



MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Simpson, Brown, Helgeson, Manning and Mital
FROM: Mel Damewood, Engineering Manager; Debra Smith, Assistant General Manager
DATE: December 17, 2012
SUBJECT: Budget Amendment Request - Leaburg Left Bank Fish Ladder Improvements

Issue

The foundation of the Leaburg Dam Left Bank Fish Ladder has been undermined by river flows and turbulence. A structural engineering analysis revealed that the fish ladder is in danger of tipping toward the river. If significant movement were to occur, extensive structural damage would result.

Background

The Leaburg Dam Left Bank Fish Ladder was constructed in the late 1960s. Review of the design drawings show that the ladder's concrete foundation was poured directly on the river bottom, which is comprised of cobbles, sand, and gravel. Rip-rap was placed adjacent to the fish ladder in an effort to prevent erosion.

Underwater inspection of the Leaburg Dam on June 19, 2012 revealed that the Left Bank Fish Ladder foundation has been undermined, presumably by erosion resulting from river flows passing through the dam and adjacent to the fish ladder. Measurements taken during the inspection revealed that seventy feet of the fish ladder has been undermined. The extent of the undermining ranges from four feet to more than fifteen horizontal feet as measured from the riverside foundation face of the fish ladder. Therefore, a substantial portion of the foundation is unsupported. In addition, measurements revealed that twelve vertical feet of rip-rap, which helped protect the fish ladder, has also been washed away from the riverside face of the fish ladder over the years.

EWEB contracted with a structural engineering firm, Metzler Engineering Group, on July 23, 2012 to perform a structural analysis of the fish ladder and ascertain if there is risk of failure. Metzler's August 17, 2012 report concluded that due to the absence of bearing material beneath the foundation, the fish ladder is at risk of tipping toward the river. Depending on the extent of structure movement, significant damage requiring extensive repair could result.

Discussion

Metzler Engineering Group was retained through the MSA program on October 4, 2012 to design repairs to the left bank fish ladder. The design will include installation of sheet piling along the riverside face of the fish ladder as well as filling all below-foundation voids with concrete. The concrete will provide a solid bearing surface for the existing foundation, while the sheet piling will retain the concrete during construction and reduce the potential for future erosion.

Due to fish migration concerns, all in-water construction activities must be completed by April 30, 2013. Delaying repairs increases the risk of structural failure. Completing all construction activities by this date would require obtaining Board approval at the February 5, 2013 Board meeting. It is uncertain at this time whether final contract preparation, advertising, bidding, and bid evaluation can be complete prior to the February Board meeting. In addition, any unforeseen delays, such as complications with permit acquisition, could adversely affect the project timeline. If such a delay occurs and the work cannot be completed by April 30th, EWEB would be at risk of incurring additional major damage during the spring high flow season. To mitigate this risk by preserving an adequate construction schedule, it may be necessary to award a construction contract without Board approval. If delays are significant, it may also be necessary to forego conventional formal bidding processes in favor of obtaining quotes from select contractors.

Staff intends to follow conventional procurement processes to the maximum extent possible. However, in anticipation of potential project delays which could increase the risk of fish ladder failure, it is necessary to request emergency approval for a non-conventional procurement processes if warranted. Findings to support a Declaration of Emergency as well as Budget Amendment No. 1 are attached herein for your review.

This work was not budgeted for 2013 as the need for repairs was not known until after the 2012 budgeting period. Estimated total cost of work, including EWEB labor, consultant, and construction contractor, is \$900,000.

EWEB staff would typically submit an updated overall 5-year capital plan with a budget amendment to reflect the change as required by Board Policy EL-1. However, staff is currently working on a major update to the 5-year capital plan in preparation for the annual April true-up of which this change will be included. For this reason, the 5-year capital plan update that reflects this change will be submitted to the Board as part of the annual April true-up.

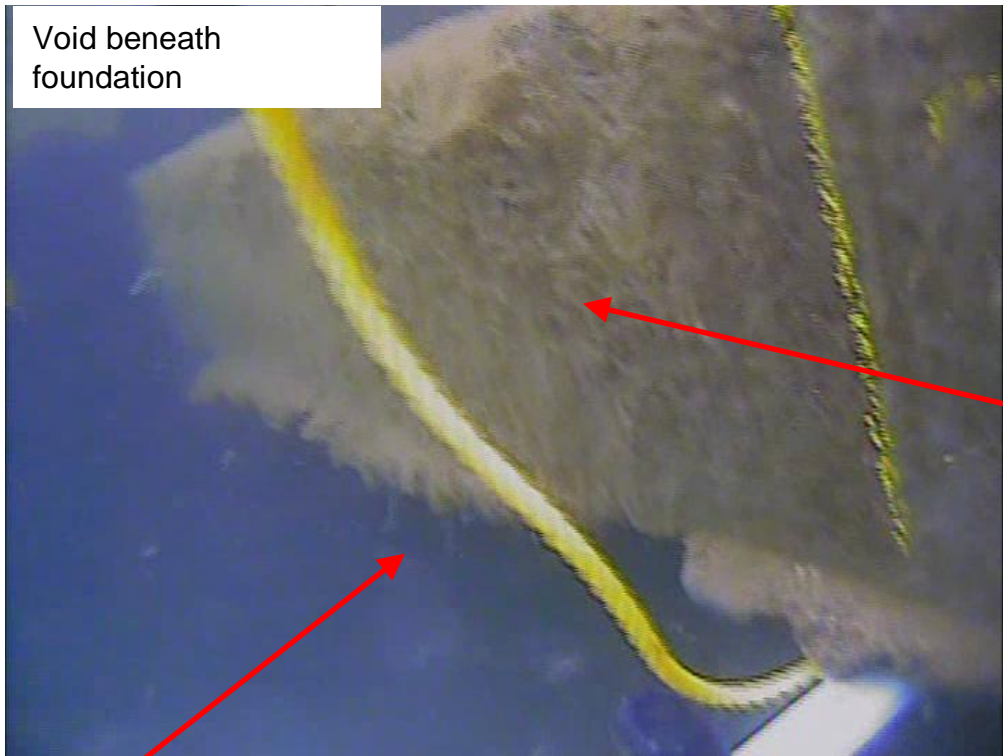
Recommendation/Requested Board Action

Management recommends Board approval of Budget Amendment No. 1 to complete the Leaburg Left Bank Fish Ladder Improvements project. Furthermore, Management recommends approval of the Emergency Declaration which is to only be carried out on a contingent basis as described above. If there are any questions or if more information is needed, please contact Debra Smith, Assistant General Manager 541-685-7196 or debra.smith@eweb.org.



Fish ladder wall

Foundation footing



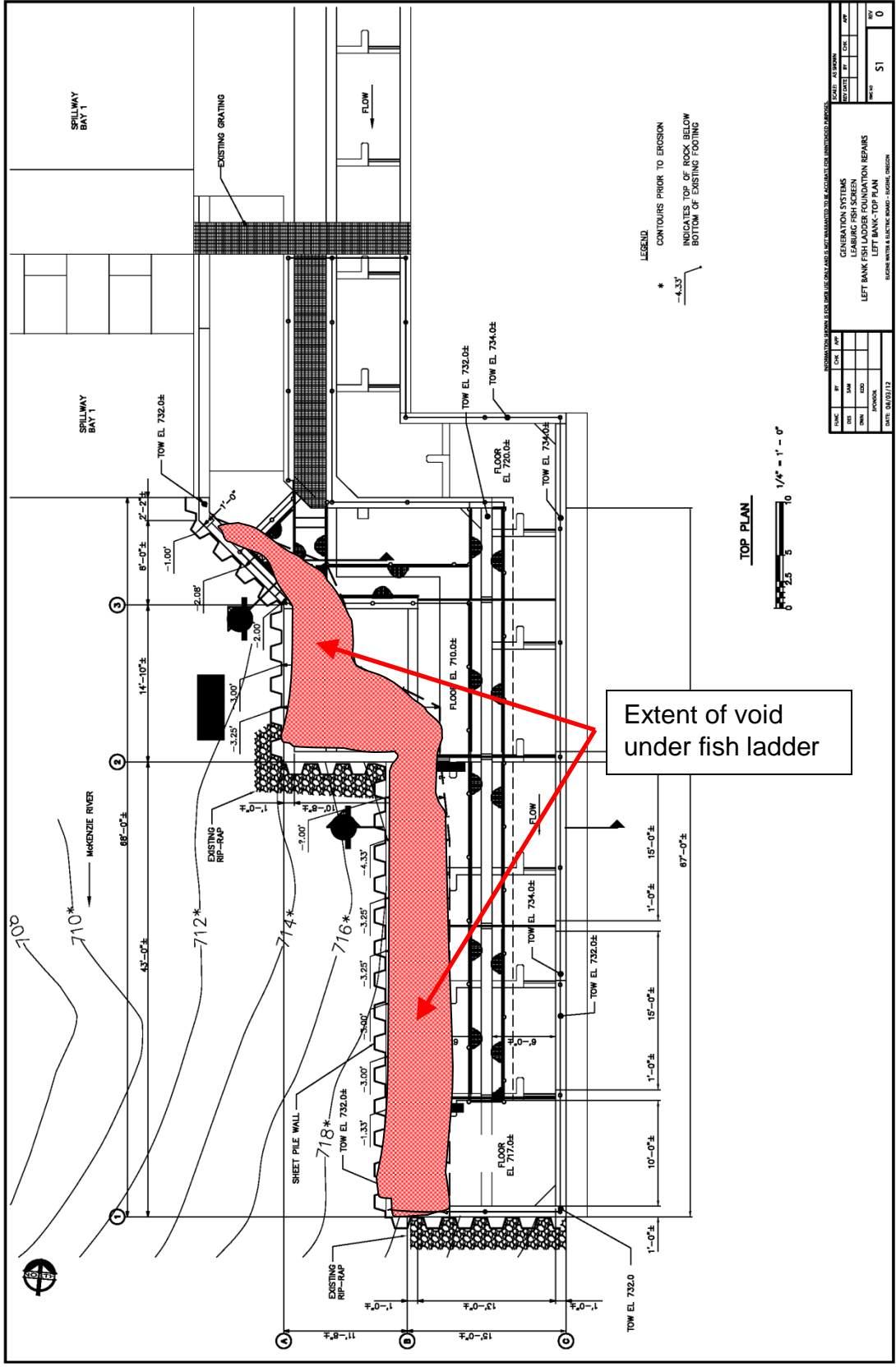
Void beneath foundation

Foundation footing

Void beneath foundation



Underside of
foundation



Extent of void under fish ladder

LEGEND
 * CONTOURS PRIOR TO EROSION
 INDICATES TOP OF ROCK BELOW BOTTOM OF EXISTING FOOTING

TOP PLAN
 0 2.5 5 10 1/4" = 1' - 0"

DATE	BY	CHK	APP	SCALE	AS SHOWN
08/11/12	SM	SM	SM	1/4" = 1' - 0"	
NO.	REV.	DATE	BY	CHK	APP
1					
PROJECT: CALIFORNIA STATE WATER CONTROL SYSTEMS LEARNER FISH SCREEN LEFT BANK FISH LADDER FOUNDATION REPAIRS LEFT BANK-TOP PLAN SHEET: S1 OF 0					

Budget Amendment Form

Amendment #1

General Information

Date: December 17, 2012

Project Name and No : 18043 – Leaburg/Waltermville Capital Expenditures

Job No and Name: 36399 – Leaburg Left Bank Fish Ladder Foundation Improvements

Amendment for: Generation Capital Projects

Category of Amendment (Check all that Apply):

Utility: Electric Water Steam

Major Capital Project Capital O & M Labor & Benefits

Contact Information:

Name: Debra Smith – Assistant General Manager

Description and justification for Budget Amendment:

A tabulation of the expenditures, additional funds needed, and funding sources is presented below: See the corresponding Board Memo for additional explanation and justification.

<i>Actual Expenditures thru</i>	<i>Projected Year-End Expenditures</i>	<i>Amount Currently Budgeted</i>	<i>Additional Funds Needed</i>	<i>Funding Source (reserves, new revenue, bonding)</i>
<i>Job No. 36399 2013 Expenditures - \$0</i>	<i>\$900,000</i>	<i>0</i>	<i>\$900,000</i>	<i>Reserves</i>

General Manager Approval: _____ Assistant GM Approval: _____

Finance Manager Approval: _____ Department Manager Approval: _____

Fiscal Services Supervisor Approval: _____

Board Consent Date: _____

FINDINGS TO SUPPORT DECLARATION OF EMERGENCY

DATE: December 17, 2012 _____

REQUESTOR: Steve Celeste, Senior Engineer _____

ESTIMATED COST: \$900,000 _____

In accordance with ORS 279A.065, ORS279A.025, 279B.080, 279B.145, 279C.335(5), 279C.380(4) and all applicable EWEB Rules:

The Purchasing Manager, with the concurrence of the General Manager and/or an affected Leadership Team Manager, may approve the award of a public contract for goods, services, or work, as an emergency procurement.

“**Emergency**” means circumstances that:

- (A) Could not have been reasonably foreseen;
- (B) Create a substantial risk of loss, damage or interruption of services or a substantial threat to property, public health, welfare or safety; and
- (C) Require prompt execution of a contract to remedy the condition. (See ORS 279A.010((1)(f))

Such circumstances may also include, but are not limited to:

- (a) EWEB moving forward as quickly as possible to prevent interruption to vital services, restoration of vital services, or
- (b) Prevention of loss to EWEB, or
- (c) Protection of the quality of services, or
- (d) Other circumstances necessary to responsibly carry out EWEB's services to its customers

279B.145 Finality of determinations. The determinations under ORS 279B.055 (3) and (7), 279B.060 (3) and (10), 279B.075, 279B.080, 279B.085 and 279B.110 (1) are final and conclusive unless they are clearly erroneous, arbitrary, capricious or contrary to law.

NATURE OF THE EMERGENCY:

The Leaburg Dam Left Bank Fish Ladder was constructed in the late 1960s. Review of the design drawings show that the ladder's concrete foundation was poured directly on the river bottom, which is comprised of cobbles, sand, and gravel. Rip-rap was placed adjacent to the fish ladder in an effort to prevent erosion.

Underwater inspection of the Leaburg Dam on June 19, 2012 revealed that the Left Bank Fish Ladder foundation has been undermined, presumably by erosion resulting from river flows passing through the dam and adjacent to the fish ladder. Measurements taken during the inspection revealed that seventy feet of the fish ladder has been undermined. The extent of the undermining ranges from four feet to more than fifteen horizontal feet as measured from the riverside foundation face of the fish ladder. In other words, a substantial portion of the foundation is unsupported. In addition, measurements revealed that twelve vertical feet of rip-rap, which helped protect the fish ladder, has also been washed away from the riverside face of the fish ladder over the years.

EWEB contracted with a structural engineering firm, Metzler Engineering Group, on July 23, 2012 to perform a structural analysis of the fish ladder and ascertain if there is risk of failure. Metzler's August 17, 2012 report concluded that due to the absence of bearing material beneath the foundation, the fish ladder

is at risk of tipping toward the river. Depending on the extent of structure movement, significant damage requiring extensive repair could result.

Metzler Engineering Group was retained through the MSA program on October 4, 2012 to design repairs to the left bank fish ladder. The design, which is 90 percent complete, will include installation of sheet piling along the riverside face of the fish ladder as well as - filling all below-foundation voids with concrete.

Due to fish migration concerns, all in-water work must be completed by April 30, 2013. Completing all construction activities by this date would require obtaining Board approval at the February 5, 2013 Board meeting. It is uncertain at this time whether final contract preparation, advertising, bidding, and bid evaluation can all be complete prior to the February Board meeting. In addition, any unforeseen delays, such as complications with permit acquisition, could adversely affect the project timeline. If such a delay occurs and the work cannot be completed by April 30th, EWEB would be at risk of incurring additional major damage during the spring high flow season. To mitigate this risk by preserving an adequate construction schedule, it may be necessary to award a construction contract without Board approval. If delays are significant, it may also be necessary to forego conventional formal bidding processes in favor of obtaining quotes from select contractors.

Staff intends to follow conventional procurement processes to the maximum extent possible. However, in anticipation of potential project delays which could increase the risk of fish ladder failure, it is necessary to request emergency approval for non-conventional procurement processes if warranted.

APPROVALS

Department Supervisor: _____ Date: _____

Purchasing Manager: _____ Date: _____

LT Manager: _____ Date: _____

Additional Comments:

Vendor/Contractor: _____

Buyer Name: _____ P.O. Number: _____