

Appendix F

EBMUD's Participation in Upgrade of Water Distribution System

Memorandum

April 13, 2004

To: City of Orinda Infrastructure Committee

From: Roger James

Subject: EBMUD's Participation in Upgrade of Water Distribution System

BACKGROUND

The June 1997 consolidation of the Orinda Fire Protection District and Moraga Fire Protection District into the Moraga-Orinda Fire Protection District (MOFD) established a special tax to provide funds for fire protection, prevention and suppression and emergency medical services, equipment and related facilities, including water distribution facilities for fire suppression purposes, with the proceeds restricted to use in the Orinda area. The MOFD subsequently levied 5¢ of the 6¢ approved tax.

The Orinda Fire Safety Committee (OFSC) consisting of representatives from the City of Orinda, East Bay Municipal Utility District (EBMUD) and MOFD was formed in February 1998 to address the fire safety concerns in Orinda. The three agencies entered into a cooperative agreement in May 1998 to undertake a comprehensive engineering study of the water distribution system of the water system. The results of the study indicated that \$50 million in system improvements would be required to achieve a fire flow standard of 2,250 gallons per minute (gpm) at 20 pounds per square inch pressure from three adjacent hydrants flowing simultaneously. The OFSC subsequently prioritized the improvements to provide higher priorities to areas with fire flows less than 1000 gpm from a single hydrant, provision of additional flows, address areas with a high fire safety index, provision of direct and indirect safety benefits, hydrant replacement and construction efficiency. This process lead to a prioritized list of 134 projects costing \$49 million. Forty-nine (49) high priority projects costing \$12.8 million were identified providing 90% of the parcels in Orinda with the minimum fire flow of 1000 gpm.

Various funding alternatives to improve the water distribution system were subsequently explored including an increase level of funding from EBMUD. EBMUD had established a level of participation based on a policy that had been developed to address system deficiencies identified from the "Rockridge" fire. The City and MOFD thoroughly explored multiple alternatives and in January 2001 presented very strong justifications for changes in the policy; however, EBMUD in April 2002 reaffirmed the "Rockridge Model" and adopted the attached Policy 3.03 "Community Fire Flow Improvement Program".

The November 2002 Measure N election to increase the fire flow tax from the 6¢ per fire risk factor (size, type of home construction and use of sprinkler systems-copy attached) to 18¢ with the proceeds to be used exclusively for improving the water distribution capabilities within the Orinda Zone of the MOFD was narrowly defeated on a 61.9% vote. The proceeds from the initiative would have funded the 49 highest priority projects.

POTENTIAL CONTRIBUTIONS FROM EBMUD

I have talked with Katy Foulkes, member of the EBMUD Board of Directors and participant on the OFSC and she has confirmed that the EBMUD policy will not likely change in the foreseeable future so that additional financial participation from EBMUD should not be included in the Committee's fiscal analysis. EBMUD would continue to provide financial assistance to upgrade the water distribution system consistent with its policy.

Chief Johnson contacted EBMUD staff in September 2005 and was advised that two projects (Items 32 and 43) had been completed at a cost of \$143,000 and that revisions to the 1999 estimated cost placed the remaining projects at \$15,293,320 with a local cost of \$14,153,025. I have contacted the EBMUD staff to determine whether any additional projects are scheduled within their planning horizon and should receive this information within the next two weeks.



Policy 3.03

EFFECTIVE 09 APR 02

SUPERSEDES NEW

COMMUNITY FIRE FLOW IMPROVEMENT PROGRAM

IT IS THE POLICY OF EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Work with service area communities to support financing and implementation of community-initiated substantial fire flow improvements to the water distribution system where technically and operationally feasible.

Purpose

To provide for improvements to EBMUD's water distribution infrastructure that will meet the local public agencies' goals to increase fire flow, while at the same time continuing to provide high quality water service to the customers.

Responsibility for improvements shall be allocated in accordance with the following criteria:

- EBMUD's cost responsibility will be based on maintaining the as-designed capacity of the pipelines. This will be presumed to be 500 gallons per minute unless other acceptable documentation is available.
- Local agencies or community groups will be responsible for the costs to improve fire flows above the as-designed capacity.
- EBMUD will not, as the only participating agency, undertake system modifications solely to improve fire flow.
- EBMUD will size new pipeline segments to meet current fire flow standards, where feasible, when individual pipeline segments are improved to address infrastructure maintenance or pipeline relocation needs.

Financing

At the request of local public agencies, EBMUD will work with those entities to assess the need for and cost of fire flow improvements. When fire flow improvements within EBMUD's service area are identified as a community priority, EBMUD will help the local communities to finance and implement the local share of fire flow improvements subject to the following conditions:

- Individual communities shall provide EBMUD with a written request to undertake the improvements detailing the public benefits to be derived from implementation of the program.
- Individual communities must establish a dedicated revenue stream that will be adequate to repay the funds advanced by EBMUD over a specified number of years, not to exceed 20 years.
- The community financing method must have local support, which may be evidenced either by implementing a tax via a successful vote of the residents, or by passing a special assessment district procedure. The local community is responsible for any public outreach efforts necessary to ascertain local support.

Community Fire Flow Improvement Program

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- Individual communities must agree to defend any challenges to the revenue methods and to guarantee payment to EBMUD for any fire flow improvements made, including in the event of a successful challenge.
 - No fire flow improvements will be funded by EBMUD that have the potential to degrade water quality or impact EBMUD's operational flexibility or ability to provide a reliable, high quality water supply.
 - The maximum principal amount of funds advanced by EBMUD and outstanding (dedicated to fire flow improvements) at any one time shall be \$25 million.
 - EBMUD will carry out or oversee and approve the design and construction of all fire flow improvements.
 - EBMUD and the individual community shall enter into an implementation agreement that details all responsibilities and financial arrangements.
 - The interest rate on the funds advanced shall be a fixed rate set at 70 percent of the current Bond Buyer Municipal Bond Index. Such rate will be set at the time of the request from the local community for financial assistance, and will remain available at that rate for up to one year to provide adequate time for the local community to establish the funding source to repay the amount financed by EBMUD.
 - Financing shall include sufficient contingency to protect EBMUD ratepayers from unforeseen cost increases.

Authority

Board Resolution 33300-02, April 9, 2002

MORAGA FIRE PROTECTION DISTRICT
SPECIAL TAX MEASUREMENT
ORDINANCE NO. 80-19

(An Ordinance of the Moraga Fire Protection District
Authorizing a Special Tax for
Fire Protection and Prevention Services)

The Contra Costa County Board of Supervisors as the Board of Directors of the Moraga Fire Protection District of Contra Costa County does ORDAIN as follows:

ARTICLE I. PURPOSE AND INTENT. It is the purpose and intent of this Ordinance to authorize the levy of a tax on parcels of real property on the secured property tax roll of Contra Costa County that are within the Moraga Fire Protection District in order to augment funding for fire protection and prevention services.

This tax is a special tax within the meaning of Section 4 of Article XIII of the California Constitution, and this Ordinance is enacted pursuant to Government Code Section 53978 (adopted by Chapter 397 of the Statutes of 1979). Because the burden of this tax falls upon property, this tax also is a property tax, but this tax is not determined according to nor in any manner based upon the value of property; this tax is based, to the extent practical, upon the improvements to each parcel and, specifically, the risk of fire attendant to such improvements. Insofar as not inconsistent with this Ordinance or Chapter 397 of the Statutes of 1979 and insofar as applicable to a property tax that is not based on value, such provisions of the California Revenue and Taxation Code and of Article XIII of the California Constitution as relate to ad valorem property taxes are intended to apply to the collection and administration of this tax (Article IV of this Ordinance), as authorized by Government Code Section 53978 (d).

The revenues raised by this tax are to be used solely for the purposes of obtaining, furnishing, operating, and maintaining fire suppression equipment or apparatus, for paying the salaries and benefits of firefighting personnel, and for such other fire protection or prevention expenses as are deemed necessary by the Moraga Fire Protection District.

ARTICLE II. DEFINITIONS. The following definitions shall apply throughout this Ordinance:

1. "Parcel" means the land and any improvements thereon, designated by an assessor's parcel map and parcel number and carried on the secured property tax roll of Contra Costa County. For purposes of this Ordinance, parcel does not include any land or improvement outside the boundaries of the Moraga Fire Protection District nor any land or improvements owned by any governmental entity.

2. "Improved parcel" means any parcel upon which any combustible improvement exists.

3. "Unimproved parcel" means any parcel except an improved parcel.

4. "Combustible improvement" means any building or other improvement, including all attached parts of such building or other improvement, if any contents or part of the building or other improvement is capable of burning.

5. "Improvement" means those items included within the Revenue and Taxation Code Section 105 definition of improvements, except for 1) fences, poles and walls that are not a part of or connected to a structure and 2) trees and vines.

6. "Fiscal year" means the period of July 1 through the following June 30.

7. "Improved parcel fire risk factor" means the figure calculated for each combustible improvement on an improved parcel, according to the following formula:

Improved parcel fire risk factor = $18 \times C \times \sqrt{A} \times .5S$

Where:

C = the coefficient for the type of construction of the improvement, as specified on page 1 of the Insurance Services Office Guide for Determination of Required Fire Flow, dated December, 1974. The type of construction of the improvement, which will determine the coefficient to be used, is to be determined in accordance with the definitions set forth in the first part of the Appendix to the aforesaid Guide. A copy of the Guide shall be available for public inspection at the administrative headquarters of the District, Moraga, California.

Area = the approximate total square footage of the improvement, including all floors (basements included) and all attached parts of the improvement.

S = 2/ft. for a combustible improvement that does not contain an approved sprinkler system.

S = 1/ft. for a combustible improvement that does contain an approved sprinkler system.

8. "Improved parcel combined fire risk factor" means the total of the improved parcel fire risk factors for all combustible improvements on a parcel.

9. "Unimproved parcel fire risk factor" means the figure calculated for an unimproved parcel according to the following formula:

Unimproved parcel fire risk factor = $400 + (EA \times 5/\text{acre})$

Where:

EA = the amount of acreage of the parcel that is in excess of 1 acre.

10. "Rate" or "tax rate" means the amount, expressed in cents, which is to be multiplied by either the unimproved parcel fire risk factor or the improved parcel combined fire risk factor to compute the amount of tax on a parcel.

11. "District" means Moraga Fire Protection District.

12. "Component" means any part of the formula for the improved parcel fire risk factor or the unimproved parcel fire risk factor.

13. "Approved sprinkler system" means a sprinkler system conforming with the

requirements of the District Fire Code and any applicable building codes.

14. "Ad valorem property taxes" or "ad valorem real property taxes" means tax on that secured roll real property which is subject to being sold for delinquency of such taxes. "Ad valorem property taxes" or "ad valorem real property taxes", therefore includes taxes based on the March 1, 1975 value of real property and taxes based on the value of real property at date of change of ownership, completion of new construction, or purchase where such has occurred after March 1, 1975.

15. "Taxpayer" means the assessee of the property as shown on the secured tax roll and, if different than the assessee, the person or legal entity actually paying the taxes.

ARTICLE III. SETTING OF TAX RATE; COMPUTATION AND LEVY OF TAXES.

1. Setting of the Tax Rate.

The District's Board of Fire Commissioners, prior to each July 1st, shall recommend to the District's Board of Directors the tax rate to be set for the next fiscal year. Thereafter, at a regularly scheduled meeting held prior to the end of July, the Board of Directors of the Moraga Fire Protection District shall set the rate which shall be applied to determine the taxes for the next fiscal year. The rate shall be in cents and shall be determined to the closest one-tenth of a cent (e.g., a rate of 4.5 cents) that the Board of Directors of the District deems appropriate to achieve the purposes of this Ordinance; provided, however, that said rate shall not exceed 6.0 cents unless an increase in such maximum rate is approved by two-thirds of the voters voting on such an increase in a district-wide election.

2. Computation of Taxes.

a. Improved parcels: the tax on each improved parcel shall be the amount, in dollars and cents, determined by multiplying the rate times the improved parcel combined fire risk factor for the parcel.

b. Unimproved parcels: the tax on each unimproved parcel shall be the amount, in dollars and cents, determined by multiplying the rate times the unimproved parcel fire risk factor for the parcel.

3. Levy of Taxes.

Prior to the end of each July, the District's Board of Directors shall levy taxes upon the parcels in the Moraga Fire Protection District for the then current fiscal year by setting the rate and computing the taxes in accordance with Article III, 1 and 2, above. Taxes levied on each parcel pursuant to this Section shall be a charge upon the parcel and shall be due and collectible as set forth in Article IV, below. A complete listing of the amount of taxes on each parcel shall be maintained and be available for public inspection at the District's administrative headquarters during the remainder of the fiscal year for which such taxes are levied.

ARTICLE IV. COLLECTION AND ADMINISTRATION.

1. Taxes as Liens Against the Property.

The amount of taxes for each parcel each year shall constitute a lien on such property, in accordance with Revenue and Taxation Code Section 2187, and shall have the same effect as an ad valorem real property tax lien until fully paid.

2. Collection.

The taxes on each parcel shall be billed on the secured roll tax bills for ad valorem property taxes and shall be due the Moraga Fire Protection District, insofar as feasible and insofar as not inconsistent with this Ordinance; the taxes are to be collected by Contra Costa County on behalf of the District in the same manner in which the County collects secured roll ad valorem property taxes. Insofar as feasible and insofar as not inconsistent with this Ordinance, the times and procedures regarding exemptions, due dates, installment payments, corrections, cancellations, refunds, penalties, liens, and collections for secured roll ad valorem property taxes shall be applicable to the collection of this tax. Notwithstanding anything to the contrary in the foregoing, as to this tax: 1) the secured roll tax bills shall be the only notices required for this tax, 2) the appeal procedures set forth hereinbelow shall apply in lieu of appeals to the Assessment Appeals Board, and 3) the homeowners and veterans exemptions are not applicable, because such exemptions are a function of dollar amount of value and this tax is a function of square footage or acreage.

3. Publication of Notice of Time Limit for Filing Appeals.

Within 20 days after the bills for the first installment of secured roll taxes have been mailed, the Board of Fire Commissioners of the Moraga Fire Protection District shall cause a notice of right to appeal to be published once a week for two weeks in a newspaper of general circulation throughout the District. Such notice shall be headed "Notice of Appeals Period for Moraga Fire Protection District Special Tax for Fire Protection and Prevention Services" and shall contain the precise wording of all of Article V hereinbelow.

4. Costs of Administration by County.

The reasonable costs incurred by the County officers collecting and administering this tax shall be deducted from the collected taxes before remittal of the balance to the District.

ARTICLE V. APPEALS.

1. Applications for Reduction of Taxes; Time Limit for Filing; Notice of Hearing; Payment of Taxes Pending Decision; Refunds.

Appeals of the amount of the special tax for fire protection and prevention services for a parcel, or of any component of the tax, must be made by written application of the taxpayer to the District's Board of Fire Commissioners and must be received at the District's administrative headquarters, Moraga, California, no later than the 31st of December following receipt of the tax bill for the first installment of secured roll taxes.

(CONTINUED)

Johnston, Jim

From: Kirkpatrick, William [wkirkpat@ebmud.com]
Sent: Wednesday, January 12, 2005 1:22 PM
To: Johnston, Jim
Cc: WLindsay@ci.orinda.ca.us
Subject: RE: Updated Orinda Fire Flow Improvements Cost Estimate



Update: The bottom line values below are correct but, please note that in my equations, I omitted adding the cost of the fire hydrants back in.

Bill

From: Kirkpatrick, William
Sent: Wednesday, January 12, 2005 12:41 PM
To: jjohnston@mofd.org
Cc: WLindsay@ci.orinda.ca.us
Subject: Updated Orinda Fire Flow Improvements Cost Estimate

Jim, the following is the cost update you requested.

Total Cost per Agreement in May 2002 dollars: \$13,840,807 less costs for the new Hydrants @ \$329,977 = \$13,510,830 - \$1,351,083 (EBMUD share) = \$12,489,724 (Agreement Attachment B).

Update of the costs to December 2004 ———: \$15,319,230 less costs for the new Hydrants @ \$370.995 = \$14,948,235 + \$6,013 interest* on 90% of \$196,000 (Engineering study) - \$1,494,824 (EBMUD share) =

\$13,830,419 by Orinda and MOFD. This value includes cost reductions for Master Plan projects #32 and #43 which were constructed by EBMUD since 2002, \$179,000. (Snowberry Crt. and Sunrise Hill Road).

Please call if you have any questions.

Bill

* Year 2003 and 2004 interest per the Local Agency Investment Fund published rate (with 2004 approximated). Rates use were 1.735% and 1.645% respectively.

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City of Oakland Bond Funds	\$1,145,000
Rockridge Special Assessment District	\$886,000
East Bay Municipal Utility District	\$511,000

The RSAD was formed specifically for this purpose and each parcel is assessed \$135 per household per year for 30 years via the county tax rolls.

→ Orinda Fire Flow Improvements - The Moraga-Orinda Fire District (MOFD), the City of Orinda and the District have been working together during the past few years to address fire flow improvements in Orinda. These agencies formed the OFSC and two elected members of each agency form its membership. In mid-2000, the staff of these agencies presented the Orinda Fire Flow Draft Master Plan and the Draft Moraga-Orinda Fire Prevention Master Plan Outline to the OFSC. These plans were based on a fire flow goal of 2,250 gpm (from 3 hydrants). The Orinda Fire Flow Draft Master Plan prioritized \$50 million in water distribution system improvements, mostly pipeline replacements. This is viewed as the long-term master plan for improvements in Orinda.

Based on affordability issues, a reduced scope project was identified. About 30 percent of the pipe in the master plan would be installed at a cost of \$13 million. Applying the same Rockridge flow-rate based cost model to Orinda, the District's proportionate share of this smaller project was estimated to be approximately \$480,000. Upon subsequent discussions, the District agreed to refine the calculations and assumptions (within the current cost-sharing methodology) resulting in an estimated contribution of \$1.26 million. The District's proposed financial contribution is based on the responsibility to restore the water system to the as-designed residential fire flow of 500 gpm. The local fire agency and/or community would be responsible for the costs to provide improved flows above 500 gpm.

However, the City of Orinda and the MOFD have proposed an alternative method for calculation of the District's share of the project cost. They have suggested that the pipelines have a definable life span, and that the community share would represent a reimbursement to the District for the remaining useful life of the pipes replaced early. This would result in a District share of approximately \$6.7 million. This concept has several fallacies in logic:

- The District practice is to replace pipelines for maintenance reasons (when it is more cost effective to replace them than to repair them), not based on age. A properly installed pipeline has an indefinite life. Any calculation based on some assumed life span of the pipes is meaningless.
- The District has a model to predict future pipeline replacement needs, based on maintenance history statistics. This model predicts that 1.5-2.0 miles of pipe will need to be replaced in Orinda in the next 25 years. The proposed fire flow project would replace 10.8 miles of pipe.

- Thus, 8.8-9.3 miles of pipe would be replaced that do not need to be replaced and are not cost-effective to replace. This cannot be construed as an economic benefit to the District.
- The methodology includes no consideration of the time value of money. Even if the other conceptual problems did not exist, ignoring this factor overstates the District share by nearly 100 percent.

These comments have been communicated to Orinda and MOFD staff.

Various other District contribution levels have been suggested by Orinda and the MOFD. However, these levels of contribution would not be consistent with past practice, i.e., the Rockridge cost model.

Kensington Fire Flow Improvements - In December 1999, the Kensington Fire Protection District (KFPD) adopted the Kensington Water System Improvements Master Plan to upgrade the water supply system in Kensington through a five-year series of projects estimated at a total cost of \$1 million. Their community goal is to increase fire flows to 4,500 gpm at the urban-wildland interface. On August 2000, the KFPD Board entered into an agreement with the District to begin design and construction of the first phase at an estimated cost of \$400,000. The KFPD is funding these improvements. However, the KFPD and the District have agreed to reserve for further discussion the possibility that the parties may consider and consent to a cost-sharing proposal that would be retroactive.

Design of the first phase is in progress. The District will propose application of the Rockridge cost model for these improvements. At this time, and considering the Rockridge model, only one hydrant location in all of Kensington may qualify for cost sharing. This would amount to only a few percent of the total cost.

ALTERNATIVES

The alternative to the current methodology for cost sharing on fire flow improvement projects is to reconsider the current practice and change the policy. This is an option available to the Board, but is not recommended for the following reasons:

- The 1994 infrastructure studies estimated a cost of \$800 million to upgrade fire flows District-wide to 1,000 gpm and to 1,500 gpm in the area affected by the 1991 Oakland Hills fire. The costs would be significantly greater if higher fire flow goals, as has been suggested by Orinda, were established District-wide. A commitment to go beyond the current practice in one community would likely result in significant costs in future years that have not been budgeted and would result in significant rate increases.
- The District policy is that it will pay for fire flow upgrades when pipes are replaced for system integrity reasons, but not solely to improve fire flows. This is consistent with water

industry practices nationwide and with the California Public Utility Commission requirements for private water systems.

- Establishment of fire flow goals is the responsibility of local fire departments, and the goals vary by community. The current methodology for cost sharing establishes a consistent base-line District cost responsibility and leaves it up to the communities to decide how much investment they want to make beyond that base-line.
- New developments that connect to the District system have already paid (via System Capacity Charges and home prices) for fire flow capacities that meet current fire department criteria. Equity issues must be considered in requesting these same customers to pay via water rates for upgrades to other communities.
- The current policy formed the basis for cost sharing in Rockridge. A revised approach would be inconsistent with that cost-sharing methodology and could result in re-opening of the cost allocation discussions with the Rockridge community and the City of Oakland.

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