carry out programs which further species conservation and to determine whether projects may affect threatened and endangered species, and/or critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) which are major Federal actions significantly affecting the quality of the human environment as defined in National Environmental Policy Act (NEPA) (42 U.S.C. 4332 (2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to the Biological Assessment be prepared to determine whether they may affect listed and proposed species. Recommended contents of a Biological Assessment are described in Enclosure B, as well as 50 CFR 402.12.

If BR determines, based on the Biological Assessment or evaluation, that threatened and endangered species and/or critical habitat may be affected by the project, BR is required to consult with the Service following the requirements of 50 CFR 402 which implement the Act.

Enclosure A includes a list of candidate species under review for listing. The list reflects changes to the candidate species list published June 13, 2002, in the Federal Register (Vol. 67, No. 114, 40657) and the addition of "species of concern." Candidate species have no protection under the Act but are included for consideration as it is possible candidates could be listed prior to project completion. Species of concern are those taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates), but for which further information is still needed.

If a proposed project may affect only candidate species or species of concern, BR is not required to perform a Biological Assessment or evaluation or consult with the Service. However, the Service recommends addressing potential impacts to these species in order to prevent future conflicts. Therefore, if early evaluation of the project indicates that it is likely to adversely impact a candidate species or species of concern, BR may wish to request technical assistance from this office.

Your interest in endangered species is appreciated. The Service encourages BR to investigate opportunities for incorporating conservation of threatened and endangered species into project planning processes as a means of complying with the Act. If you have questions regarding your responsibilities under the Act, please contact Kevin Maurice at (503) 231-6179. All correspondence should include the above referenced file number. For questions regarding salmon and steelhead trout, please contact NOAA Fisheries, 525 NE Oregon Street, Suite 500, Portland, Oregon 97232, (503) 230-5400.

Sincerely,

Lee B. Folkestad

for Kemper M. McMaster
State Supervisor

Enclosures
1-7-04-SP-0203

cc: Nongame, Oregon Department of Fish and Wildlife, Salem, Oregon.

Enclosure A

FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES, CANDIDATE SPECIES AND SPECIES OF CONCERN THAT MAY OCCUR WITHIN THE AREA OF THE LARSON CREEK FISH PASSAGE PROJECT
1-7-04-SP-0203

LISTED SPECIES[1/]

Birds		
Bald eagle[2/]	*Haliaeetus leucocephalus*	T
Fish		
Coho salmon (N. Calif. Coast)[3/]	*Oncorhynchus kisutch*	**T
Invertebrates		
Vernal pool fairy shrimp	*Branchinecta lynchi*	T
Plants		
Gentner mission-bells[4/]	*Fritillaria gentneri*	E
Large-flowered wooly meadowfoam[5/]	*Limnanthes floccosa* ssp. *grandiflora*	E
Cook's lomatium[5/]	*Lomatium cookii*	E

PROPOSED SPECIES

None

CANDIDATE SPECIES[6/]

Birds	
Streaked horned lark	*Eremophila alpestris strigata*

SPECIES OF CONCERN

Mammals	
Pallid bat	*Antrozous pallidus pacificus*
Pacific western big-eared bat	*Corynorhinus (=Plecotus) townsendii townsendii*
Silver-haired bat	*Lasionycteris noctivagans*
Long-eared myotis (bat)	*Myotis evotis*
Fringed myotis (bat)	*Myotis thysanodes*

Long-legged myotis (bat)	*Myotis volans*
Yuma myotis (bat)	*Myotis yumanensis*
Birds	
Tricolored blackbird	*Agelaius tricolor*
Band-tailed pigeon	*Columba fasciata*
Olive-sided flycatcher	*Contopus cooperi (=borealis)*
Yellow-breasted chat	*Icteria virens*
Acorn woodpecker	*Melanerpes formicivorous*
Lewis' woodpecker	*Melanerpes lewis*
Oregon vesper sparrow	*Pooecetes gramineus affinis*
Purple martin	*Progne subis*
Amphibians and Reptiles	
Northwestern pond turtle	*Emys (=Clemmys) marmorata marmorata*
Common kingsnake	*Lampropeltis getula*
California mountain kingsnake	*Lampropeltis zonata*
Northern red-legged frog	*Rana aurora aurora*
Foothill yellow-legged frog	*Rana boylii*
Fish	
Pacific lamprey	*Lampetra tridentata*
Coastal cutthroat trout (S. OR/CA Coasts)	*Oncorhynchus clarki clarki*
Invertebrates	
Franklin's bumblebee	*Bombus franklini*
Siskiyou chloealtis grasshopper	*Chloealtis aspasma*
Plants	
White meconella	*Meconella oregana*
Detling's microseris	*Microseris laciniata* ssp. *detlingii*
Coral seeded allocarya	*Plagiobothrys figuratus* ssp. *corallicarpus*

(E) - Listed Endangered *(T) - Listed Threatened* *(CH) - Critical Habitat has been designated for this species*
(PE) - Proposed Endangered *(PT) - Proposed Threatened* *(PCH) - Critical Habitat has been proposed for this species*
(S) - Suspected *(D) - Documented*

Species of Concern - Taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates), but for which further information is still needed.

** *Consultation with National Marine Fisheries Service may be required.*

1/ *U. S. Department of Interior, Fish and Wildlife Service, October 31, 2000, Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12*

2/ *Federal Register Vol. 60, No. 133, July 12, 1995 - Final Rule - Bald Eagle*
3/ *Federal Register Vol. 57, No. 10, January 15, 1992, Final Rule-Critical Habitat for the Northern Spotted Owl*
4/ *Federal Register Vol. 62, No. 87, May 6, 1997, Final Rule-Coho salmon*
5/ *Federal Register Vol. 64, No. 237, December 10 , 1999, Final Rule -Fritillaria gentneri*
6/ *Federal Register Vol. 67, No.216, November 7, 2002, Final Rule - Lomatium cookii and Limnanthes floccosa ssp. grandiflora*
7/ *Federal Register Vol. 67, No. 114, June 13, 2002, Notice of Review - Candidate or Proposed Animals and Plants*

ENCLOSURE B

FEDERAL AGENCIES RESPONSIBILITIES UNDER SECTION 7(a) and (c)
OF THE ENDANGERED SPECIES ACT

SECTION 7(a)-Consultation/Conference

Requires:

1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2) Consultation with FWS when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of Critical Habitat. The process is initiated by the Federal agency after they have determined if their action may affect (adversely or beneficially) a listed species; and

3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed Critical Habitat.

SECTION 7(c)-Biological Assessment for Major Construction Projects[1]

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for construction projects only. The purpose of the BA is to identify proposed and/or listed species which are/is likely to be affected by a construction project. The process is initiated by a Federal agency in requesting a list of proposed and listed threatened and endangered species (list attached). The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the species list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may be taken; however, no construction may begin.

To complete the BA, your agency or its designee should: (1) conduct an on-site inspection of the area to be affected by the proposal which may include a detailed survey of the area to determine if the species is present and whether suitable habitat exists for either expanding the existing population or for potential reintroduction of the species; (2) review literature and scientific data to determine species distribution, habitat needs, and other biological requirements; (3) interview experts including those within FWS, National Marine Fisheries Service, State conservation departments, universities, and others who may have data not yet published in scientific literature; (4) review and analyze the effects of the proposal on the species in terms of individuals and populations, including consideration of cumulative effects of the proposal on the species and its habitat; (5) analyze alternative actions that may provide conservation measures and (6) prepare a report documenting the results, including a discussion of study methods used, any problems encountered, and other relevant information. The BA should conclude whether or not a listed species will be affected. Upon completion, the report should be forwarded to our Portland Office.

---

[1] A construction project (or other undertaking having similar physical impacts) which is a major Federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332. (2)c). On projects other that construction, it is suggested that a biological evaluation similar to the biological assessment be undertaken to conserve species influenced by the Endangered Species Act.

APPENDIX C
COORDINATION WITH INDIAN TRIBES

1. March 1, 2004 information request letter to The Klamath Tribes

2. March 1, 2004 information request letter to The Confederated Tribes of the Grand Ronde Community of Oregon

3. March 1, 2004 information request letter to The Confederated Tribes of the Siletz Indians

4. March 9, 2004 letter to Cow Creek Band of the Umpqua Tribe of Indians

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Lower Columbia Area Office
825 NE Multnomah Street, Suite 1110
Portland, Oregon 97232-2135

IN REPLY REFER TO:

LCA-6502
ENV-4.10

MAR - 1 2004

Mr. Gerald Skelton
Cultural Resource Protection Specialist
The Klamath Tribes
P.O. Box 436
Chiloquin, OR 97624

Subject: Comments Requested on the Proposed Larson Creek Fish Passage Project

Dear Mr. Skelton:

The Bureau of Reclamation is proposing to contribute funding to the Larson Creek Fish Passage Project in Medford, Oregon. The Larson Creek drainage is a tributary to Bear Creek in the Rogue River Basin. The project will replace two sections of open canal with approximately 10,200 feet of buried pipeline, restore a section of the creek bed that is currently being used as a canal, and eliminate three fish passage barriers.

A new residential development currently underway prompted the proposal of this fish passage project. The development is located southeast of the intersection of Barnett Road and North Phoenix Road on the east side of the city of Medford. Reclamation funds would be used to replace portions of the open canals operated by Medford Irrigation District and Talent Irrigation District with a buried pipeline along Barnett Road (about 8,000 feet) and along North Phoenix Road (about 2,200 feet). As a result of this action three fish passage barriers in Larson Creek currently used to channel irrigation water will be eliminated and 3 miles of stream channel upstream of the diversions will become accessible to fish. The lower reaches of Larson Creek are currently used by Coho salmon and the project area historically supported Steelhead runs.

We are requesting your assistance to determine if there are resources of interest to the Klamath Tribes tribal members on lands in the project area. In particular, we would like to determine if you have knowledge of Indian sacred sites (per Executive Order 13007), archeological sites, or traditional cultural properties important to the Klamath Tribes. If you have knowledge of such sites or resources or have reason to believe they are present, please inform us so that we can begin more detailed discussions and further involve you and your staff. I can be reached at 503-872-2846.

Thank you for your assistance.

Sincerely,

Tanya Sommer

Tanya Sommer
Natural Resource Specialist

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Lower Columbia Area Office
825 NE Multnomah Street, Suite 1110
Portland, Oregon 97232-2135

IN REPLY REFER TO:

LCA-6502
ENV-4.10

MAR - 1 2004

Ms. Connie Schultz
Cultural Protection Specialist
The Confederated Tribes of the
Grand Ronde Community of Oregon
9615 Grand Ronde Road
Grand Ronde, OR 97347

Subject: Comments Requested on the Proposed Larson Creek Fish Passage Project

Dear Ms. Schultz:

The Bureau of Reclamation is proposing to contribute funding to the Larson Creek Fish Passage Project in Medford, Oregon. The Larson Creek drainage is a tributary to Bear Creek in the Rogue River Basin. The project will replace two sections of open canal with approximately 10,200 feet of buried pipeline, restore a section of the creek bed that is currently being used as a canal, and eliminate three fish passage barriers.

A new residential development currently underway prompted the proposal of this fish passage project. The development is located southeast of the intersection of Barnett Road and North Phoenix Road on the east side of the city of Medford. Reclamation funds would be used to replace portions of the open canals operated by Medford Irrigation District and Talent Irrigation District with a buried pipeline along Barnett Road (about 8,000 feet) and along North Phoenix Road (about 2,200 feet). As a result of this action three fish passage barriers in Larson Creek currently used to channel irrigation water will be eliminated and 3 miles of stream channel upstream of the diversions will become accessible to fish. The lower reaches of Larson Creek are currently used by Coho salmon and the project area historically supported Steelhead runs.

We are requesting your assistance to determine if there are resources of interest to the Confederated Tribes of the Grand Ronde tribal members on lands in the project area. In particular, we would like to determine if you have knowledge of Indian sacred sites (per Executive Order 13007), archeological sites, or traditional cultural properties important to the Grand Ronde. If you have knowledge of such sites or resources or have reason to believe they are present, please inform us so that we can begin more detailed discussions and further involve you and your staff. I can be reached at 503-872-2846.

Thank you for your assistance.

Sincerely,

Tanya Sommer

Tanya Sommer
Natural Resource Specialist

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Lower Columbia Area Office
825 NE Multnomah Street, Suite 1110
Portland, Oregon 97232-2135

IN REPLY REFER TO:

LCA-6502
ENV-4.10

MAR - 1 2004

Mr. Robert Kenta
Cultural Resources Manager
The Confederated Tribes of the
Siletz Indians
P.O. Box 549
Siletz, OR 97380

Subject: Comments Requested on the Proposed Larson Creek Fish Passage Project

Dear Mr. Kenta:

The Bureau of Reclamation is proposing to contribute funding to the Larson Creek Fish Passage Project in Medford, Oregon. The Larson Creek drainage is a tributary to Bear Creek in the Rogue River Basin. The project will replace two sections of open canal with approximately 10,200 feet of buried pipeline, restore a section of the creek bed that is currently being used as a canal, and eliminate three fish passage barriers.

A new residential development currently underway prompted the proposal of this fish passage project. The development is located southeast of the intersection of Barnett Road and North Phoenix Road on the east side of the city of Medford. Reclamation funds would be used to replace portions of the open canals operated by Medford Irrigation District and Talent Irrigation District with a buried pipeline along Barnett Road (about 8,000 feet) and along North Phoenix Road (about 2,200 feet). As a result of this action three fish passage barriers in Larson Creek currently used to channel irrigation water will be eliminated and 3 miles of stream channel upstream of the diversions will become accessible to fish. The lower reaches of Larson Creek are currently used by Coho salmon and the project area historically supported Steelhead runs.

We are requesting your assistance to determine if there are resources of interest to the Confederated Tribes of the Siletz tribal members on lands in the project area. In particular, we would like to determine if you have knowledge of Indian sacred sites (per Executive Order 13007), archeological sites, or traditional cultural properties important to the Confederated Tribes of the Siletz Indians. If you have knowledge of such sites or resources or have reason to believe they are present, please inform us so that we can begin more detailed discussions and further involve you and your staff. I can be reached at 503-872-2846.

Thank you for your assistance.

Sincerely,

Tanya Sommer

Tanya Sommer
Natural Resource Specialist

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Lower Columbia Area Office
825 NE Multnomah Street, Suite 1110
Portland, Oregon 97232-2135

IN REPLY REFER TO:

LCA-6502
ENV-4.10

MAR -9 2004

Ms. Sherri Shaffer
Cultural Resource Manager
Cow Creek Band of the Umpqua
Tribe of Indians
2371 N.E. Stephens, Suite 100
Roseburg, OR 97470

Ssubject: Comments Requested on the Proposed Larson Creek Fish Passage Project

Dear Ms. Schaffer:

The Bureau of Reclamation is proposing to contribute funding to the Larson Creek Fish Passage Project in Medford, Oregon. The Larson Creek drainage is a tributary to Bear Creek in the Rogue River Basin. The project will replace two sections of open canal with approximately 10,200 feet of buried pipeline, restore a section of the creek bed that is currently being used as a canal, and eliminate three fish passage barriers.

A new residential development currently underway prompted the proposal of this fish passage project. The development is located southeast of the intersection of Barnett Road and North Phoenix Road on the east side of the city of Medford. Reclamation funds would be used to replace portions of the open canals operated by Medford Irrigation District and Talent Irrigation District with a buried pipeline along Barnett Road (about 8,000 feet) and along North Phoenix Road (about 2,200 feet). As a result of this action three fish passage barriers in Larson Creek currently used to channel irrigation water will be eliminated and 3 miles of steam channel upstream of the diversions will become accessible to fish. The lower reaches of Larson Creek are currently used by Coho salmon and the project area historically supported Steelhead runs.

We are requesting your assistance to determine if there are resources of interest to the Cow Creek Band of the Umpqua Tribe of Indians tribal members on lands in the project area. In particular, we would like to determine if you have knowledge of Indian sacred sites (per Executive Order 13007), archeological sites, or traditional cultural properties important to the Cow Creek Band of the Umpqua Tribe. If you have knowledge of such sites or resources or have reason to believe they are present, please inform us so that we can begin more detailed discussions and further involve you and your staff. I can be reached at 503-872-2846.

Thank you for your assistance.

Sincerely,

Tanya Sommer
Natural Resource Specialist

APPENDIX D
HISTORIC PROPERTIES

1. Historic Overview of the Rogue River Basin Project Irrigation Districts

2. July 21, 2004 letter to the State Historic Preservation Office

HISTORIC OVERVIEW OF THE ROGUE RIVER BASIN PROJECT IRRIGATION DISTRICTS

American settlement of the Rogue River Valley began in 1850, when gold was discovered near present-day Jacksonville. The town of Jacksonville was founded in 1851, the first town in southern Oregon. Settlement spread quickly along the Rogue and up its tributaries, including along Bear Creek, as the agricultural potential of the area was recognized. By 1860, farms, many with small orchards, had been established from Ashland to Brownsboro. In 1887, the Southern Pacific Railroad line was completed, connecting San Francisco to Portland, with sidings in Medford and Ashland. Ready access to markets triggered development of a commercial orchard industry in the valley. By 1891, these fruits were being marketed throughout the United States and internationally. The area also produced nuts, grains, hay, and pastured livestock.

Successful agriculture in dry climates depends upon a sufficient and reliable water supply. The Medford area receives an average of 17 inches of water annually, but only about 15 percent of that falls during the growing season. Soon area growers realized that fruit trees required irrigation to produce full-sized fruits, and too little rain caused failure of both orchard and grain crops. Interest arose in developing water project to provide irrigation to serve the orchards and farms, and water and power for industrial and municipal use. In 1899, two San Francisco-based contractors filed for water rights on Little Butte Creek, and made notice of their intent to construct a storage dam on Fish Lake. In 1900, they surveyed the route for a 26-mile-long canal extending from a point on the South Fork of Little Butte Creek to Medford. The canal system would provide city water, irrigation water, and generate power from a water wheel installed at Antelope Creek. In 1900 the project proponents incorporated under the name Fish Lake Water Company (FLWC). By January 1902, the initial 18 miles of canal were completed extending as far as what is now called the Bradshaw Drop. This section of canal is known today as the Main Canal, and is jointly owned by the Rogue River Valley Irrigation District (RRVID) and the Medford Irrigation District (MID). By 1909, the FLWC had constructed temporary dams at Fish Lake and Fourmile Lake, built additional canal and laterals, likely including at least the initial segments of the Hopkins Canal, and was delivering water to lands in the vicinity of White City. Spurred by promotional campaigns, many valley farmers planted orchards in advance of the canals reaching their property.

However, the FLWC's funding was insufficient to meet their objectives and they fell behind on their construction schedule and suffered financial difficulties. In 1909, ownership of the system passed to a group of capitalists from Spokane who incorporated in 1910 as the Rogue River Valley Canal Company (RRVCC). The RRVCC conducted additional surveys, including for a high-line canal that would begin at the Bradshaw Drip and follow the foothills around the east side of Bear Creek Valley south and cross Bear Creek at Phoenix, and then swing northwest to the foothills west of Central Point. This canal is now known as the Medford Canal (or sometimes the East Main Canal or MID Canal) east of Bear Creek and is called the Phoenix Canal west of Bear Creek. It appears that, during this period, the RRVCC completed only the first 7 miles of the Phoenix

Canal, with no construction on the Medford Canal. Many farms with young orchards received no water or an insufficient supply. Due to lack of water and a general local economic depression, a number of farms were abandoned and others suffered hardship.

Water supply difficulties spurred valley farmers to seek to improve conditions through the creation of irrigation districts, through which farmers would act to complete irrigation systems to serve their lands. The Talent Irrigation District (TID) was organized in 1916, MID in 1917, and the Rogue River Valley Irrigation District (RRVID) in 1929. TID completed studies for a new irrigation storage and distribution system. By 1930 they had completed construction of two storage reservoirs and a system of canals that served about 10,000 acres. MID likewise conducted studies and elected to work with the RRVCC for the latter company to complete their planned system and furnish water to MID. RRVCC was to provide an expanded water supply by rebuilding the storage dams on Fourmile Lake and Fish Lake, complete the Cascade Canal to link those two reservoirs. They were to expand the water delivery system by widening the Main Canal and constructing the high-line canal (to build the Medford Canal and extend the Phoenix Canal). The RRVCC suffered delays in accomplishing these actions, but they were ultimately completed in 1929. That same year, MID acquired sole ownership of the Medford Canal and Phoenix Canals, joint ownership of the Main Canal and storage facilities, and a large share of the RRVCC's water rights. Later that same year the RRVID was formed and purchased the Hopkins Canal and remaining properties and water rights of the RRVCC.

The RRVID and MID irrigation distribution systems extant today are substantially the systems established by 1929. However, since the 1950's, both of the irrigation districts have been incrementally replacing or modifying elements of their distribution systems as they aged. In large part the modifications have involved piping sections of canal and replacing diversion and turnout structures. However, the MID facilities involved in the Preferred Alternative (the section of the MID Canal and the MID's diversions on the Middle and South Forks of Larson Creek) remain unmodified since their original construction in the 1920's.

The TID system, on the other hand, has been substantially altered. In 1954, Reclamation obtained authorization to construct the Talent Division of the Rogue River Basin Reclamation Project (Project). The focus of that Project was to construct new and enlarge existing reservoirs to expand the water supply for the area, and to enlarge and extend the TID delivery system. Essentially all of the TID canals were widened to allow them to carry additional volume of water. At that time, the headworks of all of the canals and the diversions, siphons, and other structures within the canals were replaced. The TID East Canal was widened, a new headworks constructed (Oak Creek Diversion), and all internal structures replaced. The diversion at Larson Creek that will be either abandoned or removed under Alternatives B and C was constructed in 1958, and the segment of the East Canal below that diversion that will be abandoned was widened at that time. At some later time, this section of canal was further modified when a concrete pipe was installed to replace the open ditch.

It is Reclamation's determination that the Project should be considered as a National Register Linear or Discontinuous Historic District (historic district). The three irrigation systems encompassed by the Project were integral in the historic development of Bear Valley and the Medford, Ashland, and other smaller communities in that valley. Also, their history illustrates a common chain of events associated with irrigation development elsewhere in Oregon and throughout the West. That chain often started, as in Bear Valley, with outside capitalists initiating grand irrigation schemes as investment enterprises, which were rarely brought to completion. Then the affected farmers under an irrigation system organized into irrigation districts, assumed control of the system and worked to expand the distribution and storage capabilities to serve core lands. They could rarely finance construction of large water storage reservoir sufficient to serve all irrigable lands. Then, after 1902, partnership of irrigation districts with the Federal Government to develop more extensive storage that allowed for an expanded and more reliable water delivery.

Some elements of the Project can be clearly determined to contribute to the historic district, both by their age and importance and by their retention of original design integrity (historic integrity). Other elements meet the age criteria but may have been so modified in the past as to lack historic integrity. They may ultimately be determined to be non-contributing elements to the historic district. Other elements do not yet meet the minimum standard age for consideration, but may be contributing elements after they are 50 years in age.

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
Lower Columbia Area Office
825 NE Multnomah Street, Suite 1110
Portland, Oregon 97232-2135

IN REPLY REFER TO:

PN-3010
ENV-7.00

JUL 21 2004

Ms. Christine Curran
State Historic Preservation Office
State Parks and Recreation
725 Summer Street NE, Suite C
Salem, OR 97301-1271

Subject: Section 106 Consultations for the Modifications to the Rogue River Basin Project Irrigation Canals from the Larson Creek Pipeline and Fish Passage Project

Dear Ms. Curran:

This letter follows up on a telephone conversation on June 23, 2005, between yourself and Ms. Lynne MacDonald. Lynne had just learned that the Medford Irrigation District (MID) has been awarded a grant under the Department of the Interior's Water 2025 program, and that the Department hopes that work can commence under the grant by the end of September. The grant is for the Larson Creek Pipeline and Fish Passage project (Larson Creek project), which is intended to restore Larson Creek to a natural condition to aid in stream habitat restoration to restore steelhead runs into the upper reaches of Larson Creek. Implementation of the Larson Creek project will result in actions that will alter segments of two canals and three associated small diversion structures that are part of the Rogue River Basin Reclamation Project (Project). On June 23, you assisted Lynne by informally discussing the best means to accomplish the Section 106 consultations about impacts to the Project facilities within the limited time frame allowed by the Department. You also discussed longer-term processes to address incremental changes that are likely to occur in the future to historic irrigation systems throughout Oregon from various water conservation cooperative efforts.

Following up on that discussion, with this letter we wish to open consultations to determine the historic significance of the Project, and then to continue with consultations focused, at this time, on the effects of the Larson Creek project. We will follow later with discussions on programmatically addressing incremental effects of water conservation and other identifiable repetitive actions on this and other irrigation systems. We anticipate those follow-on discussions would occur by this time next year.

THE ROGUE RIVER BASIN PROJECT

The Project is located in Jackson County, Oregon, in the Bear Creek Valley. It extends roughly from Ashland north to Central Point, and from lands east of Medford west to Jacksonville (see figure 1). The Project is comprised of three irrigation districts, the Rogue River Valley Irrigation District (RRVID), the Medford Irrigation District (MID), and the Talent Irrigation District (TID). The enclosed historic overview discusses the history of the three districts and identifies the storage and distribution systems associated with each. The overview also discusses the modifications made in the past to some of the features. To aid in consultation, the history of the Project is briefly summarized below.

History of the Project

American settlement of the Rogue River Valley began in 1850, when gold was discovered near present-day Jacksonville. The town of Jacksonville was founded in 1851, the first town in southern Oregon. As the agricultural potential of the area was recognized, settlement spread quickly along the Rogue and up its tributaries, including along Bear Creek. By 1860, farms, many with small orchards, had been established along streams from Ashland to Brownsboro. In 1887, the Southern Pacific Railroad line was completed, connecting San Francisco to Portland, with sidings in Medford and Ashland. Ready access to markets triggered a wave of new settlement in the valley, followed by development of a commercial orchard industry. By 1891, fruits and nuts were being marketed throughout the United States and internationally. Farms also produced grains and hay, and pastured livestock.

Successful agriculture in dry climates depends upon a sufficient and reliable water supply. Although the Medford area receives an average of 17 inches of precipitation annually, only about 15 percent of that falls during the growing season. That is not sufficient to realize the agricultural potential of the area. Early-on, growers recognized that, in that climate, irrigation was required if orchards were to produce full-sized fruits and if the threat of crop failure from too little rain were to be avoided. In 1899, two San Francisco-based contractors filed for water rights on Little Butte Creek and made notice of their intent to construct a storage dam that would raise the elevation of Fish Lake, a natural mountain lake. In 1900, they surveyed the route for a 26-mile-long canal extending from a point on the South Fork of Little Butte Creek west to Medford. The canal system would provide city water, irrigation water, and generate power from a water wheel installed at Antelope Creek. Later that year the project proponents incorporated under the name Fish Lake Water Company (FLWC). By January 1902, they had constructed the initial 18 miles of canal extending from Little Butte Creek west as far as what is now called the Bradshaw Drop. This section of canal is known today as the Main Canal. Prior to 1909, the FLWC had constructed temporary dams at Fish Lake and Fourmile Lake. They had also extended the canal somewhat and had constructed laterals to deliver water to lands in the vicinity of White City. The new canal section likely comprises at least the initial segment of the Hopkins Canal. Spurred by promotional campaigns, many valley farmers planted orchards in advance of the canal service reaching their property.

However, the FLWC suffered financial difficulties and they fell behind on their construction schedule. In 1909, ownership of the system passed to a group of capitalists from Spokane who incorporated in 1910 as the Rogue River Valley Canal Company (RRVCC). The RRVCC conducted additional surveys, including an alignment for a high-line canal that would begin at the Bradshaw Drop, follow the foothills around the east side of Bear Creek Valley south, cross Bear Creek at Phoenix, and then swing northwest to the foothills west of Central Point. This canal is now known as the Medford Canal (or sometimes the East Main Canal or MID Canal) east of Bear Creek and the Phoenix Canal west of Bear Creek. RRVCC believed they could irrigate in excess of 55,000 acres with the proposed system. However, as with the FLWC, the RRVCC's funds were insufficient to accomplish their grand objectives. It appears that, prior to 1920, they completed only the first 7 miles of the Phoenix Canal, with no construction on the Medford Canal. Many farms with young orchards received no water or an insufficient supply. Lack of water and a general local economic depression led to abandonment of some farms and hardship on those that remained in operation.

Water supply difficulties spurred valley farmers to seek to improve conditions through the creation of irrigation districts, through which farmers would act to complete irrigation systems to serve their lands. TID was organized in 1916, MID in 1917, and RRVID in 1929. TID completed studies for a new irrigation storage and distribution system. By 1930 they had constructed two small dams to create Hyatt Prairie Reservoir and Emigrant Lake, and constructed a system of canals that served about 10,000 acres both east and west of Bear Creek below Ashland and around Talent. MID likewise conducted studies but elected to contract with the RRVCC for the latter company to complete their planned system and furnish water to MID. RRVCC was to provide an expanded water supply by rebuilding the storage dams on Fourmile Lake and Fish Lake and completing a canal to link those two reservoirs. They were to expand the water delivery system by widening the Main Canal and constructing the high-line canal (to build the Medford Canal and extend the Phoenix Canal). They promised MID that this system could irrigate 55,000 acres. However, the RRVCC again suffered delays and difficulties, and by 1929 had completed a system sufficient to serve only 10,500 acres. Completed works did include the Medford Canal and Phoenix Canals and reservoir improvements. In 1929, MID assumed full ownership from RRVCC of the Medford and Phoenix Canals, joint ownership of the Main Canal and storage facilities, and about two-thirds of the RRVCC's water rights. Later in 1929, the RRVID was formed and purchased the Hopkins Canal and remaining properties and water rights of the RRVCC. Today, although incorporated into Reclamation's Rogue River Basin Project, both the MID and RRVID retain ownership and operation of their historic systems.

The RRVID and MID irrigation distribution systems extant today are substantially the systems established by 1929. However, since the mid-1950's, both of the irrigation districts have been incrementally replacing or modifying elements of their distribution systems as they aged (see the enclosed historic overview for descriptions of the more significant modifications to these systems). Although the canals largely follow original alignments and most generally maintain their open, unlined ditch characteristics, many of the associated structures have been replaced. Fish Lake Dam has been rebuilt twice since 1929.

The TID system, on the other hand, was essentially entirely rebuilt in the late 1950's and the 1960's. This occurred as a result of the entry of the Federal Government into irrigation development of the valley. In 1954, Reclamation obtained authorization to construct the Talent Division of the Rogue River Basin Reclamation Project. The focus of the Project was to construct new and enlarge existing reservoirs to expand the water supply for the area, and to enlarge and extend the TID delivery system. Beginning in the late 1950's, essentially all of the TID canals were widened to allow them to carry an additional volume of water. At that time, the headworks of all of the canals and the diversions, siphons, and other structures within the canals were replaced and some canals were lengthened. Hyatt Prairie Dam and Emigrant Dam were rebuilt, and additional storage reservoirs constructed (see page 33 of the overview for a listing of TID facilities). Reclamation now owns the TID system, and TID operates and manages the irrigation works. Except that the general alignment of the original canals were retained when they were incorporated in the expanded distribution system, the TID system no longer represents the early phase of irrigation development in the valley. The sole exception is the McDonald Lateral, which is largely as originally designed.

Assessment of Historic Significance

As indicated above, Reclamation owns the facilities operated by TID, but MID and RRVID own and operate their systems. Because the Larson Creek project affects facilities owned by MID, we have discussed the determination of eligibility process with MID's District Manager and received her consent for the determinations offered below. Since elements of the RRVID system are involved in the Larson Creek project, no discussions have occurred with RRVID's management about the historic significance of their system. Therefore, the following assessments of historic significance do not include the RRVID system.

I have determined that the TID and MID systems of the Rogue River Basin Project are historically significant. Their historical significance principally rests upon two factors. First, the two irrigation systems were integral in the historic development of Bear Valley and the Medford, Ashland, and other smaller communities in that valley. Therefore, they have local significance. The fact that the valley's orchard industry had developed a national and international market by the beginning of the 20th Century may possibly elevate significance to a State level. Second, the history of the Rogue River Basin Project as a whole illustrates a developmental sequence commonly seen elsewhere in Oregon and throughout the West. That sequence often started with outside capitalists who initiated grand water resource development investment enterprises that rarely came to more than limited fruition. The next step typically involved transfer of the system to farmers who organized as irrigation districts to complete a more limited system. And the sequence often ultimately ends with the irrigation district's partnership with the Bureau of Reclamation to complete an expanded water supply and delivery system.

As shown in the overview, TID and MID have many component parts spanning a broad period of time and arrayed over a large area. Therefore, we recommend that they be determined to be eligible as a National Register linear or discontinuous historic district. Both the TID and MID systems would be in a single historic district, which we recommend be called The Rogue River Basin Irrigation Project National Register District. Designation of a linear or discontinuous historic district will also allow us to individually assess which of the facilities contribute to or do

not contribute to the historic significance of the larger Project. At a later time the RRVID may also be included as part of the historic district, but that decision must be made with prior consent of RRVID's management.

We believe that the historic district designation should thematically encompass both the initial 1900 through 1930 phase of irrigation development and the facilities associated with the 1950's through 1960's Federal phase. It is likely that all of the original phase features that retain sufficient physical integrity of design and material will ultimately be determined to be contributing to the historic district, as will facilities from the later phase after they reach the 50-year threshold. Due to the extent of past modifications, it is possible that few or none of MID's facilities representing the initial phase of irrigation development will be individually eligible to the National Register due to lack of historic integrity of design. However, because of the need to complete this initial consultation as quickly as is possible, we wish to limit discussions at this time to the features affected by the Larson Creek project and assess their significance as contributing elements to the historic district. We can resolve the more complex issue of whether each work is individually eligible to the National Register during subsequent consultations.

The Larson Creek project will impact small sections of the Medford Canal and the TID's East Canal. As indicated above, the Medford Canal was constructed by the RRVCC at some time between 1920 and 1929. It is 25 miles long, extending from Bradshaw Drop (about 10 miles northeast of Medford) to the town of Phoenix, where it goes under Bear Creek in a siphon. The Medford Canal, with the Phoenix Canal, forms the backbone of the entire MID irrigation delivery system. The Medford Canal follows its original alignment and in most part remains the open, unlined ditch of original design. However, since the mid-1950's, MID has systematically replaced most of the flumes and siphons as well as many of the less significant structures in the canal (see page 29 of the historic overview). Although its historic integrity is compromised, Reclamation believes that the Medford Canal retains sufficient original character to be a contributing element to the historic district. It primarily represents the initial phase of irrigation development in the valley. The elements of the canal affected by the Larson Creek Project (described below under the project description) date from the 1920's and have not been modified. They contribute to the historic character of the canal.

The TID East Canal (also called the East Side Lateral) originated prior to 1930, but was entirely rebuilt by Reclamation in 1958. The 21-mile long canal originates at Emigrant Dam and extends northwest to near Medford along the east side of the Bear Creek Valley. Although detailed information is not presently available, we know that Reclamation widened and deepened the canal and replaced all associated structures in 1958. Although altered, it remained an unlined, gravity-flow ditch, and the 1958 diversion at Larson Creek is largely indistinguishable in type from the 1920's diversions on the Medford Canal. It does follow the same route, and so has retained integrity of location and association. Therefore, Reclamation believes that the East Canal retains, perhaps minimally, sufficient physical integrity to be representative of the initial phase of irrigation development. It clearly represents the Federal phase of irrigation development. The elements of the East Canal affected by the Larson Creek project include a 1958 diversion structure and the final 1,000 feet of the canal. The diversion has not been modified since construction. However, the canal segment, originally open unlined ditch, has been replaced with buried concrete pipe at some time since the 1950's.

We ask that you concur in the designation of a linear or discontinuous National Register district that will be called The Rogue River Basin Irrigation Project National Register Historic District. We ask that you concur that the Medford Canal and the East Canal are contributing elements to that historic district.

DESCRIPTION OF THE LARSON CREEK PROJECT AND ITS EFFECT UPON HISTORIC PROJECT FACILITIES

It is necessary to summarize how MID and TID operate their canals in the Larson Creek vicinity to understand the planned modifications. Water from Emigrant Lake is released into TID's East Canal and flows approximately 27 miles north before reaching the Middle Fork Larson Creek. The canal extends only 1,000 feet beyond (north of) the Middle Fork. At the crossing of the Middle Fork, TID transfers water from the canal into the creek and uses the natural creek to carry the water to a point near Barnett Road where it is diverted from the creek into the Cherry Creek lateral. TID also spills excess water from the East Canal into the Middle Fork that was needed to ensure that deliveries reached the extreme end of the canal. Figure 2 shows the routes of the canals and creeks, and also shows the locations of features involved in the Larson Creek project.

As outlined above, the Medford Canal flows generally south from Bradshaw Drop, crossing the Middle and South Forks of Larson Creek near Medford, before continuing south and eventually crossing Bear Creek at Phoenix. The stretch of the Medford Canal between the South and Middle Forks has actually replaced the natural creek channel between the two forks. As the Medford Canal crosses the Middle Fork of Larson Creek it diverts the excess water spilled by TID into that creek; there is a small diversion dam at that point. As it crosses the South Fork of Larson Creeks, flow of that creek is diverted into the canal, and there is another small diversion dam at that point.

The principal purposes of the Larson Creek project is to remove in-stream barriers to fish in the South and Middle Forks of Larson Creek, and to separate irrigation flows from natural flows in the Middle Fork. Separation of flows would stop the unnatural stream flow fluctuations that occur during the irrigation season and stop the discharge of heated canal water into the creek. Piping will improve efficiency of the irrigation conveyance system, reducing water loss into the soil. Also, a real estate developer who owns some of the land crossed by this segment of the Medford Canal wishes MID to move the canal to allow maximum development of the land.

The Larson Creek project involves:

- Removal of the three small diversion dams. These are concrete stoplog structures, essentially similar to concrete culverts which can be closed off by dropping wood planks into grooves in the concrete side walls and a central pier. Enclosed photographs show the two MID diversions. The TID diversion is of the same type, but is smaller.
- Removal of a 2,500-foot long segment of the Medford Canal, spanning the stretch of canal between the two diversions (see enclosed photographs). Most of this segment will be filled and incorporated into the new housing developments. The remainder will be restored for use as the channel for Larson Creek.

- Abandonment of the final 1,000 feet of the TID East Canal (the piped section referenced above; see enclosed photograph). This will be left as is, so that it can be used as an emergency wasteway by TID.
- Construction of two pipelines. One along North Phoenix Road would replace the section of the Medford Canal; a siphon will be built to carry the canal's flow under the South Fork of Larson Creek. The second pipeline along Barnett Road would connect the East Canal to the Cherry Creek service lands and on down to the Medford Canal. This pipeline will make it unnecessary to run water down the Middle Fork of Larson Creek. A siphon will carry the East Canal under the Middle Fork.

Reclamation has determined that the Larson Creek project will have an adverse effect upon the historic integrity of the Medford Canal and East Canal due to removal of the two diversion structures and alteration of a segment of the canal. Approximately 2 percent of the total canal will be modified; this modification is not sufficient to significantly impact the overall historic integrity of the canal as a whole. However, the two diversions that will be removed are original to the 1920's, and information collected when preparing the Project overview indicated most of the original Medford Canal structures have been replaced in the 1950's and 1960's.

It is more difficult to assess the effect of project actions on the TID East Canal. Although a diversion dam will be removed, that dam dates from 1958. The segment of canal that will be abandoned lacks physical integrity, and so does not contribute to the overall historic character of the East Canal. Ultimately, Reclamation has determined that the proposed actions will have no adverse effect upon the historic integrity of the East Canal. However, because we would have considered the diversion dam to be a contributing element of the canal if it met the 50-year age threshold, and because is it only 4 years short of that threshold, we propose to include the diversion dam in the mitigation action proposed below.

We ask that you concur with these assessments of effect.

MITIGATION OF ADVERSE EFFECTS

The mitigation proposed is specific to the Larson Creek project, and so is scoped to the scale of adverse effect from that undertaking. Since the adverse effect is confined to a small section of the Medford Canal, the mitigation proposed is to complete Historic American Engineering Record (HAER) current view photographic documentation of this section and the two associated diversion structures. For reasons given above, Reclamation will also photograph the TID East Canal diversion. Given the very simple nature of the structures and canal, we anticipate that 12 to 15 photographs will fully document their physical characteristics. The photographs will be collected, processed, indexed, labeled, and packaged in accordance with HAER requirements.

We ask that you concur that this action is appropriate mitigation for the adverse effects of the Larson Creek project on the historic integrity of the Medford Canal.

It is likely that water conservation and fish passage improvement actions will continue to occur on the Rogue River Project. Therefore, Reclamation intends to initiate programmatic consultations with you within the next year to discuss the cumulative effects of incremental

modifications from these and other kinds of foreseeable actions on the historic integrity of the system. We anticipate that one outcome of those consultations could be a programmatic agreement (PA) and the commitment to complete full HAER documentation of the Rogue River Project facilities. We anticipate that the draft historic overview provided with this letter will form the core of the narrative section of the HAER, and that the current view photographs taken for the Larson Creek mitigation will be incorporated into the document. We have collected a large body of other HAER current view photographs of Rogue River Project facilities a few years ago when funding was available and in anticipation of the need for documentation. Those would be incorporated into the HAER.

However, these kinds of incremental modifications are not limited to the Rogue River Project, nor are they even limited to Reclamation Projects. Therefore, when we consult over the next year, we would like to open discussions about a State-wide PA and about mitigation approaches that refocus on themes that exceed specific Project or irrigation district boundaries. Under that scenario, we might not complete a PA specific to the Rogue River Project.

One further point of information. The subject of this letter has been confined to impacts on the historic facilities. However, you will have noticed that new construction is also involved in the Larson Creek project, and so there is also the potential to affect other types of historic properties. Consultation with your office about those other actions will occur under separate cover within the next few weeks.

As indicated at the opening of the letter, Reclamation hopes to be able to complete these consultations as soon as possible in order to comply with a schedule that was defined by the Department. In order to increase the chances that we can come to agreement during without extending beyond the 30-day period following receipt of this letter, we ask that you call or e-mail Lynne MacDonald if you need any additional information. Please also contact her informally if you cannot concur with any points we make in this letter. On the phone, Lynne will discuss your concerns and reach an alternative that you can agree with. The objective is that your response to this initial letter can be concurrence on a mutually agreed-upon approach. If it is at all possible, within the context of your already-existing commitments, to complete this consultation in less than the 30 days to which you are entitled, that favor would be greatly appreciated. We understand that it may not be possible for you to expedite your response.

Again, thank you for the help you have already provided, and for you assistance throughout the course of this consultation. Do not hesitate to call Lynne MacDonald at 208-378-5316, or to e-mail her at lmacdonald@pn.usbr.gov.

Sincerely,

Ronald J. Eggers
Area Manager

Enclosures – 4 (Figure 1, Figure 2, Photos, Overview)

cc: Ms. Carol Bradford
Manager
Medford Irrigation District
1340 Myers Lane
Medford OR 97501-1270
(w/copy of overview)

Mr. Jim Pendleton
Manager
Talent Irrigation District
P.O. Box 467
Talent, OR 97540-0467
(w/copy of overview)

Mr. Greg Swenson
TerraScience, Inc.
P.O. Box 2100
Portland, OR 97208-2100
(w/o encls)

APPENDIX E
CLEAN WATER ACT SECTION 404 COMPLIANCE

1. Section 404 Joint Permit Application to Oregon Department of State Lands and Army Corps of Engineers

2. Department of State Lands Permit No. 31439-RF

US Army Corps of Engineers
Portland District

JOINT PERMIT APPLICATION FORM

THIS APPLICATION WILL MEET THE REQUIREMENTS OF BOTH AGENCIES

STATE OF OREGON 1859

AGENCIES WILL ASSIGN NUMBERS

Corps Action ID Number _____ Oregon Division of State Lands Number 31439-RF

SEND ONE SIGNED COPY OF YOUR APPLICATION TO EACH AGENCY

District Engineer
ATTN: CENWP-OP-GP
P.O. Box 2946
Portland, OR 97208-2946
503-808-4373

State of Oregon
Division of State Lands
775 Summer Street N.E.
Salem, OR 97310
503-378-3805

1. APPLICANT NAME: Pacific Trend Building Co., Attn: Lou Mahar
Address: 1014 N. Riverside Avenue
Medford, OR 97504

Business Phone #: (541) 772-3378
Home Phone #: n/a
FAX #: (541) 772-7439

[ ] Co-Applicant [ ] Authorized Agent [X] Contractor

Name: Terra Science, Inc./Attn: Greg Swenson
Address: Post Office Box 2100
Portland, OR 97208-2100

Business Phone #: (503) 274-2100
Home Phone #: n/a
FAX #: (503) 274-2101

Property Owner *(if different than applicant)*
Name: Same as applicant
Address:

Business Phone #:
Home Phone #:
FAX #:

2. PROJECT LOCATION

Street, road or other descriptive location: East of North Phoenix Rd., north of Coal Mine Rd., and south of Harbrooke Rd.

Legal Description: Quarter: SW 1/4,NW 1/4; Section: 34 BC; Township: T. 37 [ ] North [X] South; Range: R. 01 [ ] East [X] West

In or Near (City or Town) Medford County Jackson Tax Maps # 37-1W-34 Tax Lots # North part of 2000

Waterway Larson Creek Wetland River Mile 2 Latitude 42 deg. 18' 50" Longitude 122 deg. 48' 53"

Is consent to enter property granted to the Corps and the Division of State Lands? [X] Yes [ ] No

3. PROPOSED PROJECT INFORMATION

Activity Type: [X] Fill [X] Excavation (removal) [ ] In-Water Structure [ ] Maintain/Repair an Existing Structure

Brief Description: Construction of Stonegate Estates, Phase 1 and an irrigation canal siphon under Larson Creek.

Fill will involve n/a cubic yards annually and/or 20000 cubic yards for the total project
120 cubic yards in a wetland or below the ordinary high water or high tide line

Fill will be: [X] Riprap [ ] Rock [X] Gravel [X] Sand [X] Silt [X] Clay [ ] Organics [ ] Other _____

Fill Impact Area is 0.03 Acres; 110 ft. total length; 10 ft. avg. width; 3 ft. avg. depth

Removal will involve N/A cubic yards annually and/or 120 Cubic yards for the total project
120 cubic yards below the ordinary high water or high tide line

Removal will be: [ ] Riprap [ ] Rock [ ] Gravel [ ] Sand [ ] Silt [ ] Clay [ ] Organics [ ] Other _____

Removal Impact Area is _____ Acres; _____ length; _____ width; _____ depth

Is the Disposal area: Upland? [X] Yes [ ] No Wetland/Waterway? [ ] Yes [X] No

	Yes	No
Are you aware of any Endangered Species on the project site?		X
Are you aware of any Cultural Resources on the project site?		X
Is the project site near a Wild and Scenic River?		X

If Yes, please explain in the project description (on page 2, block 4).

4. PROPOSED PROJECT PURPOSE AND DESCRIPTION

Project Purpose and Need:

See attached permit text.

Project Description:

See attached permit text.

List of figures: 1) Vicinity; 2) Existing Conditions & Site Topography; 3) Proposed Development & Waters Impacts; 4) Proposed Siphon Detail (North); 5) Proposed Siphon Detail (South); 6) Proposed Storm Water Management Plan; 7A) Pollution Control Manhole Detail; 7B) Proposed Biofiltration Swale Cross-Section.

How many project drawing sheets are included with this application? 8

NOTE: A complete application must include drawings and a location map submitted on separate 8-1/2 x 11 sheets.

Will any material, construction debris, runoff, etc. enter a wetland or waterway? [X] Yes [ ] No

If yes, describe the type of discharge (above) and show the discharge location on the site plan.
See attached permit text.

Estimated Start Date June 2004 Estimated Completion Date September 2004

5. PROJECT IMPACTS AND ALTERNATIVES

Describe alternative sites and project designs that were considered to avoid impacts to the waterway or wetland.

See attached permit text.

Describe what measures you will use (before and after construction) to minimize impacts to the waterway or wetland.

See attached permit text.

NOTE: If necessary, use additional sheets.

6. ADDITIONAL INFORMATION

Adjoining Property Owners and Their Addresses and Phone Numbers.

Has the proposed activity or any related activity received the attention of the Corps of Engineers or the State of Oregon in the past, e.g., wetland delineation, violation, permit, lease request, etc.? [X] Yes [ ] No

If yes, what identification number(s) were assigned by the respective agencies?

Corps # _____ State of Oregon # Det. No. 00-0548

7. CITY/COUNTY PLANNING DEPARTMENT AFFIDAVIT (to be completed by local planning official)

☐ This project is not regulated by the local comprehensive plan and zoning ordinance.

☐ This project has been reviewed and is consistent with the local comprehensive plan and zoning ordinance.

☐ This project has been reviewed and is not consistent with the local comprehensive plan and zoning ordinance.

☒ Consistency of this project with the local planning ordinance cannot be determined until the following local approval(s) are obtained:

☒ Conditional Use Approval – For Riparian Corridor projects (i.e. siphon)
☐ Development Permit
☐ Plan Amendment
☐ Zone Change
☒ Other Preliminary PUD Plan revision / land division revision

An application ☐ has ☒ has not been made for local approvals checked above.

Suzanne K. Myers | Associate Planner | Medford | 12-9-03
Signature (of local planning official) | Title | City/County | Date

541-774-2387

8. COASTAL ZONE CERTIFICATION

If the proposed activity described in your permit application is within the Oregon coastal zone, the following certification is required before your application can be processed. A public notice will be issued with the certification statement which will be forwarded to the Oregon Department of Land Conservation and Development (DLCD) for its concurrence or objection. For additional information on the Oregon Coastal Zone Management Program, contact the department at 1175 Court Street N.E., Salem, Oregon 97310 or call 503-373-0050.

Certification Statement

I certify that, to the best of my knowledge and belief, the proposed activity described in this application complies with the approved Oregon Coastal Zone Management Program and will be completed in a manner consistent with the program.

n/a (Print/Type Name) | n/a (Title)

n/a (Applicant Signature) | n/a (Date)

9. SIGNATURE FOR JOINT APPLICATION (REQUIRED)

Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and, to the best of my knowledge and belief, this information is true, complete, and accurate. I further certify that I possess the authority including the necessary requisite property interests to undertake the proposed activities. I understand that the granting of other permits by local, county, state or federal agencies does not release me from the requirements of obtaining the permits requested before commencing the project. I understand that local permits may be required before the state removal-fill permit is issued. I understand that payment of the required state processing fee does not guarantee permit issuance.

Lou Mahar (Print/Type Name (coapplicant)) | Builder (Title)

Applicant Signature (coapplicant) | 12/2/03 (Date)

I certify that I may act as the duly authorized agent of the applicant.

Print/Type Name | Title

Authorized Agent Signature) | Date

SUPPLEMENTAL WETLAND IMPACT INFORMATION*
(FOR WETLAND FILLS ONLY)

Site Conditions of impact area

Impact area is: [ ] Ocean [ ] Estuary [ ] River [ ] Lake [X] Stream [ ] Freshwater Wetland

Note: Estuarian Resource Replacement is required by state law for projects involving intertidal or tidal marsh alterations. A separate Wetlands Resource Compensation Plan may be appended to the application.

Has a wetland delineation been completed for this site? [X] Yes [ ] No

If yes, by whom:
Terra Science, Inc.
Post Office Box 2100
Portland, OR 97208-2100

Describe the existing physical and biological character of the wetland/waterway site by area and type of resource (use separate sheets and photos, if necessary).

See attached permit text.

Resource Replacement Mitigation
Describe measures to be taken to replace unavoidably impacted wetland resources.

See attached permit text.

* Because this information is not necessary for a complete application, you may submit this sheet and other environmental information after submitting your application.

LIMITED POWER OF REPRESENTATION

BE IT KNOWN, that Pacific Trend Building Company has made and appointed Terra Science, Inc. and its employees (herein Terra Science, Inc.) to represent, on a limited basis, the interests of and communicate on behalf of the Stonegate Estates, Phase 1 residential subdivision project located east of North Phoenix Road, north of Coal Mine Road, and south of Harbrooke Road in the southeast part of Medford, Jackson County, Oregon for the following specific and limited purposes only:

1.) To prepare, submit and revise materials pertaining to a wetland fill application to be considered by the Oregon Division of State Lands and/or U.S. Army Corps of Engineers. Such materials include, but are not limited to, wetland delineation, permit forms and graphics, conceptual drawings, real estate information, functional assessments, compensatory mitigation, and related wetland fill permit application documents.

2.) To communicate and receive correspondence and documents from Oregon Division of State Lands, U.S. Army Corps of Engineers, plus other state and federal agencies that participate in the wetland fill permitting process.

3). To review and respond to private sector, non-profit and public agency comments and/or concerns pertaining to the wetland delineation and fill permitting process.

4). To coordinate between Pacific Trend Building Company and the above-mentioned agencies any amendments to the site plans.

5). To review and approve draft permit conditions from Oregon Division of State Lands, and U.S. Army Corps of Engineers.

THIS LIMITED POWER OF REPRESENTATION DOES NOT GRANT Terra Science, Inc. limited or full legal power of attorney. This limited power of representation does not designate Terra Science, Inc. to serve as an authorized agent, nor authorize Terra Science, Inc. to assign or accept responsibility to fill, remove or alter waters of Oregon and the United States. This limited power of representation may be ratified, rescinded or revoked, without notice or cause, by any of the signature parties or Terra Science, Inc.

I, THE UNDERSIGNED AND OWNER, execute this limited power of representation this 9 day of Dec., 2003.

Lou Mahar
Pacific Trend Building Company

Stonegate Estates, Phase 1 Adjacent Property Owners

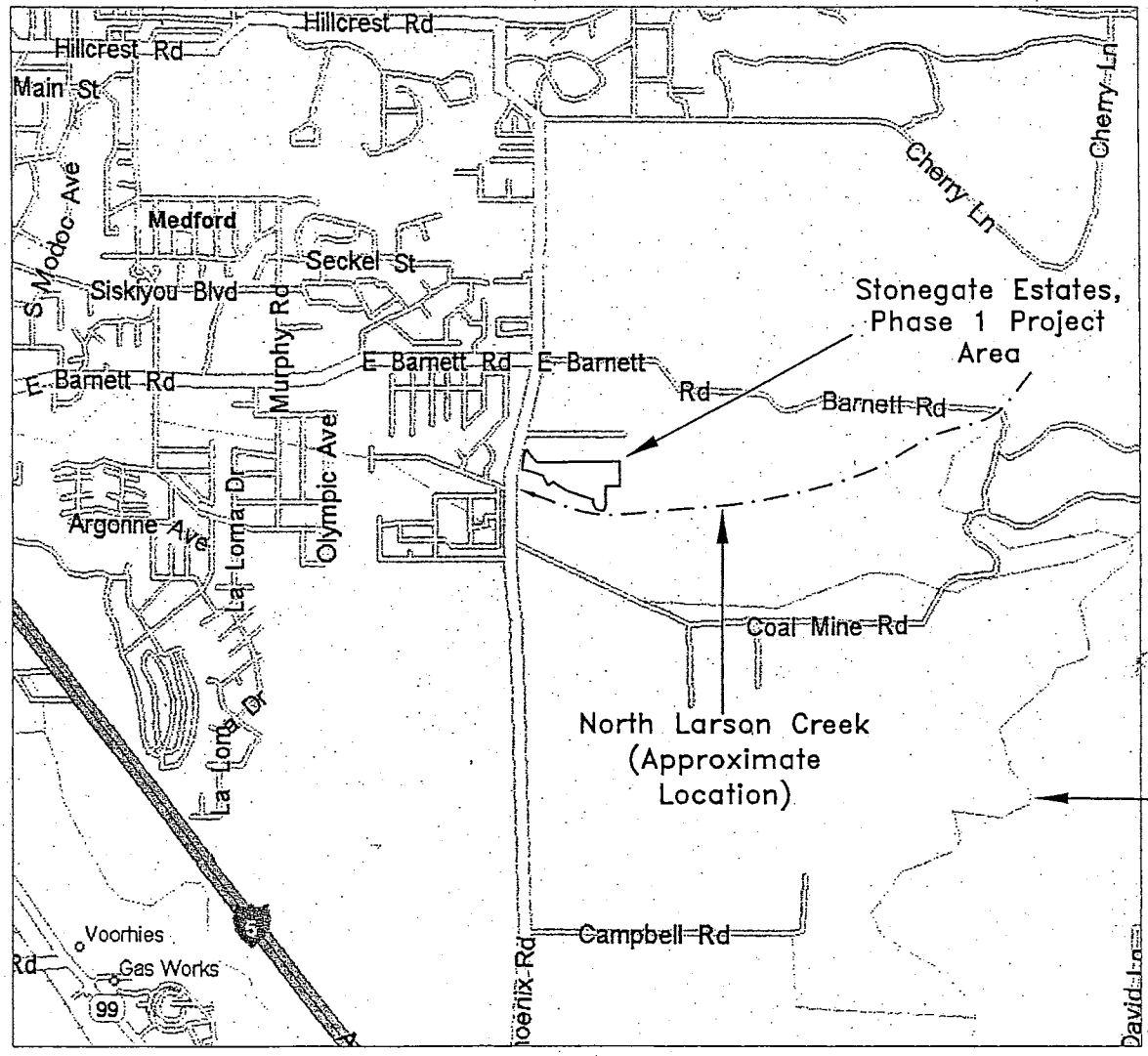
LORI K.DUNLAP
3600 HARBROOKE ROAD
MEDFORD, OR 97504

TERRY & DOROTHEE GREGG
3660 HARBROOKE ROAD
MEDFORD, OR 97504

LORENE R. HALE
3720 HARBROOKE ROAD
MEDFORD, OR 97504

THOMPSON FAMILY INVEST.
4131 COAL MINE ROAD
MEDFORD, OR 97504

HENRY & ANNETTE SNOW
558 PRUETT ROAD
EAGLE POINT, OR 97524



SOURCE: Microsoft Streets & Trips, 2001.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

WETLAND FILL APPLICATION FOR
THE STONEGATE ESTATES, PHASE 1
RESIDENTIAL SUBDIVISION
Medford, Jackson County, Oregon

VICINITY

SCALE: 1 INCH=±2640 FEET

0 1320 2640 5280

December 2003

FIGURE 1

Division of State Lands
Compensatory Mitigation Form
(revised 11/2/2001)

If your project involves more than the number of slots on these pages, then add additional pages and attach them together. Please be sure to complete Item #1 and the grand total acreages for impacts and mitigation, Items #2 and #3. Give breakdowns by Cowardin and Hydrogeomorphic (HGM) class.

If using a wetland mitigation bank, please provide written proof of use from the bank operator and check the mitigation bank box below. Complete only Item #1 if the DSL resource coordinator will allow use of a mitigation bank or the Payment to Provide Mitigation option to be used.

1. Pacific Trend Building Co. (Applicant Name) Stonegate Estates, Phase 1 (Project Name) _____ (Permit No. (if known))

MITIGATION SITE LOCATION

Mitigation Site # 1 of 1 Adjacent Waterway Larson Creek

County Jackson Section 34 Township 37S Range 01W Tax Lot(s) North part of 2000

U.S.G.S. Hydrologic Unit Code (HUC) No. 17100308

River Basin Name Middle Rogue ☐ Mitigation Bank Utilized ☐ Payment to Provide Utilized

WETLAND IMPACTS

2. What wetland acreage and wetland type or types will be filled, removed, or converted by your removal-fill project? (Not the compensatory mitigation project.) List all of the types. Wetland types are the "Cowardin" and "hydrogeomorphic" classifications of each of the wetlands proposed to be altered by your project. The Cowardin and HGM class codes on listed on the last page of this form. Indicate the acreage involved for each wetland type you list. Acreages should be listed to the 1/100 of an acre if possible.

Filled			Removed			Converted		
Acreage	Cowardin	HGM	Acreage	Cowardin	HGM	Acreage	Cowardin	HGM
None								

Grand Total of Wetland Impacts None Acres

The project would not impact wetlands, but jurisdictional waters impacts total 0.03-ac.

COMPENSATORY MIT TION

3. List all of the wetland types (on the reverse side) that will result from your proposed compensatory mitigation project by mitigation kind and wetland type. Indicate the acreage involved for each wetland type you list.

RESTORATION

Acreage	Cowardin	HGM	Acreage	Cowardin	HGM	Acreage	Cowardin	HGM
0.03	R4SBC	RFT						

Restoration Total 0.03 **Acres**

ENHANCEMENT

Acreage	Cowardin	HGM	Acreage	Cowardin	HGM	Acreage	Cowardin	HGM
0.06	R4SBC	RFT						

Enhancement Total 0.06 **Acres**

CREATION

Acreage	Cowardin	HGM	Acreage	Cowardin	HGM	Acreage	Cowardin	HGM
None								

Creation Total N/A **Acres**

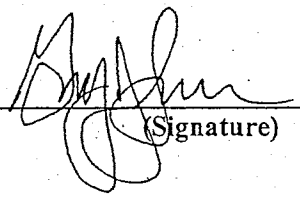
Grand Total of Wetland Mitigation 0.09 **Acres**

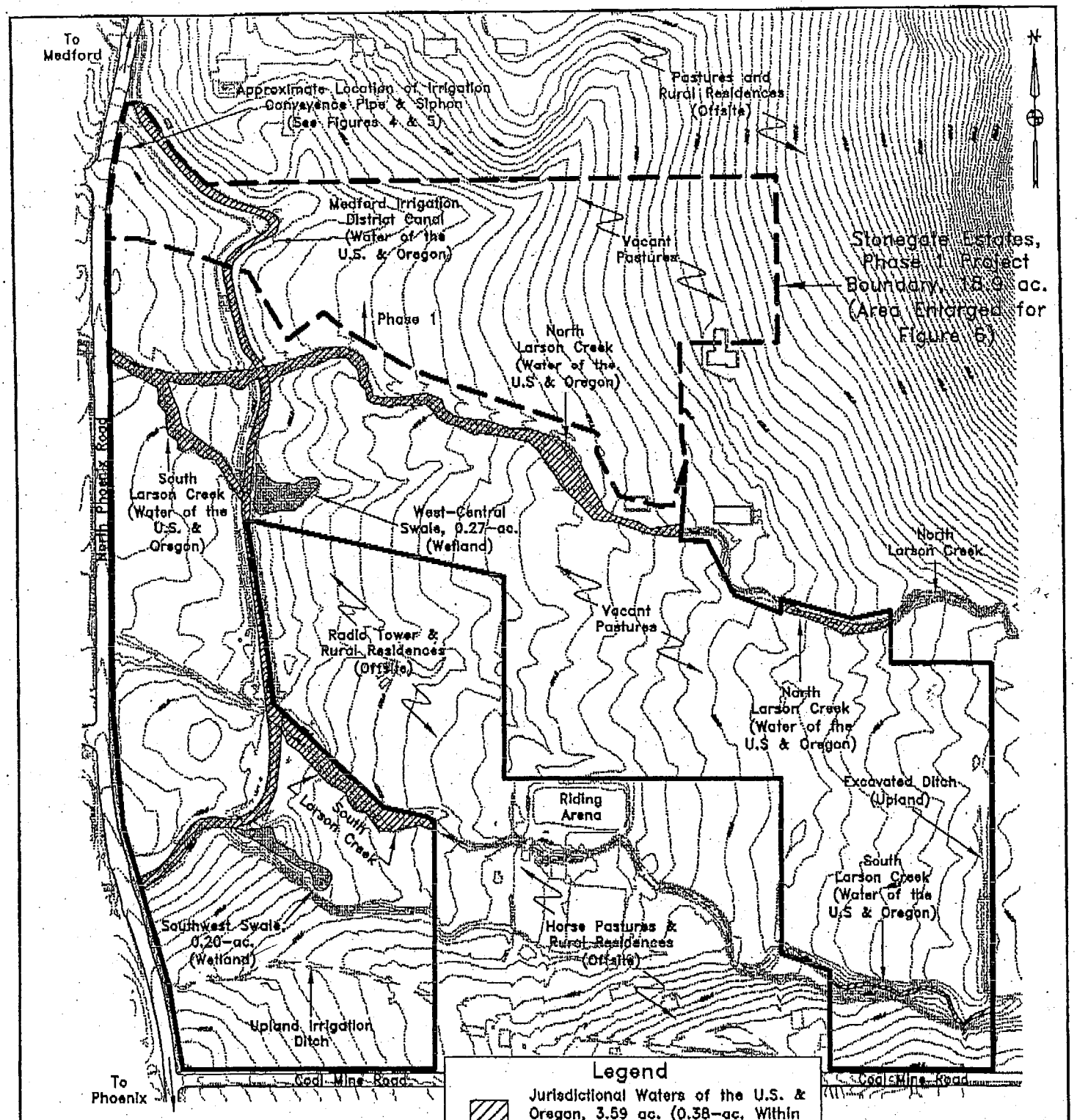
4. Is part or all of the compensatory mitigation project site a prior converted cropland, a farmed wetland or a former wetland that is now upland? If known, state which type below:

No

5. If an upland buffer is proposed, please give average width and type:

	Ave. Width (ft.)	Acres (sq. ft.)
Forested		
Scrub/Shrub		
Herbs/Grasses		
Buffer Total	N/A	N/A

6. Form completed by  (Signature) Greg Swenson (Printed Name) December 11, 2003 (Date)



Adapted from Hoffbuhr & Assoc., Inc. wetland boundary and topographic survey, 2001.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

SCALE: 1 INCH=±350 FEET
0 175 350 700

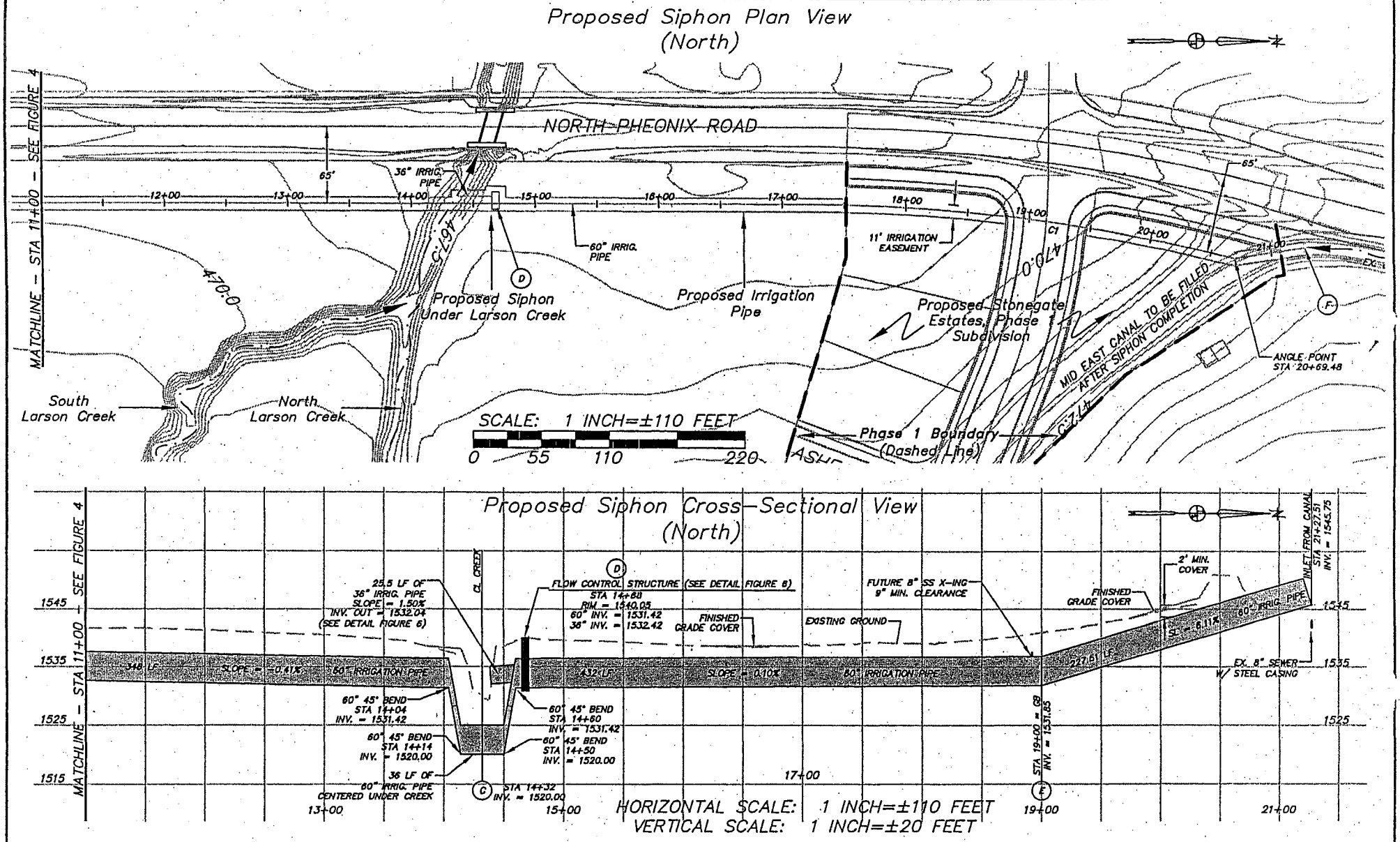
WETLAND FILL APPLICATION FOR THE STONEGATE ESTATES, PHASE 1 RESIDENTIAL SUBDIVISION
Medford, Jackson County, Oregon

EXISTING CONDITIONS & SITE TOPOGRAPHY

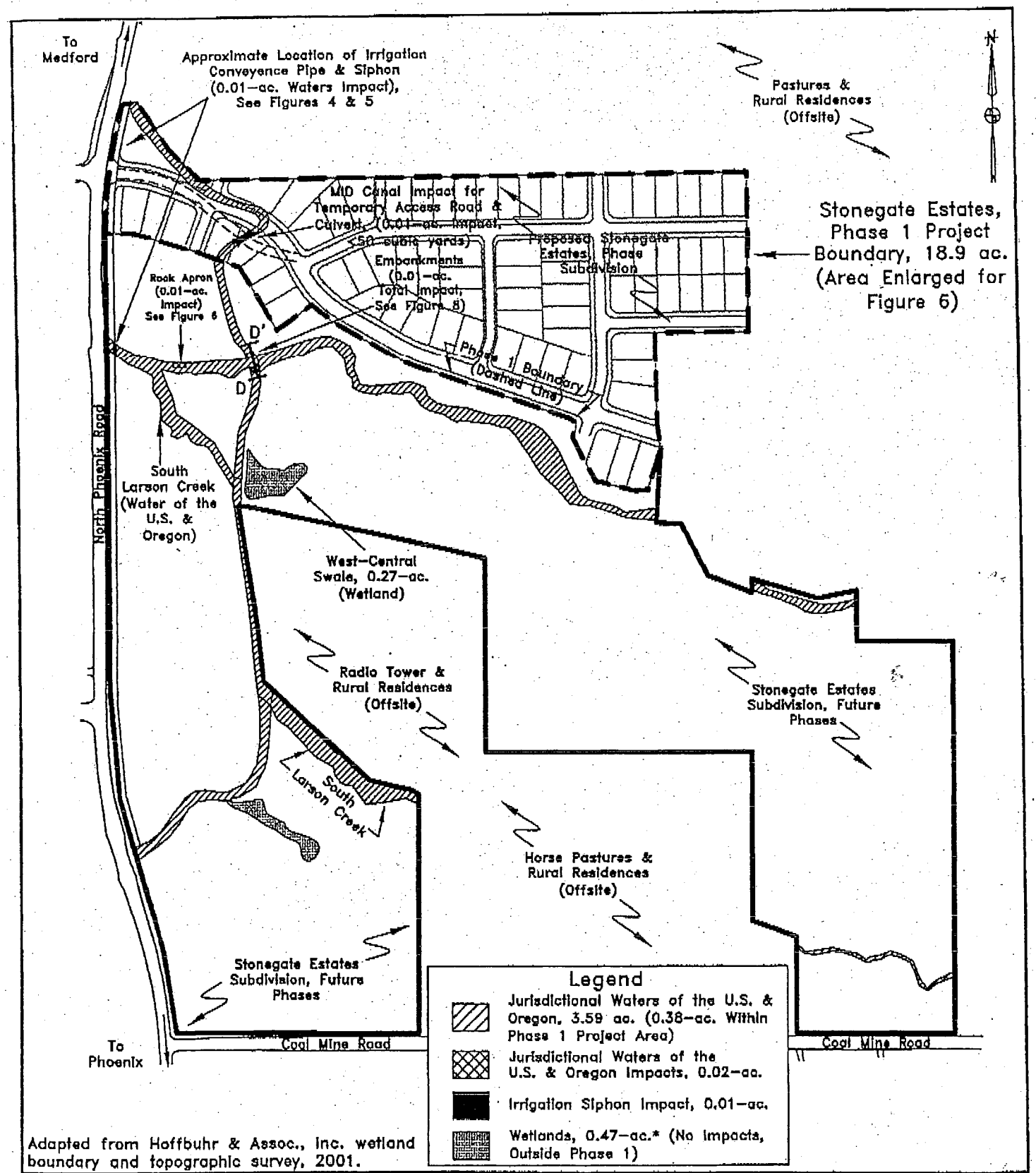
December 2003

*Concurrence from DSL July 17, 2001
DSL Det. No. 00-0548

FIGURE 2



Terra Science, Inc. Soil, Water, & Wetland Consultants	WETLAND FILL APPLICATION FOR THE STONEGATE ESTATES, PHASE 1 RESIDENTIAL SUBDIVISION Medford, Jackson County, Oregon	PROPOSED SIPHON DETAIL (NORTH)
Variable Scale	December 2003	FIGURE 4



Adapted from Hoffbuhr & Assoc., Inc. wetland boundary and topographic survey, 2001.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

SCALE: 1 INCH=±350 FEET
0 175 350 700

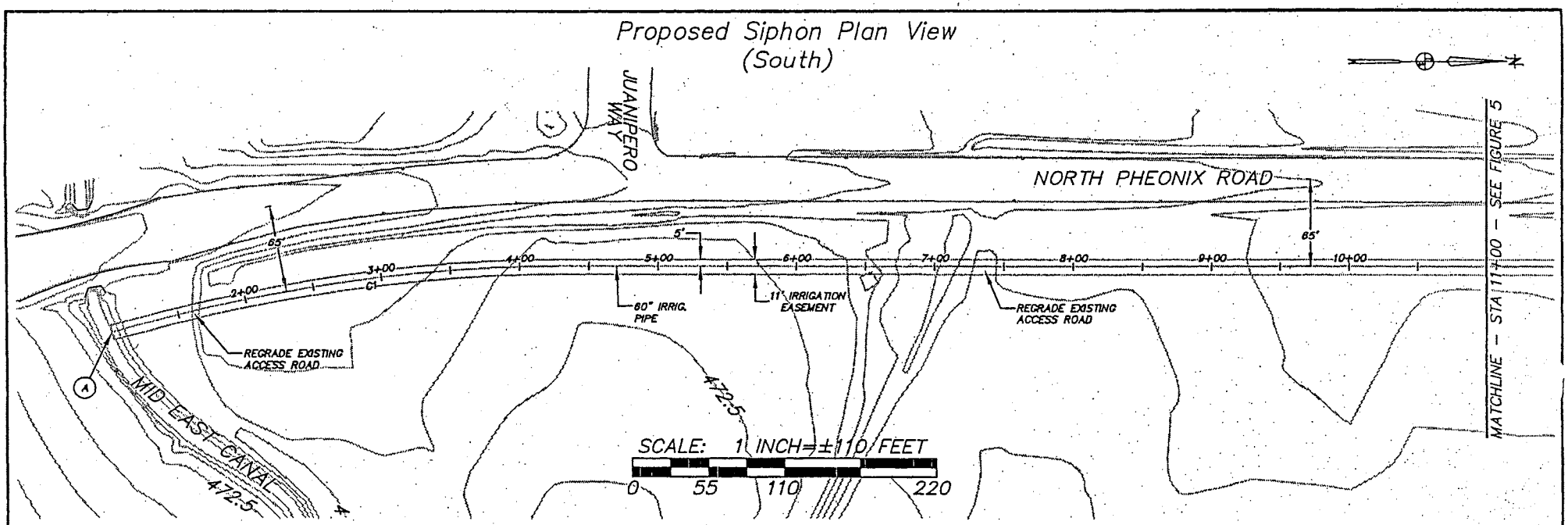
WETLAND FILL APPLICATION FOR THE STONEGATE ESTATES, PHASE 1 RESIDENTIAL SUBDIVISION
Medford, Jackson County, Oregon

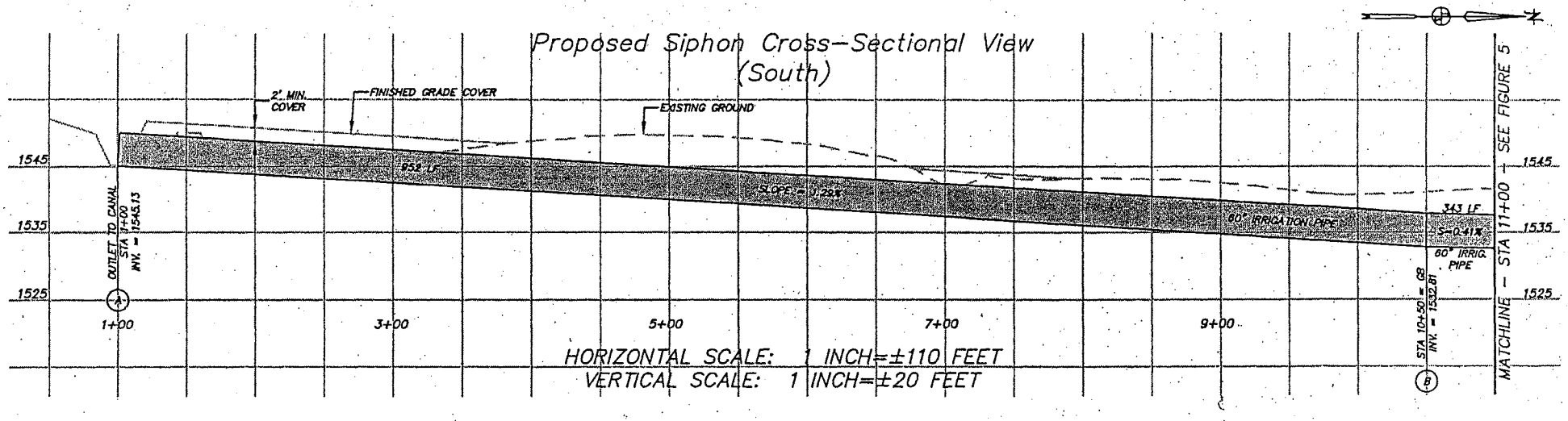
PROPOSED DEVELOPMENT & WATERS IMPACTS

December 2003

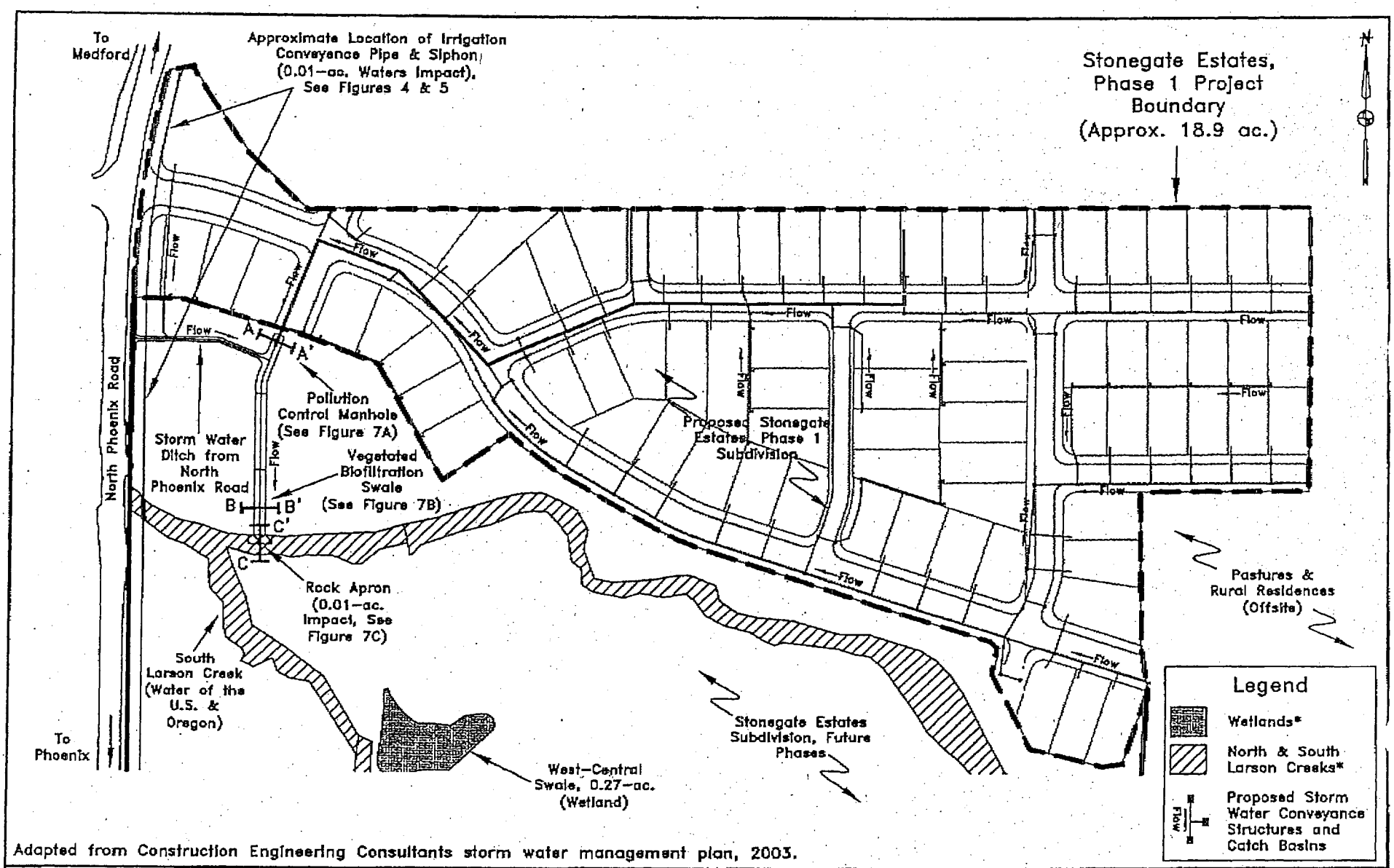
*Concurrance from DSL July 17, 2001
DSL File Det. No. 00-0548

FIGURE 3





Terra Science, Inc. Soil, Water, & Wetland Consultants	WETLAND FILL APPLICATION FOR THE STONEGATE ESTATES, PHASE 1 RESIDENTIAL SUBDIVISION Medford, Jackson County, Oregon	PROPOSED SIPHON DETAIL (SOUTH)
Variable Scale	December 2003	FIGURE 5



Adapted from Construction Engineering Consultants storm water management plan, 2003.

Terra Science, Inc.
Soil, Water, & Wetland Consultants

SCALE: 1 INCH=200 FEET
0 75 150 300

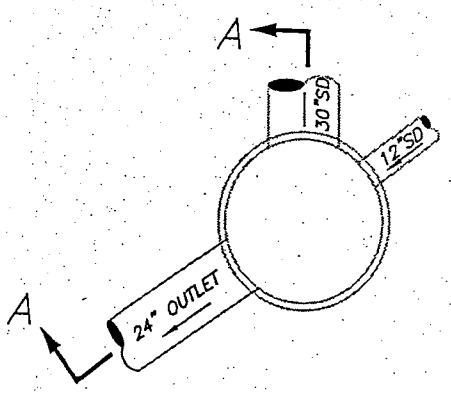
WETLAND FILL APPLICATION FOR
THE STONEGATE ESTATES, PHASE 1
RESIDENTIAL SUBDIVISION
Medford, Jackson County, Oregon

December 2003

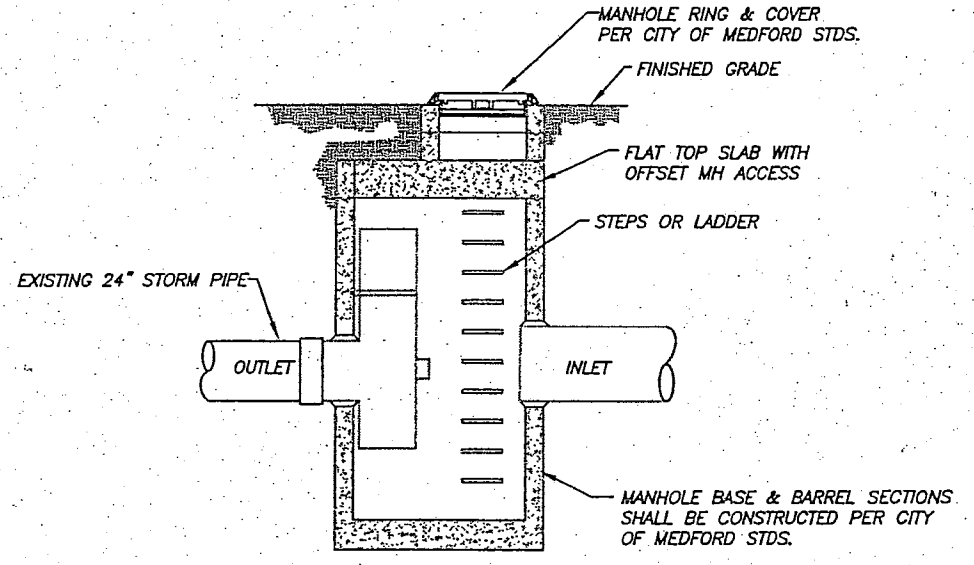
PROPOSED STORM WATER MANAGEMENT PLAN

*Concurrence from DSL July 17, 2001
DSL File Ref. No. 00–0548

FIGURE 6



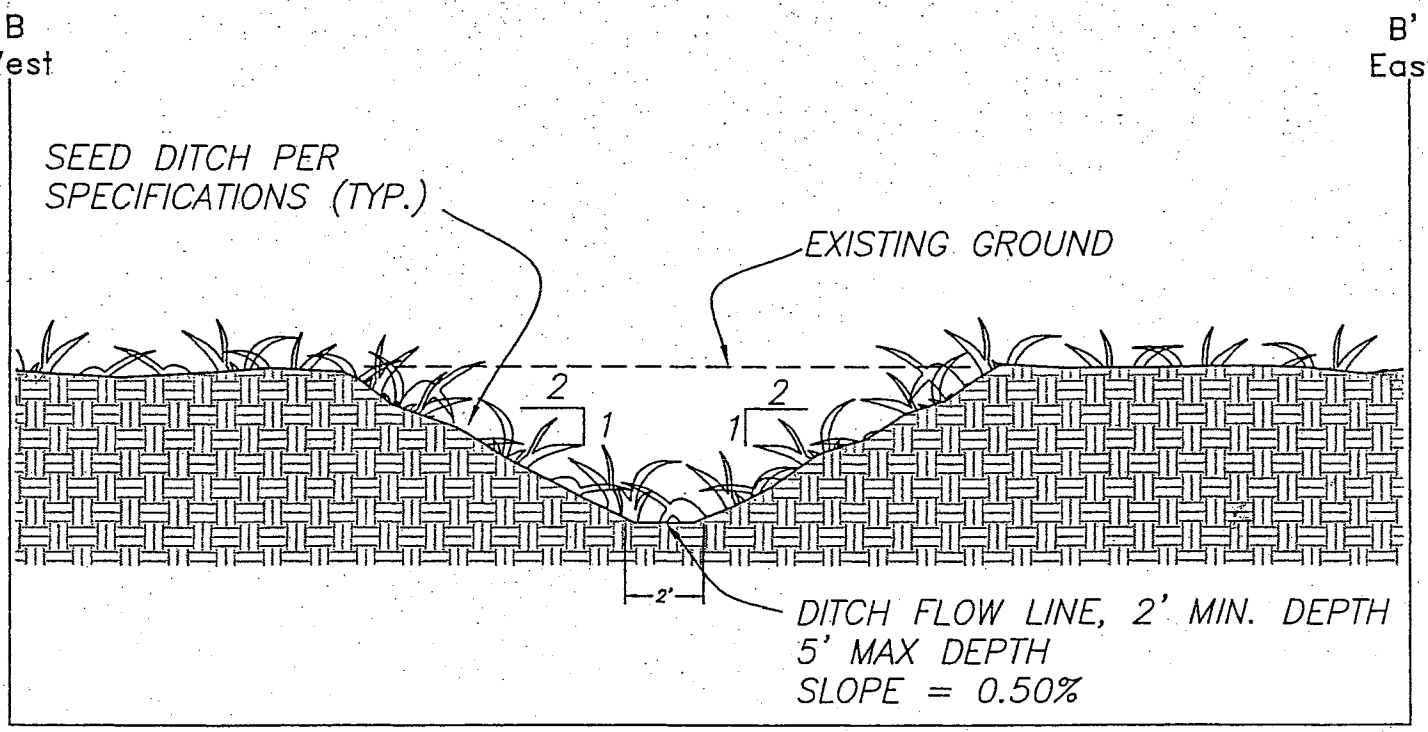
PLAN VIEW



SECTION "A–A"

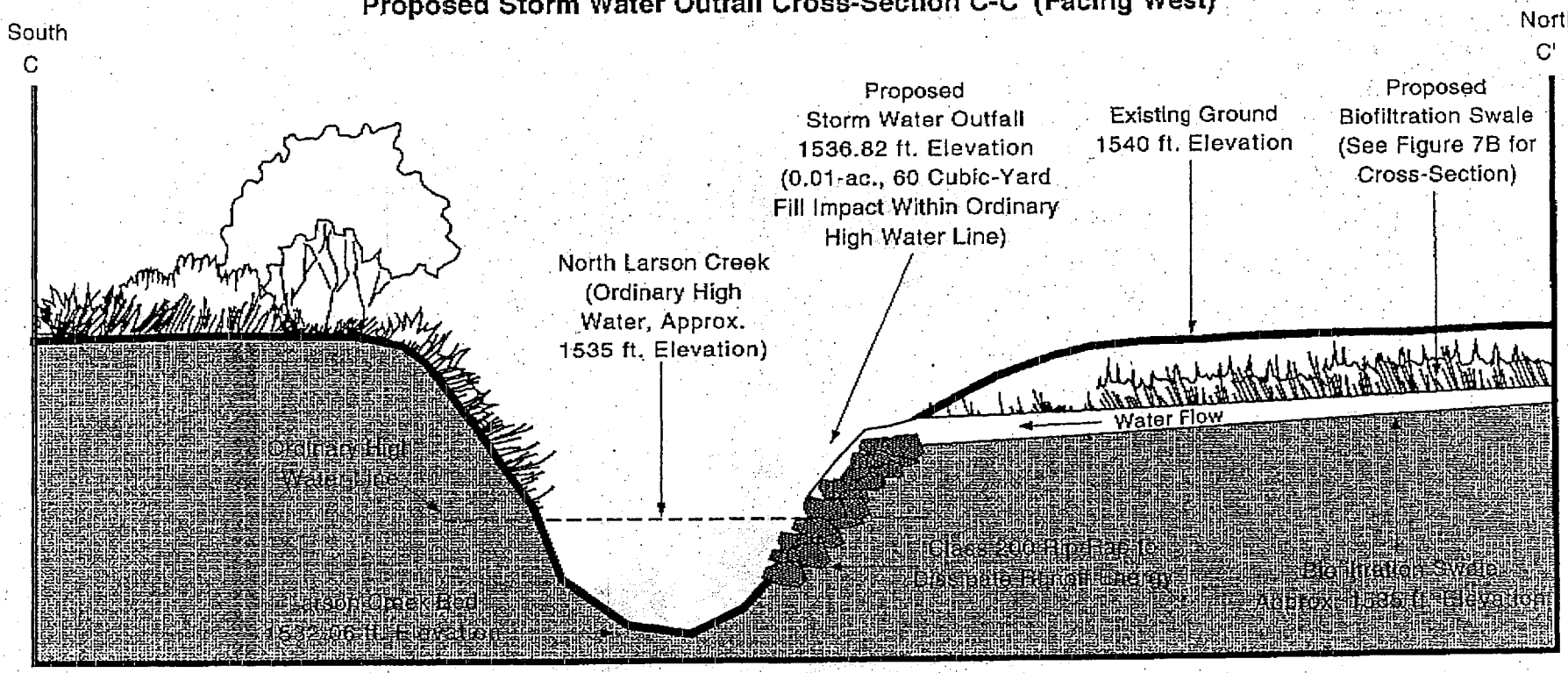
POLLUTION CONTROL STRUCTURE DETAIL

Terra Science, Inc. Soil, Water, & Wetland Consultants	WETLAND FILL APPLICATION FOR THE STONEGATE ESTATES, PHASE 1 RESIDENTIAL SUBDIVISION Medford, Jackson County, Oregon	POLLUTION CONTROL MANHOLE DETAIL
Not To Scale	December 2003	FIGURE 7A



Terra Science, Inc. Soil, Water, & Wetland Consultants	WETLAND FILL APPLICATION FOR THE STONEGATE ESTATES, PHASE 1 RESIDENTIAL SUBDIVISION Medford, Jackson County, Oregon	PROPOSED BIOFILTRATION SWALE CROSS-SECTION	FIGURE 7B
Not To Scale	December 2003		

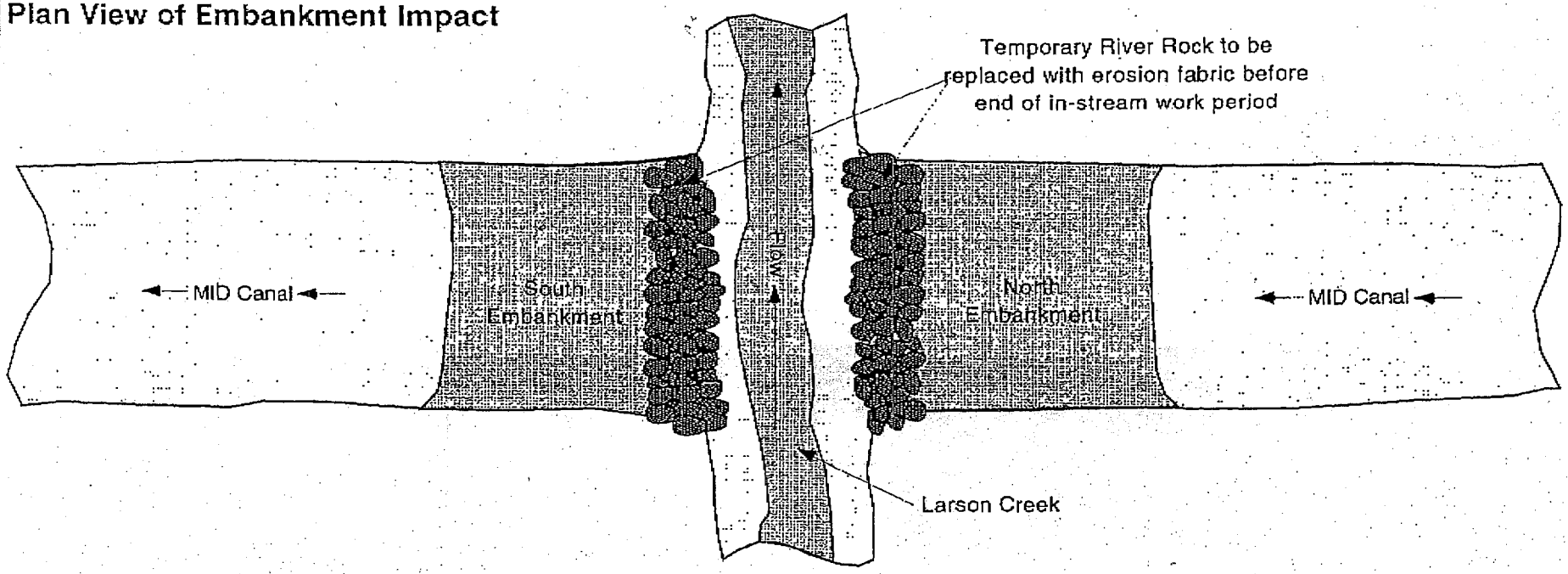
Proposed Storm Water Outfall Cross-Section C-C' (Facing West)

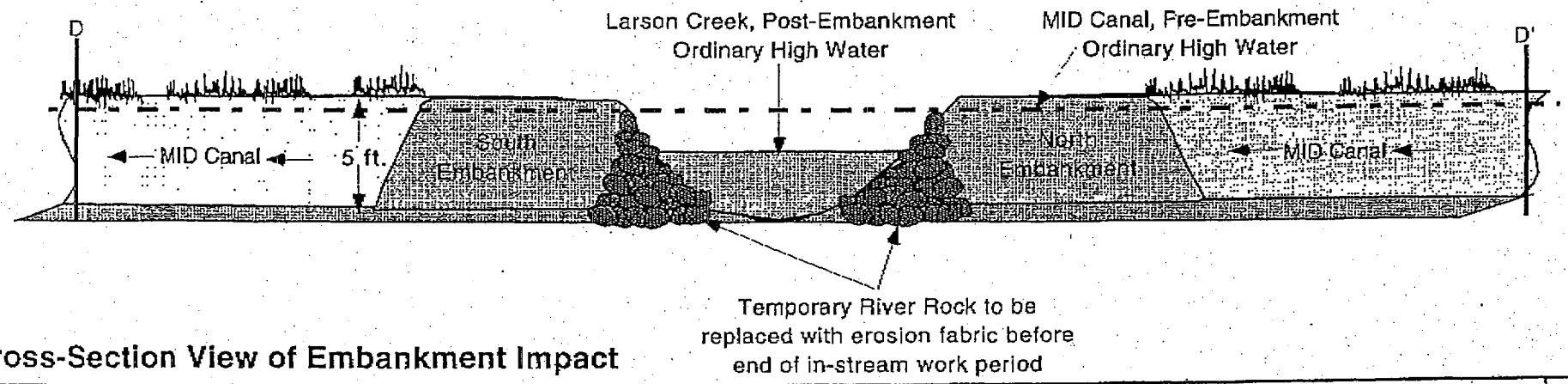


Adapted from Construction Engineering Consultants storm water management plan.

TERRA SCIENCE, INC. *Soil, Water & Wetland Consultants*	WETLAND FILL APPLICATION FOR THE STONEGATE ESTATES, PHASE 1 RESIDENTIAL SUBDIVISION Medford Jackson County, Oregon	STORM WATER OUTFALL CROSS-SECTION C-C'
VERTICAL AND HORIZONTAL SCALE: 1 INCH = 4 FEET 0 4 8	December 2003	**FIGURE 7C**

Plan View of Embankment Impact





Cross-Section View of Embankment Impact

TERRA SCIENCE, INC.
Soil, Water & Wetland Consultants

VERTICAL AND HORIZONTAL SCALE: 1 INCH = 8 FEET

0 8 16

WETLAND FILL APPLICATION FOR
THE STONEGATE ESTATES, PHASE 1
RESIDENTIAL SUBDIVISION
Medford Jackson County, Oregon

December 2003

STORM WATER OUTFALL
CROSS-SECTION D-D'

FIGURE 8

APPENDIX A

ADDITIONAL PERMIT TEXT FOR THE STONEGATE ESTATES SUBDIVISION, PHASE 1, MEDFORD, JACKSON COUNTY, OREGON.

Proposed Project Purpose & Description

Project Purpose and Need

Steady population growth within the Medford City Limits during the past decade has led to an increase in the demand for middle-income housing. In response to this need, Pacific Trend Building Co. (Lou Mahar, developer/builder) proposes to build the first phase of Stonegate Estates, a single family dwelling residential subdivision. The proposed subdivision would also include the construction of several residential streets, sidewalks, a paved bike path, and a subsurface drainage system for storm water management. In addition, summer irrigation water that currently flows through the existing Medford Irrigation District (MID) East canal would be diverted to a subsurface pipeline along North Phoenix Road that would siphon under Larson Creek. The project conforms to the City of Medford's Master Plan which mandates improved connectivity between residential and/or arterial streets.

Project Description

The proposed subdivision and irrigation canal siphon would occupy the north part of Tax lot 2000 on Jackson County Assessor's map no. 37-1W-34. Specifically, the project site is located east of North Phoenix Road, south of Harbrooke Road, and north of North Larson Creek in the southeast part of Medford, Jackson County, Oregon (Figure 1). Much of the site is currently a grazed pasture that is dissected in the west part by the north-south trending MID East canal.

For construction of Stonegate Estates, Phase 1, the land would be subdivided into 72 residential lots and would provide additional road segments to meet increased traffic needs. The primary entrance road (Creek View Drive) would extend eastward from North Phoenix Road and cross the existing MID canal. Due to the early summer construction schedule, this crossing would require the installation of a temporary 60-inch diameter culvert for construction access and irrigation water conveyance. The temporary culvert would be removed after the MID canal is abandoned (see following paragraphs) to facilitate the completion of the roads and other infrastructure. Storm water runoff generated by the proposed subdivision would be routed to a new storm water outfall at the north side of North Larson Creek.

As part of a cooperative effort between Pacific Trend Building Co. and the Rogue Basin Fish Access Team (RBFAT)(Steve Mason, Project Manager), irrigation water would be removed from the MID canal and diverted to a subsurface pipeline along the east edge of North Phoenix Road. The pipeline would extend from the existing north end of the MID canal southward and connect to the existing south end of the canal to convey irrigation water to downstream users (Figures 2 through 5). Three flashboard diversion structures (fish barriers) would also be removed as part of the project.

Construction of an irrigation siphon is proposed to convey irrigation water through the pipeline and underneath North Larson Creek. The siphon would require the excavation of a temporary 10-foot wide by 30-foot long trench perpendicular to the

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creek channel to accommodate the proposed 66-inch pipeline and 36-inch overflow outfall. Installation of the siphon and outfall would take approximately 1 day, then the trench would be backfilled and smoothed to return the construction area to a viable stream channel. The side slopes would also be re-seeded and irrigated after construction to promote rapid revegetation and to limit sediment loads within Larson Creek (see "Erosion Control Measures" section of this application). Finally, the disturbed zones would be planted with native trees and shrubs the following dormant season to offset the loss of any native woody plants that are removed during construction.

Immediately after construction of the irrigation siphon and removal of flashboard diversion structures, the sections of the MID canal that flow directly into North Larson Creek would be blocked to prevent any water or fish from entering the abandoned canal. To accomplish this, earthen embankments would be created within the MID canal at the north and south sides of the North Larson Creek/MID canal junction. Similarly, two additional earthen embankments would be created at the South Larson Creek/MID canal junctions as part of the Windsor Estates mitigation project (as per recommendations from Jerry Vogt, Oregon Department of Fish and Wildlife (ODFW), Central Point Office) for improved flows within South Larson Creek and to preclude fish from entering the remaining sections of the abandoned canal. The construction of the Windsor Estates wetland mitigation would occur just south of the proposed development (offsite) as authorized by Oregon Division of State Lands permit #30143-FP and U.S. Army Corps of Engineers permit #200300194.

As part of a fish habitat/fish access enhancement project, RBFAT would rehabilitate an additional 400-foot section of South Larson Creek. RBFAT is coordinating with the U.S. Bureau of Reclamation, Medford Irrigation District (MID), Talent Irrigation District (TID), Rogue Valley Irrigation District, Bear Creek Watershed Council, and the City of Medford to provide technical and financial support for the fish access aspect of the project. **All rehabilitation activities that would occur within South Larson Creek beyond the permitted wetland mitigation for the Windsor Estates project would be addressed in a separate fish access enhancement application completed by RBFAT.**

MA

Project Criteria and Alternatives

The selection of a suitable project site for the proposed residential subdivision followed criteria established by the applicant. The applicant primarily builds homes for middle-income homebuyers, so suitable properties are typically closer to the center of Medford or in the southeast quadrant of Medford. A moderate cost of land is necessary to keep the home price low enough for middle income buyers. Hillside land east of the proposed project site was considered too expensive, due to high construction costs for steep slopes. In addition, the site is already owned by the applicant and provides an excellent opportunity to restore historic fish habitat within a degraded section of Larson Creek.

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Impact Avoidance and Minimization

Avoidance of the 0.03-acre of jurisdictional waters is not possible due to the north-south configuration of the MID canal in the west part of the site and the need for the siphon under Larson Creek to maintain irrigation water deliveries to downstream users. Avoidance of the canal would require a costly bridge span and eliminate at least two lots from the proposed layout. The applicant initially considered installing a culvert to allow irrigation water to continue through its current course; however, this option was deemed less beneficial to fish habitat within Larson Creek due to seasonal irrigation cycles.

Several options for construction of the proposed siphon and pipeline were considered during the planning phases of this project. Directional boring beneath the creek was investigated to eliminate the need for trenching, but hard bedrock in the vicinity of the proposed siphon makes this option impracticable. Installation of a pipeline above Larson Creek was also determined to be infeasible due to the large diameter of the pipe (66 inches) and inherent risk of failure during flood events within Larson Creek. Use of a smaller diameter pipe would not convey a sufficient volume of water and would potentially cause flooding upstream of the inlet. Similarly, the 36-inch storm water outfall (flow control structure) is proposed as per City of Medford standards to prevent flooding due to the limited capacity of the existing irrigation canals and ditches. As such, the current proposal was deemed the only practicable alternative.

Construction of the irrigation siphon and rock apron associated with the subdivision storm water outfall would occur within the preferred in-water work period established by ODFW (June 15 to September 15). In addition, the work areas would possibly be dewatered by using diversion channels, coffer dams, and/or temporary pipes. If needed, a diversion channel would be excavated from upland and lined with durable plastic to minimize turbidity and provide fish passage. Installation of a temporary pipe would achieve the same function; however, the logistics of the construction site may preclude the use of such a pipe. Prior to construction, the applicant would consult with ODFW and/or NMFS for the most appropriate dewatering technique.

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Table 1. Summary of wetland impacts by type and proposed mitigation by category.

Fill Impacts (Waters of the U.S. & Oregon only)	Acres	Proposed Mitigation
Larson Creek Siphon (Permanent Impact)	0.01	
MID East Canal Fish Passage / Larson Creek Flow Pattern Improvement Embankments (Permanent MID Canal Impact)	0.01	All impacted areas would be restored after construction, plus additional native plantings would be installed for creek bank enhancement.
Rock Apron for Residential Storm Water Outfall (Permanent Larson Creek Impact)	0.01	
Total Permanent Waters Impacts	0.03-acre	N/A

Proposed Changes To Hydraulic Characteristics

The proposed development and piping of the existing irrigation system would likely have a substantial effect on Larson Creek and two small wetland swales that extend eastward from the MID canal (West-Central swale and Southwest swale, documented by TSI in October 2000). Currently, North Larson Creek is used to convey up to 9 cfs of irrigation water that is delivered by the Talent Irrigation District (TID). Water from the TID East canal flows directly into North Larson Creek approximately 2 miles east of the project area (Figure 1). The water then flows westward through the creek until it reaches the MID canal and two flashboard diversions. A small volume of water continues west and under North Phoenix Road (Larson Creek base flow) while the bulk of the water is diverted south through the MID canal. Simultaneously, MID water originating north of the project area flows south through the MID canal and merges with TID water. These combined flows continue south through the MID canal and discharge offsite.

For construction of the proposed subdivision, all of the MID water that flows onsite would be contained in a subsurface pipe along North Phoenix Road. This would effectively remove up to 60 cfs of summer irrigation water from over 700 feet of the MID canal that doubles as a reach of South Larson Creek (this reach would also serve as the future mitigation area for the Windsor Estates project). Once this water is piped, the flashboard diversion structures would also be removed and the canal would be regraded allowing South Larson Creek to flow its natural course.

The result of eliminating MID water and the flashboard structures would be diminished artificial backflooding within North and South Larson Creek and adjacent wetlands

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during summer months. It is anticipated that approximately 350 feet of North Larson Creek and 250 feet of South Larson Creek will have reduced hydrology during summer irrigation months. Some backflooding may continue to occur within North Larson Creek due to TID flows; however, the flooding would be minimized when the flashboard structures are removed.

Other changes to the hydraulics of Larson Creek would also occur as part of the proposed storm water management plan for the residential subdivision. Currently, the MID canal collects approximately 7 cfs of storm water runoff (2-year event) from the 41-acre watershed north of the project area. This volume of runoff is likely to increase in the future as the area develops. To offset increased runoff, the City of Medford has indicated the need for a storm water bypass/flow control structure where the Larson Creek siphon would be constructed. The bypass would allow the siphon to be closed at the end of irrigation season and would divert all of the storm water that enters the canal at upgradient locations directly into Larson Creek via a 36-inch outfall. The effect to water quality in Larson Creek would be minimal since all of this runoff currently enters the creek through the existing MID canal. Appropriate erosion controls would be utilized to prevent bank destabilization during high flow periods (discussed further in "Erosion Control Measures").

Proposed Impacts to Navigation, Recreation and Fisheries

The proposed project would ultimately enhance the functions and values of Larson Creek for fisheries and recreation. For example, the completed irrigation siphon under Larson Creek would restore fish habitat by removing barriers to fish passage and eliminating MID water deliveries. As part of the proposed residential subdivision, the developer has agreed to deed a 50-foot corridor along both forks of Larson Creek to the City of Medford. This "greenway" would remain vegetated and provide shade to Larson Creek, further enhancing fish habitat. Several bike paths are proposed for the Stonegate Estates development that would allow residents to access the proposed corridor. No impacts to navigation would occur as a result of the proposed project.

Storm Water Management

The site plan for Stonegate Estates, Phase 1 has a favorable layout (as per Department of Environmental Quality requirements) that accommodates future increases of storm water runoff from the new residential development. Storm water runoff from the proposed development would be pre-treated before discharging to Larson Creek, with no discharge to the MID canal, as per City standards. The project engineer (Mike Zarosinski, Construction Engineering Consultants, Inc.) has designed the project so that all storm water runoff (approximately 17 cfs for a 2-year event) would be routed through a series of catch basins, subsurface conveyance pipes, and a pollution control manhole to a 200-foot long vegetated biofiltration swale situated north of the new irrigation siphon (Figure 6). Most of this water does not currently discharge directly to Larson Creek, so a new point source would be created during construction of the subdivision. This new volume of water would not be detrimental to Larson Creek since the runoff would be pre-treated using the vegetated biofiltration swale and the

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discharge point would include a rock apron to prevent erosion. Figures 7A and 7B show a pollution control manhole detail and cross-section of the proposed biofiltration swale.

Erosion Control Measures

Erosion controls would be necessary during and after construction of the irrigation siphon since erosion risk is moderate to high due to the presence of flowing water and threatened fish habitat. In particular, jute and coir matting would be used within the channel and along the new banks to stabilize the topsoil. Also, in-stream sediment curtains or mats would be installed to further reduce sediment transport. A qualified professional would install the matting using wooden and degradable steel "staples" (to secure the matting to the ground). A small amount of rip-rap would line the Larson Creek channel at the siphon bypass structure (36-inch outfall) and subdivision storm water outfall to prevent scouring during high-flow periods. Finally, a native seed mixture would be broadcast on all other slopes adjacent to the erosion control matting and rip-rap. If necessary, a temporary irrigation system would be set up to achieve adequate ground cover prior to autumn rains. On an as needed basis, other erosion control measures and best management practices would be applied elsewhere on the development site. This may include the installation of silt fencing, hay bales, and erosion control blankets as prescribed by the City of Medford.

Supplemental Wetland Impact Information

Description of the physical and biological characteristics of the wetland.

A wetland delineation for the proposed subdivision and siphon site was conducted by Terra Science, Inc. of Portland, Oregon in October 2000. The wetland delineation included multiple sample points to define upland and wetland areas, plus narrative discussion and maps. As documented by the wetland delineation report, the Phase 1 project area contains 0.36-acre of the MID East canal and 0.02-acre of North Larson Creek. The delineation report has been reviewed and concurred with by Division of State Lands (July 17, 2001) and it is included as additional reference in Appendix B.

Larson Creek is composed of two forks (North and South) that originate approximately 2 miles east of the project site. To the east of North Phoenix Road, both forks of Larson Creek have been degraded by adjacent agricultural activities, summer irrigation flows from the MID and TID, and the construction of North Phoenix Road. Specifically, cattle from surrounding lands and runoff from these pastures can freely enter the creeks resulting in degradation to the creek banks and impacts to water quality.

The north-south trending MID canal was constructed circa 1920 (according to MID personnel) to provide irrigation water for pear and fruit orchards along the east side of the Bear Creek valley. Currently, the MID canal is incised approximately six feet deep with very steep banks composed of side cast (dredge) spoils. Flashboard dams reduce the natural flow amount of North Larson Creek (to the west) by diverting that water to

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the south through the MID canal. This section of the canal now provides the only connection between the two creeks. Further channelization occurred when North Phoenix Road was constructed and a box culvert was installed under the road (vicinity of the proposed siphon). Reflecting a history of disturbance, the vegetation community along the banks of the MID canal and Larson Creek within the project site is dominated by pasture grasses, Himalayan blackberry, and willow.

Despite historical and ongoing disturbances to Larson Creek, the south fork is designated as Essential Indigenous Salmonid Habitat (ESH) by the Oregon Division of State Lands. Larson Creek (both forks) is also designated as Critical Habitat for the Southern Oregon/Northern California Coastal run of Coho salmon by the National Marine Fisheries Service, though actual spawning and rearing within Larson Creek generally only occurs near its confluence with Bear Creek (StreamNet.org website, June 19, 2003). A conversation with the Oregon Department of Fish and Wildlife (Jerry Vogt, Central Point office) further confirmed the presence of cutthroat trout, steelhead, and fall run Chinook in Bear Creek and Larson Creek.

Threatened and Endangered Species Assessment

A search of the U.S. Fish & Wildlife Service database was conducted for this project for both Federal and State listed threatened, endangered, and candidate species. The results of the inquiry found several records of listed plant and animal species that have been observed near the site (Appendix C). This record indicates that the Northern California/Southern Oregon Coast run of the Coho salmon (*Oncorhynchus kisutch*) populations have occurred within a two-mile radius of the site (Bear Creek and its tributaries). While the proposed development and irrigation siphon would impact Larson Creek, the proposed stream rehabilitation project and permitted mitigation activities would vastly improve upon the functional attributes of the creek. Further, the Oregon Department of Fish and Wildlife (ODFW) has verified that Coho salmon have only been found on the west side of North Phoenix Road, closer to Bear Creek. However, no in-water construction would occur outside of preferred in-stream work period prescribed by ODFW. Additional measures such as diversion channels and/or conveyance pipes would also be utilized to minimize the potential for an accidental take. The record also indicates that populations of the threatened bald eagle (*Haliaeetus leucocephalus*), threatened vernal pool fairy shrimp (*Branchinecta lynchi*), endangered large-flowered woolly meadowfoam (*Limnanthes floccosa* spp. *grandiflora*), endangered Agate Desert lomatium (*Lomatium cookii*), and endangered Gentner mission-bells (*Fritillaria gentneri)* have occurred within 2 miles of the project site.

According to Frank Isaacs (Senior Faculty Research Assistant/Oregon Cooperative Fish and Wildlife Research Unit) of the Oregon State University Department of Fisheries and Wildlife, the only recorded occurrence of nesting bald eagles is several miles from the development site. In addition, most of the site was historically cleared for agricultural uses. Most of the remaining trees and shrubs are small diameter riparian species (willow, Oregon ash, white alder, etc.) located along Larson Creek. Bald eagles generally prefer larger trees that provide a protective canopy and/or snags for perching and roosting (Washington Department of Fish and Wildlife, 2001). The site

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could provide food for bald eagles in the form of other birds, rodents, and snakes; however, the site does not provide a unique habitat for these animals. Adjacent properties have similar limitations to bald eagle habitat due to small tree sizes and distribution, urbanization , and historic land clearing for agricultural purposes.

Vernal pool fairy shrimp, large-flowered woolly meadowfoam, and Agate Desert lomatium typically occur within seasonal wetland depressions (vernal pools) and the associated mounds found in the Agate Desert near White City, Oregon. The project site lacks suitable habitat for these species. According to Rare and Endangered Plants of Oregon (Eastman, 1990), Gentner mission-bells is a rare plant that typically occurs in "dry, open fir and oak woodlands." As highly disturbed and grazed agricultural land, the project site consists mainly of non-native grasses and forbs with only scattered trees (mostly within Larson Creek riparian areas) and lacks appropriate habitat for Gentner mission-bells.

Only one candidate species for listing was found, streaked horned lark, *Eremophila alpestris strigata*, but it is also unlikely that this species is present within the project site due to historic disturbances, lack of suitable habitat, and ongoing grazing. That is, the ground-dwelling streaked horned lark inhabits native grasslands and prairies (Center for Biological Diversity, 2003).

Resource Replacement Mitigation

Mitigation Siting Rationale & Description Resource Replacement Mitigation

Although the proposed impacts would result in a minor loss of jurisdictional waters and creek bank, this loss would be offset by increases to the functions and values of Larson Creek after the MID siphon is completed (primarily for anadromous fish habitat). For example, the elimination of irrigation water to Larson Creek would prevent major seasonal fluctuations in water levels due to summer irrigation cycles. This high-velocity pulse of water tends to scour the creek channel disturbing substrates needed for spawning or feeding. Similarly, regular maintenance and excavation of the MID canal effectively removes accumulated sediments and vegetation that would normally provide food and shelter for fish. In the absence of these activities, native vegetation would likely become established along the creek banks providing vertical structure and shade to the creek channel. Installation of the new siphon and removing the flashboard dam structures would also allow South Larson Creek to flow in its normal direction (to the west) year-round instead of reversing course during irrigation season further reducing disturbance to fish habitat. The physical removal of these structures would also allow for a much greater potential for fish access to both forks of Larson Creek. Finally, the restored creek channel would provide increased aesthetics to the adjacent land owners and the citizens of Medford. The following Table 2 specifies the plantings that would be installed to offset the loss of any woody vegetation during construction activities.

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Table 2: Plantings quantities for the Stonegate Estates, Phase 1 residential subdivision project.

Plant Community	Common Name / Scientific Name	Planting Condition/ Container Size	Quantity
LARSON CREEK BANK RESTORATION/ENHANCEMENT (0.09-acre at 3:1 enhancement ratio)			
	willow (*Salix sp.*, FAC to FACW, estimated)	live stakes, bareroot	50
	white alder (*Alnus rhombifolia*, FAC)	live stakes, bareroot	10
	black cottonwood (*Populus trichocarpa*, FAC)	bareroot, 1 to 2 gallon	10
	bigleaf maple (*Acer macrophyllum*, FACU)	bareroot, 1 to 2 gallon	10
	yarrow (*Achillea millefolium*, NL)	seed	0.2 lbs.
	Sitka brome (*Bromus sitchensis*, NL)	seed	1.0 lbs.
	blue wildrye (*Elymus glaucus*, FACU)	seed	2.0 lbs.
	California poppy (*Eschscholzia californica*, NL)	seed	0.5 lbs.
	Tufted hairgrass (*Deschampsia cespitosa*, FACW)	seed	0.2 lbs.

NOTE: plant species subject to DSL/Corps approval and availability at local nurseries.

Waters Functions and Values

Larson Creek has been severely degraded by encroaching urban development and ongoing agricultural activities; thus it currently has low functions and values. The channel is incised 3 to 4 feet with very steep banks and portions of South Larson Creek were historically filled during the construction of North Phoenix Road and the residential subdivisions west of the project area. That is, the creek has become very narrow and provides minimal functions for storm water storage and desynchronization. Most woody vegetation is located only in the immediate vicinity of the creek due to historic land clearing activities resulting in limited functions for wildlife habitat, food chain support, and thermoregulation. Fish passage is also severely limited due to the presence of in-stream flashboard diversion structures that are used to contain irrigation flows from the MID and TID. Though degraded, Larson Creek does provide habitat for anadromous fish species and the removal of MID flows would only improve upon this function.

The MID canal is an artificial feature that was created from upland exclusively for the purpose of irrigation water deliveries. Vegetation and accumulated sediments are routinely removed for improved water flow, effectively eliminating any functions or values for fish and wildlife habitat, food chain support, thermoregulation, or nutrient removal. Further, the canal is intended to facilitate the delivery of water and provides very little functions for storm water storage and desynchronization.

To offset the minor impacts associated with the Stonegate Estates, Phase 1 project, the impact area would be restored and replanted with a variety of trees, shrubs, and herbs. The plantings would provide greater plant diversity than currently exists, while the trees and shrubs would provide increased forage, shelter and resting areas for small mammals, birds and related wildlife. A judgmental hydrogeomorphic (HGM)-based assessment is included on the following page that compares the function and value losses of the wetland impact area to the gains of the mitigation area.

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Table 3. Summary of Hydrogeomorphic (HGM)-based Assessment (Judgmental Method) for the Functional Capacity of Impacted Waters for the Stonegate Estates, Phase 1 Residential Subdivision.

Function	Larson Creek (RFT)*	MID Canal (RFT)*	Comments
Water Storage and Delay	Low	Low	Water quickly flows through Larson Creek due to its incised nature and lack of historic flood plain. Similarly, the MID canal is designed for the efficient removal of water.
Sediment Stabilization & Phosphorus Retention	Moderate	None	Larson Creek is mostly vegetated, but lacks complex microtopography and water storage functions. The MID canal was artificially created from upland; ongoing maintenance removes vegetation and limits water storage functions of the canal.
Nitrogen Removal	Low	None	Larson Creek and the MID canal have limited water storage functions, lack abundance of woody debris, and lack complex microtopography.
Primary Production	Moderately Low	None	A variety of vascular plant forms are present very near Larson Creek; however, much of the surrounding land is used for agriculture. The MID canal lacks vegetation and was created from upland.
Thermoregulation	Moderate	None	Larson Creek is well shaded and has several feet of flowing water during winter months. The MID canal is used for irrigation deliveries and lacks vegetation cover.
Resident Fish Habitat Support	Low	None	Larson Creek and MID canal have very steep banks and poor water quality. The MID canal is used for irrigation deliveries and lacks vegetation cover. Larson Creek has perennial flow and some plant forms that provide shelter.
Anadromous Fish Habitat Support	Moderate	None	Larson Creek is vegetated, remains flooded for more than a few days, and has substrates suitable for spawning and feeding. Larson Creek and MID canal lack excellent water quality. Maintenance of MID canal disturbs substrates and removes vegetation.
Invertebrate Habitat Support	Moderate	None	Larson Creek has shallow water during summer months and a variety of plant forms are interspersed throughout the site providing shelter from currents and predators. Water quality is poor in Larson Creek and MID canal and both lack a large acreage of wetlands in the surrounding landscape. The artificially created MID canal lacks vegetation and shallow water during summer months.

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Table 3. Summary of Hydrogeomorphic (HGM)-based Assessment (Judgmental Method) for the Functional Capacity of Impacted Waters for the Stonegate Estates, Phase 1 Residential Subdivision (cont.).

Amphibian and Turtle Habitat	Low	None	Larson Creek and MID canal lack gently sloping banks, extensive woody debris/underwater cover, fine-stemmed herbs, excellent water quality, and many adjacent wetlands. Many vegetation forms are well interspersed along Larson Creek , but basking sites are limited. Busy roads are close to Larson Creek and the MID canal and adjacent land cover has been disturbed through agricultural practices. The artificially created MID canal lacks vegetation and basking sites.
Breeding Waterbird Support	None	None	Larson Creek and MID canal lack functions for breeding waterbird support.
Wintering and Migratory Waterbird Support	None	None	Larson Creek and MID canal lack functions for wintering and migratory waterbird support.
Songbird Habitat Support	Low	None	Larson Creek and MID canal lack a large acreage of native habitat and are near busy roads and human activity. Larson Creek flows year-round has a variety of plants forms.
Support of Characteristic Vegetation	Moderately Low	None	Larson Creek has a variety of plant forms; however, much of the plant cover consists of non-native species. MID canal lacks vegetation. Larson Creek and MID canal lack microtopographic relief and springtime water levels dissipate rapidly. Larson Creek and MID canal are near busy roads and human activity. Surrounding watershed and buffer zones are predominantly disturbed agricultural land.

*HGM Classes: RFT=Riverine Flow-Through

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WETLAND FILL APPLICATION

APPENDIX B

DSL Concurrence Letter: Wetland Delineation Report Tax Lots 1201, 2000, & 2600
July 17, 2001

Oregon
John A. Kitzhaber, M.D., Governor

Division of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 378-3805
FAX (503) 378-4844
http://statelands.dsl.state.or.us

July 17, 2001

Steve DeCarlow
DeCarlow Homes Inc.
814 E. Jackson St. Suite A
Medford, OR 97504

Re: Wetland Delineation Report for Larson Creek site, North Phoenix and Coal Mine Roads, Medford, Jackson County; T37S R1W Sec. 34 Tax Lots 1201, 2000, and 2600; Det. # 00-0548

Dear Mr. DeCarlow:

I have reviewed the wetland delineation report prepared by Terra Science for the project referenced above. Based on the information presented in the report, I concur with the wetland and waterway boundaries as mapped in Figure 6 of the report, with the exception of the canal. Based on information in the report that south Larson creek is fish-bearing, and no evidence that there are any fish-exclusion devices, the canal and both branches of Larson creek are subject to state jurisdiction up to the bankfull stage. These wetlands and waterways are subject to the permit requirements of the state Removal-Fill Law. A state permit is required for fill or excavation of 50 cubic yards or more in a wetland area or below the top of bank of a waterway.

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and make a determination of jurisdiction for purposes of the Clean Water Act at the time that a permit application is submitted. We recommend that you attach a copy of this concurrence letter to both copies of any subsequent joint permit application to speed application review.

In evaluating a permit application, our agency will first consider whether there is an analysis of alternatives that avoid or minimize wetland or waterway impacts. State law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Division staff on appropriate site design before completing the city or county land use approval process. The permit coordinator for this site is Mike McCabe.

This concurrence is based on information provided to the agency. Should additional information be brought to our attention or should site conditions change, we would consider the new information and re-evaluate the site and our jurisdictional determination as needed. Thank you for your report. I apologize for the delay in responding.

Sincerely,

Dana Field
Wetlands Planner

Approved by _____
John E. Lilly
Assistant Director

cc: Justin Isle, Terra Science
City of Medford Planning Department
Jim Goudzwaard, Corps of Engineers
Mike McCabe, DSL

WETLAND FILL APPLICATION

APPENDIX C

U.S. Fish & Wildlife Service Results for Threatened and Endangered Species

ENCLOSURE A

FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES, CANDIDATE SPECIES AND SPECIES OF CONCERN THAT MAY OCCUR WITHIN THE AREA OF THE PHOENIX/HARBROOKE/COAL MINE ROADS PROJECT
1-7-03-SP-0640

LISTED SPECIES[1/]

Birds		
Bald eagle[2/]	*Haliaeetus leucocephalus*	T
Fish		
Coho salmon (S. Oregon/N. Calif. Coast)[3/]	*Oncorhynchus kisutch*	**T
Invertebrates		
Vernal pool fairy shrimp	*Branchinecta lynchi*	T
Plants		
Gentner mission-bells[4/]	*Fritillaria gentneri*	E
Large-flowered wooly meadowfoam[5/]	*Limnanthes floccosa* ssp. *grandiflora*	E
Cook's lomatium[5/]	*Lomatium cookii*	E

PROPOSED SPECIES

None

CANDIDATE SPECIES[6/]

Birds	
Streaked horned lark	*Eremophila alpestris strigata*

SPECIES OF CONCERN

Mammals	
Pallid bat	*Antrozous pallidus pacificus*
Pacific western big-eared bat	*Corynorhinus (=Plecotus) townsendii townsendii*
Silver-haired bat	*Lasionycteris noctivagans*
Long-eared myotis (bat)	*Myotis evotis*
Fringed myotis (bat)	*Myotis thysanodes*
Long-legged myotis (bat)	*Myotis volans*
Yuma myotis (bat)	*Myotis yumanensis*
Birds	
Tricolored blackbird	*Agelaius tricolor*
Band-tailed pigeon	*Columba fasciata*
Olive-sided flycatcher	*Contopus cooperi (=borealis)*
Yellow-breasted chat	*Icteria virens*
Acorn woodpecker	*Melanerpes formicivorous*
Lewis' woodpecker	*Melanerpes lewis*
Mountain quail	*Oreortyx pictus*
Oregon vesper sparrow	*Pooecetes gramineus affinis*
Purple martin	*Progne subis*

Amphibians and Reptiles	
Northwestern pond turtle	*Emys (=Clemmys) marmorata marmorata*
Common kingsnake	*Lampropeltis getula*
California mountain kingsnake	*Lampropeltis zonata*
Siskiyou Mountains salamander	*Plethodon stormi*
Northern red-legged frog	*Rana aurora aurora*
Foothill yellow-legged frog	*Rana boylii*
Fish	
Pacific lamprey	*Lampetra tridentata*
Coastal cutthroat trout (S. OR/CA Coasts)	*Oncorhynchus clarki clarki*
Invertebrates	
Franklin's bumblebee	*Bombus franklini*
Siskiyou chloealtis grasshopper	*Chloealtis aspasma*
Schuh's homoplectran caddisfly	*Homoplectra schuhi*
Siskiyou gazelle beetle	*Nebria gebleri siskiyouensis*
Plants	
White meconella	*Meconella oregana*
Detling's microseris	*Microseris laciniata* ssp. *detlingii*
Coral seeded allocarya	*Plagiobothrys figuratus* ssp. *corallicarpus*

(E) - Listed Endangered *(T) - Listed Threatened* *(CH) - Critical Habitat has been designated for this species*
(PE) - Proposed Endangered *(PT) - Proposed Threatened* *(PCH) - Critical Habitat has been proposed for this species*
(S) - Suspected *(D) - Documented*

Species of Concern - Taxa whose conservation status is of concern to the Service (many previously known as Category 2 candidates), but for which further information is still needed.

** *Consultation with National Marine Fisheries Service may be required.*

1/ *U. S. Department of Interior, Fish and Wildlife Service, October 31, 2000, Endangered and Threatened Wildlife and Plants, 50 CFR 17.11 and 17.12*
2/ *Federal Register Vol. 60, No. 133, July 12, 1995 - Final Rule - Bald Eagle*
3/ *Federal Register Vol. 62, No. 87, May 6, 1997, Final Rule-Coho salmon*
4/ *Federal Register Vol. 64, No. 237, December 10, 1999, Final Rule -Fritillaria gentneri*
5/ *Federal Register Vol. 67, No.216, November 7, 2002, Final Rule - Lomatium cookii and Limnanthes floccosa ssp. grandiflora*
6/ *Federal Register Vol. 67, No. 114, June 13, 2002, Notice of Review - Candidate or Proposed Animals and Plants*

ENCLOSURE B

FEDERAL AGENCIES RESPONSIBILITIES UNDER SECTION 7(a) and (c)
OF THE ENDANGERED SPECIES ACT

SECTION 7(a)-Consultation/Conference

Requires:

1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2) Consultation with FWS when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of Critical Habitat. The process is initiated by the Federal agency after they have determined if their action may affect (adversely or beneficially) a listed species; and

3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed Critical Habitat.

SECTION 7(c)-Biological Assessment for Major Construction Projects[1]

Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for construction projects only. The purpose of the BA is to identify proposed and/or listed species which are/is likely to be affected by a construction project. The process is initiated by a Federal agency in requesting a list of proposed and listed threatened and endangered species (list attached). The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the species list, the accuracy of the species list should be informally verified with our Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may be taken; however, no construction may begin.

To complete the BA, your agency or its designee should: (1) conduct an on-site inspection of the area to be affected by the proposal which may include a detailed survey of the area to determine if the species is present and whether suitable habitat exists for either expanding the existing population or for potential reintroduction of the species; (2) review literature and scientific data to determine species distribution, habitat needs, and other biological requirements; (3) interview experts including those within FWS, National Marine Fisheries Service, State conservation departments, universities, and others who may have data not yet published in scientific literature; (4) review and analyze the effects of the proposal on the species in terms of individuals and populations, including consideration of cumulative effects of the proposal on the species and its habitat; (5) analyze alternative actions that may provide conservation measures and (6) prepare a report documenting the results, including a discussion of study methods used, any problems encountered, and other relevant information. The BA should conclude whether or not a listed species will be affected. Upon completion, the report should be forwarded to our Portland Office.

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[1] A construction project (or other undertaking having similar physical impacts) which is a major Federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332. (2)c). On projects other that construction, it is suggested that a biological evaluation similar to the biological assessment be undertaken to conserve species influenced by the Endangered Species Act.

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
☎ 503-378-3805

Permit No.:	31439-RF
Permit Type:	Removal/Fill
Waterway:	Wetland/Larson Creek
County:	Jackson
Expiration Date:	March 31, 2005
Corps No.:	NA

PACIFIC TREND BUILDING CO.

IS AUTHORIZED IN ACCORDANCE WITH ORS 196.800 TO 196.990 TO PERFORM THE OPERATIONS DESCRIBED IN THE ATTACHED COPY OF THE APPLICATION, SUBJECT TO THE SPECIAL CONDITIONS LISTED ON ATTACHMENT A AND TO THE FOLLOWING GENERAL CONDITIONS:

1. This permit does not authorize trespass on the lands of others. The permit holder shall obtain all necessary access permits or rights-of-way before entering lands owned by another.
2. This permit does not authorize any work that is not in compliance with local zoning or other local, state, or federal regulation pertaining to the operations authorized by this permit. The permit holder is responsible for obtaining the necessary approvals and permits before proceeding under this permit.
3. All work done under this permit must comply with Oregon Administrative Rules, Chapter 340; Standards of Quality for Public Waters of Oregon. Specific water quality provisions for this project are set forth on Attachment A.
4. Violations of the terms and conditions of this permit are subject to administrative and/or legal action which may result in revocation of the permit or damages. The permit holder is responsible for the activities of all contractors or other operators involved in work done at the site or under this permit.
5. A copy of the permit shall be available at the work site whenever operations authorized by the permit are being conducted.
6. Employees of the Department of State Lands and all duly authorized representatives of the Director shall be permitted access to the project area at all reasonable times for the purpose of inspecting work performed under this permit.
7. Any permit holder who objects to the conditions of this permit may request a hearing from the Director, in writing, within 10 days of the date this permit was issued.
8. In issuing this permit, the Department of State Lands makes no representation regarding the quality or adequacy of the permitted project design, materials, construction, or maintenance, except to approve the project's design and materials, as set forth in the permit application, as satisfying the resource protection, scenic, safety, recreation, and public access requirements of ORS Chapters 196, 390 and related administrative rules.
9. Permittee shall defend and hold harmless the State of Oregon, and its officers, agents, and employees from any claim, suit, or action for property damage or personal injury or death arising out of the design, material, construction, or maintenance of the permitted improvements.

NOTICE: If removal is from state-owned submerged and submersible land, the applicant must comply with leasing and royalty provisions of ORS 274.530. If the project involves creation of new lands by filling on state-owned submerged or submersible lands, you must comply with ORS 274.905 - 274.940. This permit does not relieve the permittee of an obligation to secure appropriate leases from the Department of State Lands, to conduct activities on state-owned submerged or submersible lands. Failure to comply with these requirements may result in civil or criminal liability. For more information about these requirements, please contact the Department of State Lands, 378-3805.

Lori Warner, Manager
Western Region Field Operations
Oregon Department of State Lands

Lori Warner
Authorized Signature

March 31, 2004
Date Issued

ATTACHMENT A

Permittee: Pacific Trend Building Company

Special Conditions for Removal/Fill Permit No. 31439-RF. PLEASE READ AND BECOME FAMILIAR WITH CONDITIONS OF YOUR PERMIT. This project may be site inspected by the Department of State Lands as part of our monitoring program. The Department has the right to stop or modify the project at any time if you are not in compliance with these conditions. A copy of this permit shall be available at the work site whenever authorized operations are being conducted.

1. This permit authorizes the placement of up to 120 cubic yards and removal of up to 120 cubic yards to install an irrigation siphon to convey MID irrigation water under Larson Creek, the construction of a stormwater outfall from Phase I of Stonegate Estates, and the removal of three flashboard diversion structures from North and South Larson Creeks along with the blockage of the abandoned portion of the MID canal that intersects North Larson Creek in T 37S, R 1W, Section 34BC, Tax Lot 2000 in Larson Creek and North Larson Creek, Jackson County, as outlined in the attached permit application, map and drawings, dated December 2003.

2. Fill and removal activities in Larson Creek and North Larson Creek shall be conducted between June 15 and September 15, unless otherwise coordinated with ODFW and approved in writing by ODSL.

3. Excavation for toe trenches or for the installation of the siphon shall be isolated from the wetted area of the waterway. This can be done with a dike, coffer dam or similar structure.

4. Sediment-laden or contaminated water pumped from the isolation area shall be filtered before it is allowed to reenter a waterway.

5. Any fish present within the isolation area must be salvaged prior to the start of work within the isolation area. Fish salvage operations should be coordinated with an ODFW fish biologist.

6. Passage for both adult and juvenile fish shall be provided throughout the project period.

7. TURBIDITY/EROSION CONTROLS. The authorized work shall not cause turbidity of affected waters to exceed 10% over natural background turbidity 100 feet downstream of the fill point. For projects proposed in areas with no discernible gradient break (gradient of 2% or less), monitoring shall take place at 4 hour intervals and the turbidity standard may be exceeded for a maximum of one monitoring intervals per 24 hour work period provided all

maximum of one monitoring intervals per 24 hour work period provided all practicable control measures have been implemented. This turbidity standard exceedance intervals applies only to coastal lowlands and floodplains, valley bottoms and other low-lying and/or relatively flat land.

For projects in all other areas, the turbidity standard can be exceeded for a maximum of 2 hours (limited duration) provided all practicable erosion control measures have been implemented. These projects may also be subject to additional reporting requirements.

Turbidity shall be monitored during active in-water work periods. Monitoring points shall be at an undisturbed site (representative background) 100 feet upstream from the turbidity causing activity (i.e., fill or discharge point), 100 feet downstream from the fill point, and at the point of fill. A turbidimeter is recommended, however, visual gauging is acceptable. Turbidity that is visible over background is considered an exceedance of the standard.

Practicable erosion control measures which shall be implemented, as appropriate, include but are not limited to the following:

a) Place fill in the water using methods that avoid disturbance to the maximum practicable extent (e.g. placing fill with a machine rather than end-dumping from a truck).
b) Prevent all construction materials and debris from entering waterway;
c) Use filter bags, sediment fences, sediment traps or catch basins, silt curtains, leave strips or berms, Jersey barriers, sand bags, or other measures sufficient to prevent movement of soil;
d) Use impervious materials to cover stockpiles when unattended or during rain event;
e) Erosion control measures shall be inspected and maintained daily to ensure their continued effectiveness;
f) No heavy machinery in a wetland or other waterway;
g) Use a gravel staging area and construction access;
h) Fence off planted areas to protect from disturbance and/or erosion; and
i) Flag or fence off wetlands adjacent to the construction area.

Erosion control measures shall be maintained as necessary to ensure their continued effectiveness, until soils become stabilized. All erosion control structures shall be removed when project is complete and soils are stabilized and vegetated.

8. HAZARDOUS, TOXIC AND WASTE MATERIALS. Petroleum products, chemicals, fresh cement sandblasted material and chipped paint or other deleterious waste materials shall not be allowed to enter waters of the state. No wood treated with leach able preservatives shall be placed in the

waterway. Machinery refueling is to occur off-site or in a confined designated area to prevent spillage into waters of the state. Project-related spills into water of the state or onto land with a potential to enter waters of the state shall be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311.

9. All exposed soils shall be stabilized during and after construction in order to prevent erosion and sedimentation.

10. If any archaeological resources and/or artifacts are uncovered during excavation, all construction activity shall immediately cease. The State Historic Preservation Office shall be contacted (phone: 503-378-4168).

11. The Department of State Lands retains the authority to temporarily halt or modify the project in case of unforeseen damage to natural resources.

March 31, 2004
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