

SUMMARY OF PROJECT INFORMATION
BEAR CREEK ESTATES WASTEWATER SYSTEM
IMPROVEMENT PROJECT
MAY 18, 2004

The information contained herein is intended to provide the residents and users of the Bear Creek Wastewater System with background and overview information regarding the proposed Bear Creek Estates Wastewater System Improvement Project.

PURPOSE OF PROJECT

The purpose of the proposed Bear Creek Estates Wastewater System Improvement Project is to modify and enhance the existing treatment system in order to reduce effluent nitrogen levels by a minimum of 50% prior to disposal in a subsurface soil absorption system. The present treatment system, an onsite septic disposal system constructed in 1985, does not provide for the treatment and removal of nitrogen. The requirement for a minimum of 50% nitrogen reduction was established and ordered on July 14, 2000 by the California Regional Water Quality Control Board. The California Regional Water Quality Control Board provides regulatory authority over the San Lorenzo Valley Water District for operation of the Bear Creek Estates Wastewater System.

BACKGROUND OF REQUIREMENT FOR NITROGEN REDUCTION

In 1995, the Santa Cruz County Board of Supervisors adopted the San Lorenzo Wastewater Management Plan (WMP). This study evaluated the overall impact of nitrogen released from onsite sewage disposal systems on water quality in the San Lorenzo River Watershed. The study concluded that elevated nitrogen levels in ground and surface water stimulated excessive instream algal and microorganism growth, which results in degradation of water quality. In response to the findings of the WMP, the California Regional Water Quality Control Board implemented a performance standard requiring all permitted wastewater discharges in the San Lorenzo Valley to reduce effluent nitrogen levels by a minimum of 50%. The San Lorenzo Valley Water District is a permitted wastewater discharger.

On July 14, 2000, the California Regional Water Quality Control Board issued Discharge Order No. 00-043 to the San Lorenzo Valley Water District. The Discharge Order required San Lorenzo Valley Water District to complete modifications to the existing Bear Creek Estates Wastewater System by July 1, 2003 which provide extended treatment and reduce effluent nitrogen levels by a minimum of 50% prior to disposal.

EVALUATION OF ALTERNATIVES

In April 2002, San Lorenzo Valley Water District engaged the services of Fall Creek Engineering, Inc. to evaluate alternatives and complete the design of wastewater system

improvements which would comply with Regional Board Discharge Order No. 00-043. Fall Creek Engineering, Inc. is an environmental and water resources engineering firm located in Santa Cruz, CA which specializes in small community projects of this nature.

Fall Creek Engineering, Inc. reviewed and evaluated various treatment methods employing chemical, physical and biological processes to reduce nitrogen in wastewater. Each treatment process was initially evaluated based upon the following three (3) general criteria:

- 1) Treatment Performance,
- 2) Total Capital Cost; and
- 3) Annual Operation and Maintenance Costs.

Based upon an initial screening of the various treatment processes, three (3) biological treatment technologies were selected as “most highly recommended” for additional consideration and review. The three (3) biological treatment technologies selected as “most highly recommended” for additional screening included:

- 1) Trickling Filters,
- 2) Packed Bed Filters; and
- 3) Fixed Activated Sludge Treatment Systems.

Each of the three (3) systems selected as “most highly recommended” were evaluated and compared based on the following six (6) specific criteria:

- 1) Treatment Performance,
- 2) Operation and Maintenance Requirements,
- 3) Odor,
- 4) Land Requirements,
- 5) Capital Costs; and
- 6) Annual Operation and Maintenance Costs.

A comparison of the three (3) “most highly recommended” treatment technologies indicated that a high-rate two stage trickling filter would be the least cost and most appropriate technology for the Bear Creek Estates Wastewater System Improvement Project. Copies of the Engineering Report, Evaluation of Alternative Wastewater Treatment Systems (July 2002), are available for review at the District Office, 13060 Highway 9, Boulder Creek, CA.

In June 2003, on behalf of the San Lorenzo Valley Water District, Fall Creek Engineering, Inc. submitted a design and engineering report to the California Regional Water Quality Control Board regarding required wastewater system improvements. Proposed improvements included the installation of a high-rate, two-stage trickling filter wastewater treatment system, including all related appurtenances, additional equipment, and control and monitoring mechanisms. The Engineer’s Estimate for the cost of the proposed project is \$225,000.00. See Attachment “A”. The California Regional Water Quality Control Board approved the

proposed project on August 8, 2003. Copies of the construction drawings are available for review at the District Office, 13060 Highway 9, Boulder Creek, CA.

FINANCIAL IMPACTS

The Bear Creek Estates Wastewater System operates as a separate “Enterprise Fund”. The cost of providing wastewater services is financed and/or recovered solely through wastewater user charges. The District is proposing to provide debt financing for the Bear Creek Estates Wastewater System Improvement Project through an inter-fund loan. The District’s Water Fund would loan the Bear Creek Estates Wastewater System the necessary funds for the proposed improvement project. The inter-fund loan would be for a term of ten (10) years, with an interest rate commensurate to the yield on a Ten (10) Year U.S. Treasury Note. Currently, the interest rate for a Ten (10) Year U.S. Treasury Note is approximately 4.7%. Based upon the estimated capital cost of approximately \$225,000.00, the impacts of proposed financing would be as follows:

ESTIMATED TOTAL PROJECT COST \$225,000.00
(See Attachment “A”)

ASSUMPTIONS:

PRINCIPAL AMOUNT \$225,000.00

TERM OF REPAYMENT @ 10 YEARS

INTEREST RATE @ 4.7% PER YEAR

NOTE: Interest rate based on current Ten (10) Year U.S. Treasury Note

CURRENT NUMBER OF CONNECTIONS TO BEAR CREEK ESTATES
WASTEWATER SYSTEM=54 HOUSES

PER CONNECTION PRO RATA SHARE OF TOTAL ESTIMATED PROJECT
COST, WITHOUT INTEREST CHARGES

$$\frac{\$225,000.00}{54 \text{ HOUSES}} = \$4,166.67 \text{ LESS INTEREST CHARGES CALL APPROXIMATELY } \$4,200.00$$

CALCULATE ESTIMATED BI-MONTHLY CHARGE PER CONNECTION INCLUDING INTEREST CHARGES, FOR ESTIMATED PROJECT COST:

TOTAL BI-MONTHLY PAYMENT AMOUNT REQUIRED TO AMORTIZE
PROPOSED PROJECT, INCLUDING INTEREST

$$\$225,000.00 @ 4.7\% \text{ for } 10 \text{ YEARS} = \$4,707.24/\text{BI-MONTHLY}$$

\$4,707.24 = \$87.17 BI-MONTHLY CHARGE PER CONNECTION
54 HOUSES

CALL APPROXIMATELY \$87.00/BI-MONTHLY PER/CONNECTION

FINANCIAL ALTERNATIVES

The District has identified three (3) available refinancing alternatives for customer repayment of the Bear Creek Estates Wastewater System Improvement Project. The three (3) available alternatives, including a brief summary of important points are as follows:

WASTEWATER SERVICE FEE

- INCREASE CURRENT WASTEWATER SERVICE FEES BY APPROXIMATELY \$87.00 BI-MONTHLY; FROM PRESENT RATE OF \$140.00 TO \$227.00 BI-MONTHLY
- REVENUE TO FUND PROPOSED PROJECT IS COMINGLED WITH ONGOING OPERATION & MAINTENANCE EXPENSES
- ONLY CURRENT SYSTEM USERS PAY FOR PROPOSED PROJECT, NEW OR ADDITIONAL USERS PAY THROUGH INCREASED CONNECTION CHARGE (APPROXIMATELY FIVE (5) ADDITIONAL VACANT PARCELS ELIGIBLE FOR CONNECTION TO SYSTEM)
- REQUIRES PUBLIC HEARING AND NOTICE BY BOARD OF DIRECTORS PRIOR TO ADOPTION OF RATE INCREASE

PROPERTY RELATED CHARGE

- COMMONLY KNOWN AS “CAPITAL IMPROVEMENT SURCHARGE”
- BI-MONTHLY SURCHARGE OF APPROXIMATELY \$87.00 ADD TO WASTEWATER BILLS FOR PERIOD OF TEN (10) YEARS
- SURCHARGE HAS SAME FISCAL IMPACT AS INCREASED WASTEWATER SERVICE FEE, APPROXIMATELY \$87.00 BIMONTHLY
- SURCHARGE WOULD “SUNSET” AFTER TEN (10) YEARS
- DISTRICT COULD STRUCTURE SURCHARGE TO BE USED ONLY FOR DEBT SERVICE PAYMENTS ON PROPOSED PROJECT
- DISTRICT COULD STRUCTURE SURCHARGE TO ALLOW INDIVIDUAL PROPERTY OWNERS TO PREPAY ENTIRE AMOUNT TO AVOID ANY INTEREST CHARGES
- REQUIRES MAILED NOTICE TO EACH AFFECTED PROPERTY OWNER AND APPROVAL BY A MAJORITY OF THE PROPERTY OWNERS SUBJECT TO THE “SURCHARGE”

ASSESSMENT DISTRICT

- ASSESSMENT DISTRICT CHARGES ARE PAID WITH PROPERTY TAX BILL
- ASSESSMENT DISTRICT WOULD INCREASE TOTAL PROPOSED PROJECT COST BY MINIMUM OF APPROXIMATELY 10% (\$25,000.00) DUE TO TRANSACTION COSTS ASSOCIATED WITH FORMATION OF DISTRICT
- INCREASED PROJECT COSTS WOULD INCREASE REPAYMENT SCHEDULES
- ENTIRE AMOUNT COULD BE PAID IN ADVANCE TO AVOID INTEREST CHARGES
- REQUIRES MAILED NOTICE TO EACH AFFECTED PROPERTY OWNER AND ABSENCE OF MAJORITY PROTEST

A special meeting of the Board of Directors of the San Lorenzo Valley Water District will be held on Thursday, May 27, 2004 at the Bear Creek Country Club, 15685 Forest Hill Drive, Boulder Creek, California at 7:00 p.m. The purpose of this special meeting is to confer with residents and users of the Bear Creek Estates Wastewater System regarding the proposed improvement project.

If you have any questions or need additional information regarding this matter please do not hesitate to contact the District at (831)430-4625 or www.slvwd.com.

ATTACHMENT "A"
BEAR CREEK ESTATES WASTEWATER
SYSTEM IMPROVEMENT PROJECT
ENGINEER'S ESTIMATE

Description	Total Cost (\$)
<u>1. Engineering Design and Permitting</u>	
1.1. Preparation of Engineering Design Plans and Specifications	25,000.00
1.2. Preparation of Operation Plan	3,500.00
Subtotal =	28,500.00
<u>2. Material and Labor</u>	
2.1. Concrete Tanks	30,000.00
2.2. Trickling Filters	30,000.00
2.3. Pumping Systems	15,000.00
2.4. Effluent Pumping System	20,000.00
2.5. Control Panel	10,000.00
2.5. Piping and Valves	20,000.00
2.6. SCADA System	20,000.00
2.7. Site Work (concrete and asphalt paving)	15,000.00
2.8. Perimeter Fencing	5,000.00
2.9. Electrical Wiring	5,000.00
2.10. Backup Generator (20 KW)	15,000.00
Subtotal =	155,000.00
Sales Tax (~8%)	12,400.00
<u>3. Construction Supervision and Administration</u>	
3.1. Project Engineer	5,000.00
3.2. Electrical Engineer	2,000.00
3.3. Project Administrator	5,000.00
Subtotal =	12,000.00
Project Subtotal	207,900.00
Contingency (10%)	20,790.00
Total Estimated Project Costs	\$ 228,690.00