



**NOTICE OF SPECIAL MEETING
BOARD OF DIRECTORS/WATERSHED COMMITTEE***

Notice is hereby given that a Special Meeting of the Marin Municipal Water District’s Board of Directors /Watershed Committee will be held as follows:

MEETING DATE: Thursday, June 11, 2015
TIME: 1:30 pm
LOCATION: MMWD Board Room, 220 Nellen Ave., Corte Madera, CA 94925

AGENDA

ITEM	RECOMMENDATION	APPROX. START
<input type="checkbox"/> CALL TO ORDER		1:30 p.m.
<input type="checkbox"/> ADOPT AGENDA		1:31 p.m.
<input type="checkbox"/> PUBLIC EXPRESSION**		1:32 p.m.
<input type="checkbox"/> CALENDAR		
1. Minutes of March 12, 2015	<i>Approve</i>	1:37 p.m.
2. MMWD Board Sub-committee on Tamalpais Lands Collaborative	<i>Review and Recommend for Approval</i>	1:38 p.m.
3. Agreement with U.S. Forest Service for Resilient Forest Study	<i>Approve</i>	1:48 p.m.
4. Water Management at West Point Inn	<i>Information</i>	2:08 p.m.
5. Log Cabin Planning	<i>Information</i>	2:23 p.m.
Adjourn		2:45 p.m.

Stephanie Eichner-Gross
Board Secretary

MMWD BOARD OF DIRECTORS: Armando Quintero, President; Larry Bragman; Jack Gibson; Cynthia Koehler; Larry Russell

**The designated chair is Director Quintero. Other board members may attend as they wish.*

***Anyone wishing to speak on an item other than those listed on this agenda will be recognized at this time. We ask any person wishing to be heard to come to the podium to address the board and state your name and address for the public record. A 3-minute limit is customary; however the committee chair may adjust the actual time allotted to accommodate the number of speakers.*

ADA NOTICE AND HEARING IMPAIRED PROVISIONS: The board room is equipped with sound amplifying units for use by the hearing impaired. The units operate in conjunction with the room's sound system. You may request the personal sound amplifier from the Board Secretary for use during meetings.

In accordance with the Americans with Disabilities Act and California Law, it is the policy of the Marin Municipal Water District to offer its public programs, services, and meetings in a manner that is readily accessible to everyone, including those with disabilities. If you are disabled and require a copy of a public hearing notice, an agenda, and/or agenda packet in an appropriate alternative format, or if you require other accommodation, please contact Stephanie Eichner-Gross at (415) 945-1448, at least two days in advance of the meeting. Advance notification within this guideline will enable the district to make reasonable arrangements to ensure accessibility.

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FUTURE BOARD OF DIRECTORS/WATERSHED COMMITTEE MEETINGS:

Thursday, September 13, 2015 1:30 pm	MMWD Board Room
Thursday, December 10, 2015 1:30 pm	MMWD Board Room



**MARIN MUNICIPAL
WATER DISTRICT**

ITEM NO. 1
MEETING DATE: June 11, 2015
MEETING: Board of Directors /
Watershed
Committee

STAFF REPORT

SUBJECT: Minutes of March 12, 2015 Watershed Committee Meeting
SUBMITTED BY: Mike Swezy, Watershed Manager, Facilities and Watershed
RECOMMENDED ACTION: Approve

ATTACHMENTS:

1. Minutes of March 12, 2015 Watershed Committee

**MARIN MUNICIPAL WATER DISTRICT
BOARD OF DIRECTORS / WATERSHED COMMITTEE**

IN ATTENDANCE:

Directors present: Director Jack Gibson and Director Larry Russell

Directors absent: Director Cynthia Koehler, Director Larry Bragman and Director Armando Quintero

CALL TO ORDER: Director Gibson called the meeting to order at 1:35 pm

ADOPT AGENDA: By simple motion, the agenda was adopted.

PUBLIC EXPRESSION: There was no public expression.

ITEM 1. MINUTES OF MARCH 12, 2015

Approved.

ITEM 2. TAMALPAIS LANDS COLLABORATIVE UPDATE

Information. Mike Swezy, Watershed Manager, updated the Committee on the Tamalpais Lands Collaborative (TLC) achievements of the past year. The General Manager, Krishna Kumar complimented Mike and thanked Sharon Farrell and Matt Leffert from the Golden Gate National Parks Conservancy for their time with outreach meetings in the County communities.

Mike provided information about TLC Community Engagement including community meetings, the engagement strategy, new public materials, upcoming events and the One Tam website. He discussed One Tam new staff hires, future key projects, the One Tam Roving Ranger and ongoing fund raising events.

ADJOURNMENT

There being no further business, the meeting of March 12, 2015 adjourned at 2:20 pm.



STAFF REPORT

SUBJECT: MMWD Board Sub-committee on Tamalpais Lands Collaborative
SUBMITTED BY: Mike Swezy, Watershed Manager, Facilities and Watershed Division
RECOMMENDED ACTION: Review and Recommend for Approval

EXECUTIVE SUMMARY:

Staff recommends the formation of a sub-committee of the district Board of Directors for the purposes of providing a public forum for matters related to the Tamalpais Lands Collaborative (TLC) specific to MMWD lands and to seek committee direction for staff participation in the partnership.

FISCAL IMPACT: YES **NO** **FISCAL YEAR:**

BACKGROUND:

In 2014 the four public agencies responsible for Mt. Tamalpais (Marin Municipal Water District, California State Parks, Marin County Parks, and the National Park Service) teamed up with the nonprofit Golden Gate National Parks Conservancy (Conservancy) to form the TLC. The expressed purpose of the TLC was to address natural resource issues common to all agencies, implement a coordinated approach for fundraising and public engagement, strengthen stewardship and conservation programs, combine expertise and resources, and provide greater collective benefit through collaboration.

On March 21, 2014 the five agencies signed a memorandum of understanding that provided common vision, goals, agency responsibilities, philanthropic approach, project and program prioritization and avenues for funding. Subsequently, the district and the Conservancy entered into a cooperative agreement (Miscellaneous Agreement No. 5311) on January 12, 2015 to guide activities between the two agencies related to the TLC.

Now a year old, TLC stewardship and education-focused programs have been initiated to build capacity for existing agency programs and meet currently under-resourced needs. Early community and stakeholder outreach is continuing, and has expanded to trailheads and community events with the goal of increasing awareness and building greater stewardship support. Lastly, partner agency initiated projects are being considered for implementation.

Through these TLC efforts, the following items have surfaced that require further discussion at the District level:

- Provisions for greater transparency and timely information about TLC initiatives and activities; and
- Increased review of TLC outreach materials to ensure messaging is consistent with Water District policies; and
- Increased opportunity for public involvement with regards to District-initiated projects and programs that are eligible for support through the TLC.

In order to ensure that these issues are addressed in a manner that is consistent with MMWD's watershed management policies, the protection of Marin's primary water producing lands and for the long term ecological health of Mt. Tamalpais, staff is recommending the creation of a sub-committee of the Board of Directors.

Staff requests that the Watershed Committee Refers this proposal to the Board of Directors with a recommendation to approve.

STRATEGIC PLAN ALIGNMENT:

The district's support for the TLC aligns with Strategic Plan Goal 4 (Environmental Stewardship), Strategy 2 (Increase community engagement in stewardship of Mt. Tamalpais as a water and community asset) Objective 1 (Develop projects and programs for the TLC).

ATTACHMENTS: NONE



STAFF REPORT

SUBJECT: Agreement with U.S. Forest Service for Resilient Forest Study
SUBMITTED BY: Mike Swezy, Watershed Manager, Facilities and Watershed Division
RECOMMENDED ACTION: Refer to the Board of Directors with a recommendation to approve

EXECUTIVE SUMMARY: In cooperation with UC Davis and U.S. Forest Service staff has developed a research study to evaluate strategies to restore sudden oak death-impacted forests relative to water yield, carbon sequestration, fire hazard reduction, and habitat quality. This agreement (attachment 1) will provide for data collection, analysis, and report writing for the first year of the study.

FISCAL IMPACT: YES NO **FISCAL YEAR:** 2014-2015

EXPENDITURES

Budgeted Amount	\$62,442.00
Budget Augmentation Requested	\$
	\$
	\$
TOTAL EXPENDITURES	\$62,442.00

FUNDING SOURCES

Operating Fund	\$62,442.00
Capital Fund	\$
Other	\$
Operating Reserves	\$
TOTAL SOURCES	\$62, 442.00

FISCAL IMPACT NARRATIVE: Sufficient funds are available in the FY15-15 budget for this project.

BACKGROUND:

Project Overview: The Marin Municipal Water District's Mt. Tamalpais Watershed has the dubious distinction of being one of the earliest and most extensive areas impacted by *Phytophthora ramorum* aka sudden oak death. Eighty-three percent of all habitat on the watershed contains tree species which are killed by the pathogen at broad spatial scales: tanoak, coast live oak, California black oak, and Shreve's oak.

Over the past 20 years, the sudden oak death pathogen has killed innumerable watershed trees: canopy mortality was most pronounced in former redwood and Douglas-fire forest along western Bolinas Ridge now dominated by tanoak. Type conversions from one recognized vegetation association to another were detected for 840 ha of habitat where tanoak ceased to be a primary component. Recruitment of replacement species is not occurring.

These sudden oak death-created brush fields are increasing fuels and decreasing ecosystem services, aesthetics and other natural resource values. Research also suggests that water yield can be increased by manipulation of vegetation. The challenge has been to do this operationally. There is also an important distinction to be made between "optimal" water yield and "maximum" water yield. Optimum water yield implies a supply of clean water for all beneficial uses of that water, including healthy vegetative and aquatic ecosystems. The goal of this project is to bridge this gap and be able to make operational level decisions about which forest treatments benefit water yield along with other equally important goals including: reduction of fuel loads, restoration of carbon sequestration, improvement of stand structure and composition, and possibly biomass feedstock generation as a by-product of restoration activities. This project uses stand-level vegetation management to identify techniques which result in the greatest ecosystem benefits by developing a set of experimental treatments aimed at restoring these lands back to a functional forest.

Project goals:

1. Develop land management strategies to restore sudden oak death- impacted forests on Mt. Tamalpais.
2. Evaluate treatments in terms of efficacy to restore carbon sequestration and maintain other natural resource values in stands impacted by *Phytophthora ramorum*.
3. Provide quantitative, credible assessments of the water-cycle impacts of forest vegetation treatments in lands managed by the Marin Municipal Water District (and on adjacent lands managed by members of the Tamalpais Lands Collaborative - pending additional funding).
4. Develop data and tools to guide investments and build partnerships across the range of lands impacted by sudden oak death in central-coastal CA forests.

By combining measurements of carbon sequestration, water yield, fuels, and biodiversity resources, this study will provide critical insights into how management affects tradeoffs across a set of natural resource goals. At the conclusion of the project, Mt. Tamalpais land managers will have experience implementing alternative treatments and scientific evidence to serve as guidance for future management decisions. The results from this study will inform management of disease impacted stands throughout the range of invasion by *P. ramorum* by determining effective measures for forest restoration.

Geographic area: Experimental treatments will be focused on district watershed lands in the vicinity of Kent Lake. If additional funds are obtained, the project may expand with treatments conducted on lands managed by the Golden Gate National Recreation Area, Marin County Parks, Point Reyes National Seashore, California State Parks and other cooperators.

Project design: Five, 6 acre sets of 4 replicated treatments will be installed starting in summer 2015 and monitored for five years. Each block will be 6 total acres with a full factorial design of forest treatments. Treatments will evaluate different vegetation removal methods and revegetation strategies. Within each block, four 1.5 acre areas of each treatment type will be monitored with a smaller sampling plot (500 m²) where vegetation will be mapped and measured and all instrumentation, carbon measurements, and long-term monitoring will be conducted. A minimum of 30 acres will be treated and monitored along with 6 acres of untreated controls.

Funding: This agreement will provide funding for data collection, analysis and reporting for the first year of the project. Additional funding is expected for future years through grants from CalFire and other sources.

Environmental Compliance: The Environmental Services Coordinator has determined that the project is Categorically Exempt pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15306, Information Collection. The project qualifies for exemption pursuant to Section 15306 inasmuch as it consists of basic data collection, research, experimental management, and resource evaluation activities which will not result in a serious or major disturbance to an environmental resource. A copy of the draft Notice of Exemption is enclosed as Attachment 2. The Notice of Exemption will be filed with the County Clerk's office following board action to approve the agreement.

Project Implementation: The layout and measurement of study plots is scheduled to begin in July of 2015. Plot treatments will occur in late summer, early fall 2015.

STRATEGIC PLAN ALIGNMENT: This project meets a high priority objective of the strategic plan. Specifically, the requested action aligns with the district's Strategic Plan Goal 4 (Environmental Stewardship), Strategy 3 (Enhance ecosystem resiliency), and Objective 1 (Develop and implement an adaptive "Healthy Forests" plan). It also will provide information that can further three objectives under Strategy 5 (Reduce MMWD carbon footprint): Objective 6 (Assess carbon

sequestration credits) and Objective 7 (Assess portable cogeneration technology for forest management on Mt. Tamalpais Watershed) and Objective 8 (Evaluate water supply implications of a major Mt. Tamalpais watershed fire).

ATTACHMENTS:

1. Draft Collection Agreement
2. Scope of Work
3. Financial Plan
4. Draft Notice of Exemption

FS Agreement No. 15-CO-11272139-015
Cooperator Agreement No. _____

COLLECTION AGREEMENT
Between The
MARIN MUNICIPAL WATER DISTRICT
And The
USDA, FOREST SERVICE
PACIFIC SOUTHWEST RESEARCH STATION

This COLLECTION AGREEMENT is hereby entered into by and between the Marin Municipal Water District, hereinafter referred to as “MMWD or the cooperator”, and the USDA, Forest Service, Pacific Southwest Research Station, hereinafter referred to as the “U.S. Forest Service,” under the provisions of the 1. Cooperative Funds Act of June 30, 1914 (16 U.S.C. 498 as amended by Pub. L. 104-127),.

Background: The Marin Municipal Water District’s (MMWD) Mt. Tamalpais watershed has the dubious distinction of being one of the earliest and most extensive areas impacted by *Phytophthora ramorum*. Eighty-three percent of all habitat on the watershed contains tree species which are killed by the pathogen at broad spatial scales: tanoak (*Notholithocarpus densiflorus*), coast live oak (*Quercus agrifolia*), California black oak (*Q. kelloggii*), and Shreve’s oak (*Q. parvula var. shrevei*).

Over the past 20 years, the sudden oak death pathogen has killed innumerable watershed trees: canopy mortality was most pronounced in tanoak-dominant assemblages along western Bolinas Ridge. Type conversions from one recognized vegetation association to another were detected for 840 ha of habitat where tanoak ceased to be a primary component. Recruitment of replacement species is not occurring.

These sudden oak death-created brush fields are increasing fuels and decreasing ecosystem services, aesthetics and other natural resource values. Research also suggests that water yield can be increased by manipulation of vegetation. The challenge has been to do this operationally. There is also an important distinction to be made between “optimal” water yield and “maximum” water yield. Optimum water yield implies a supply of clean water for all beneficial uses of that water, including healthy vegetative and aquatic ecosystems. The goal of this project is to bridge this gap and be able to make operational level decisions about which forest treatments benefit water yield along with other equally important goals including: reduction of fuel loads, restoration of carbon sequestration, improvement of stand structure and composition, and biomass feedstock generation. This project uses stand-level vegetation management to identify techniques which result in the greatest ecosystem benefits by developing a set of experimental treatments aimed at restoring these lands back to a functional forest.

**Goal and objectives:**

1. Develop land management strategies to restore sudden oak death- impacted forests on Mt. Tamalpais.
2. Evaluate treatments in terms of efficacy to restore carbon sequestration and maintain other natural resource values in stands impacted by *Phytophthora ramorum*.
3. Provide quantitative, credible assessments of the water-cycle impacts of forest vegetation treatments in lands managed by the Marin Municipal Water District (and on adjacent lands managed by members of the Tamalpais Lands Collaborative - pending additional funding).
4. Develop data and tools to guide investments and build partnerships in the millions of acres impacted by sudden oak death in central-coastal CA forests.

By combining measurements of carbon sequestration, water yield, fuels, and biodiversity resources, this study will provide critical insights into how management affects tradeoffs across a set of natural resource goals. At the conclusion of the project, Mt Tamalpais land managers will have experience implementing alternative treatments and scientific evidence to serve as guidance for future management decisions. The results from this study will inform management of disease impacted stands throughout the range of invasion by *P. ramorum* by determining effective measures for forest restoration.

Title: Restoring Mt. Tamalpais: Promoting water yield and carbon capture in forests devastated by Sudden Oak Death – Phase 1

- I. **PURPOSE:** The purpose of this agreement, and incorporated Financial Plan, is to document the voluntary contribution of funds from the MMWD to the U.S. Forest Service to conduct an adaptive project aimed at improving water yield and restore areas damaged by the sudden oak death pathogen as described in the Work Plan, which is attached and incorporated herein by this reference. The USDA Forest Service intends to enter into a Joint Venture agreement with UC Davis to perform the work, as described in the 2015 Phase 1 work plan and the financial plan which is associated and incorporated by this reference. The amount of funds in this agreement is \$62,442.

II. THE MMWD SHALL:

- A. **LEGAL AUTHORITY.** The MMWD shall have the legal authority to enter into this agreement, and the institutional, managerial, and financial capability to ensure proper planning, management, and completion of the project, which includes funds sufficient to pay the nonfederal share of project costs, when applicable.



- B. Perform in accordance with the Financial Plan.
- C. Upon presentation of a Bill for Collection, deposit with the U.S. Forest Service the amount agreed to in the Financial Plan.

III. THE U.S. FOREST SERVICE SHALL:

- A. ADVANCE BILLING. The maximum total cost liability to the The MMWD for this agreement is \$62,442.
- B. The U.S. Forest Service shall bill the MMWD prior to commencement of work for deposits sufficient to cover the estimated costs (including overhead) for the specific payment period. Overhead is assessed at the rate of 1% percent.

Billing Method: A single lump sum advance bill.

Billing must be sent to:

Laurie Offenbach
Marin Municipal Water District
220 Nellen Ave
Corte Madera CA 94925

- C. Perform in accordance with the attached Financial Plan.
- D. Deposit all cash funds received in into a Forest Service Cooperative Work Fund to be used to be used for the purpose for which contributed.

IV. IT IS MUTUALLY AGREED AND UNDERSTOOD BY AND BETWEEN THE PARTIES THAT:

- A. PRINCIPAL CONTACTS. Individuals listed below are authorized to act in their respective areas for matters related to this agreement.

Principal Cooperator Contacts:

Cooperator Program Contact	Cooperator Administrative Contact
Name: Janet Klein, Physical Address: Natural Resource Program Manager Office: Sky Oaks Watershed Headquarters, 49 Sky Oaks Road, Fairfax, Mailing address: 220 Nellen Avenue,	Name: Laurie Offenbach Address: Marin Municipal Water District 220 Nellen Ave City, State, Zip: Corte Madera CA 94925 Telephone: 415 -945-1180 FAX: 415- 945-1171



<p>Corte Madera, CA 94925 Telephone: 415-945-1192 FAX: 415-945-1171 Email: jklein@marinwater.org</p>	<p>Email: loffenbach@marinwater.org</p>
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Principal U.S. Forest Service Contacts:

U.S. Forest Service Program Manager Contact	U.S. Forest Service Administrative Contact
<p>Name: Susan J. Frankel Address: USDA Forest Service, Pacific Southwest Research Station; 800 Buchanan Street, City, State, Zip: Albany, CA 94710 Telephone: 510-559-6472; FAX: 510-559-6440 Email: sfrankel@fs.fed.us</p>	<p>Name: Brian Hanlon Address: USDA Forest Service, Pacific Southwest Research Station; 800 Buchanan Street, City, State, Zip: Albany, CA 94710 Telephone: 510-559-6309 FAX: 510-559-6440 Email: bhanlon@fs.fed.us</p>

Refunds: Funds collected in advance by the U.S. Forest Service, which are not spent or obligated for the project(s) approved under this agreement, may be refunded to the MMWD, authorized for use for a new agreement by the MMWD, or waived by the MMWD. A DUNS number and registration in the System for Award Management (SAM) by the MMWD may be necessary to process a refund. Due to processing costs, any balance less than \$25 shall not be refunded to the MMWD.

B. **FREEDOM OF INFORMATION ACT (FOIA).** Public access to agreement records must not be limited, except when such records must be kept confidential and would have been exempted from disclosure pursuant to Freedom of Information regulations (5 U.S.C. 552). Requests for research data are subject to 2 CFR 215.36.

Public access to culturally sensitive data and information of Federally-recognized Tribes may also be explicitly limited by P.L. 110-234, Title VIII Subtitle B §8106 (2009 Farm Bill).

C. **PARTICIPATION IN SIMILAR ACTIVITIES.** This agreement in no way restricts the U.S. Forest Service or the MMWD from participating in similar activities with other public or private agencies, organizations, and individuals.

D. **ENDORSEMENT.** Any of the MMWD’s contributions made under this agreement do not by direct reference or implication convey U.S. Forest Service endorsement of the MMWD's products or activities.

E. **NOTICES.** Any communication affecting the operations covered by this agreement by the U.S. Forest Service or the MMWD will be sufficient only if in writing and delivered in person, mailed, or transmitted electronically by e-mail or fax, as follows:



To the U.S. Forest Service Program Manager, at the address specified in the agreement.

To the MMWD, at the MMWD's address shown in the agreement or such other address designated within the agreement.

Notices are effective when delivered in accordance with this provision, or on the effective date of the notice, whichever is later.

- F. TERMINATION FOR COLLECTION AGREEMENTS. Either party, in writing, may terminate this agreement in whole, or in part, at any time before the date of expiration. The U.S. Forest Service shall not incur any new obligations for the terminated portion of this agreement after the effective date of termination and shall cancel as many obligations as possible. Full credit must be allowed for U.S. Forest Service expenses and all non-cancelable obligations properly incurred up to the effective date of termination. Excess funds must be refunded within 60 days after the effective termination date.
- G. DEBARMENT AND SUSPENSION. The MMWD shall immediately inform the U.S. Forest Service if they or any of their principals are presently excluded, debarred, or suspended from entering into covered transactions with the Federal Government according to the terms of 2 CFR Part 180. Additionally, should the MMWD or any of their principals receive a transmittal letter or other official Federal notice of debarment or suspension, then they shall notify the U.S. Forest Service without undue delay. This applies whether the exclusion, debarment, or suspension is voluntary or involuntary.
- H. MODIFICATIONS. Modifications within the scope of this agreement must be made by mutual consent of the parties, by the issuance of a written modification signed and dated by all properly authorized, signatory officials, prior to any changes being performed. Requests for modification should be made, in writing, at least 30 days prior to implementation of the requested change. The U.S. Forest Service is not obligated to fund any changes not properly approved in advance.
- I. COMMENCEMENT/EXPIRATION DATE. This agreement is executed as of the date of the last signature, and has an expiration date of December 31, 2019. The expiration date is the final date for completion of all work activities under this agreement.
- J. AUTHORIZED REPRESENTATIVES. By signature below, each party certifies that the individuals listed in this document as representatives of the individual parties are authorized to act in their respective areas for matters related to this agreement. In witness whereof, the parties hereto have executed this agreement as of the last date written below.



KRISHNA KUMAR, General Manager,
Marin Municipal Water District

Date

ALEXANDER L. FRIEND, Station Director
Pacific Southwest Research Station

Date

The authority and format of this agreement have been reviewed and approved for signature.

JENNIFER R. JONES
U.S. Forest Service Grants Management Specialist

Date

Burden Statement

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0217. The time required to complete this information collection is estimated to average 4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

Restoring Mt. Tamalpais: Promoting water yield and carbon capture in forests devastated by Sudden Oak Death – Phase 1

MMWD technical contact: Janet Klein, Natural Resource Program Manager Office: Sky Oaks Watershed Headquarters, 49 Sky Oaks Road, Fairfax, Mail: 220 Nellen Avenue, Corte Madera, CA 94925; Phone: 415-945-1192; Fax: 415-945-1171; jklein@marinwater.org

FS-PSW technical contact: Susan J. Frankel - USDA Forest Service, Pacific Southwest Research Station; 800 Buchanan Street, Albany, CA 94710; Phone: 510-559-6472; Fax: 510-559-6440; sfrankel@fs.fed.us

Cooperators:

Michael Swezy and Andrea Williams - Marin Municipal Water District, mswezy@marinwater.org; awilliams@marinwater.org;

Richard Cobb and David Rizzo - UC Davis, Department of Plant Pathology, rccobb@ucdavis.edu; dmrizzo@ucdavis.edu;

Peter Hartsough, Dept. of Land, Air and Water Resources, UC Davis, phartsough@ucdavis.edu;

Rodger Bales, UC Merced, Sierra Nevada Research Institute, rbales@ucmerced.edu;

Janice Alexander - UC Cooperative Extension, Marin Co., jalexander@ucanr.edu;

Matt Sagues - Marin County Parks; MSagues@marincounty.org;

Alison Forrestal, Pt. Reyes National Seashore; alison_forrestal@nps.gov;

Jordon Reeser, Fire Management Officer, San Francisco Bay Area Network, National Park Service; Jordan_Reeser@nps.gov;

Bree Hardcastle, California State Parks; Bree.Hardcastle@parks.ca.gov;

Cindy Roessler - Midpeninsula Regional Open Space District, croessler@openspace.org.

Summary: To develop land management strategies to restore sudden oak death impacted forests on Mt Tamalpais, alternative fuels treatments and planting schemes will be compared. In areas where sudden oak death has destroyed the overstory, treatments will be evaluated for water retention, fuel load reduction, carbon sequestration, stand structure and composition, and biomass feedstock generation. The project will be conducted on lands managed by the Marin Municipal Water District and on adjacent lands managed by members of the Tamalpais Lands Collaborative.

Background and need: The Marin Municipal Water District's (MMWD) Mt. Tamalpais watershed has the dubious distinction of being one of the earliest and most extensive areas impacted by *Phytophthora ramorum*. Eighty-three percent of all habitat on the watershed contains tree species which are killed by the pathogen at broad spatial scales: tanoak (*Notholithocarpus densiflorus*), coast live oak (*Quercus agrifolia*), California black oak (*Q. kelloggii*), and Shreve's oak (*Q. parvula var. shrevei*).

Over the past 20 years, the sudden oak death pathogen has killed innumerable watershed trees: canopy mortality was most pronounced in tanoak-dominant assemblages along western Bolinas Ridge. Type conversions from one recognized vegetation association to another were detected

for 840 ha of habitat where tanoak ceased to be a primary component. Recruitment of replacement species is not occurring.

These sudden oak death-created brush fields are increasing fuels and decreasing ecosystem services, aesthetics and other natural resource values. Research also suggests that water yield can be increased by manipulation of vegetation. The challenge has been to do this operationally. There is also an important distinction to be made between “optimal” water yield and “maximum” water yield. Optimum water yield implies a supply of clean water for all beneficial uses of that water, including healthy vegetative and aquatic ecosystems. The goal of this project is to bridge this gap and be able to make operational level decisions about which forest treatments benefit water yield along with other equally important goals including: reduction of fuel loads, restoration of carbon sequestration, improvement of stand structure and composition, and biomass feedstock generation. This project uses stand-level vegetation management to identify techniques which result in the greatest ecosystem benefits by developing a set of experimental treatments aimed at restoring these lands back to a functional forest.

Goal and objectives:

1. Develop land management strategies to restore sudden oak death- impacted forests on Mt. Tamalpais.
2. Evaluate treatments in terms of efficacy to restore carbon sequestration and maintain other natural resource values in stands impacted by *Phytophthora ramorum*.
3. Provide quantitative, credible assessments of the water-cycle impacts of forest vegetation treatments in lands managed by the Marin Municipal Water District (and on adjacent lands managed by members of the Tamalpais Lands Collaborative - pending additional funding).
4. Develop data and tools to guide investments and build partnerships in the millions of acres impacted by sudden oak death in central-coastal CA forests.

By combining measurements of carbon sequestration, water yield, fuels, and biodiversity resources, this study will provide critical insights into how management affects tradeoffs across a set of natural resource goals. At the conclusion of the project, Mt Tamalpais land managers will have experience implementing alternative treatments and scientific evidence to serve as guidance for future management decisions. The results from this study will inform management of disease impacted stands throughout the range of invasion by *P. ramorum* by determining effective measures for forest restoration.

Methods

Geographic area: Experimental treatments will be cooperatively designed and applied on Mt Tamalpais, on lands managed by the Marin Municipal Water District (MMWD). If additional funds are obtained, the project may expand with treatments conducted on lands managed by the Golden Gate National Recreation Area (GGNRA), Marin County, Pt. Reyes National Seashore, CA State Parks and other cooperators.

Project design: Five, 6 acre sets of 4 replicated treatments will be installed starting in summer 2015 and monitored for five years. Each block will be 6 total ac with a full factorial design of forest treatments. Within each block, four 1.5 acre areas of each treatment type will be monitored with a smaller sampling plot (500 m²) where vegetation will be mapped and measured and all instrumentation, carbon measurements, and long-term monitoring will be conducted. A minimum of 30 acres will be treated and monitored along with 6 acres of untreated controls.

Plots will be set up in areas with significant sudden oak death damage to the overstory with gentle slopes and close to roads. MMWD conducted a GIS analysis and outlined treatment and control areas: 1) along the Bolinas Fairfax road, 2) near Dog Creek Rd (Peters Dam), 3) Laurel Dell and between Upper Berry Trail and Northside trail (Cataract-Northside Area).

Proposed Manipulative Treatments

Within each treatment block, we will compare the effectiveness of the following treatments for their effects on natural resource goals:

1. Mastication with mulch depth controlled to less than 4" (Mastication with removal). This treatment simulates the effects of biomass removals for biomass co-generation planned within the region.
2. Mastication without mulch depth control; mulch depth greater than 4" (Mastication). This treatment simulates immediately available actions to restore vegetation.
3. Mastication with mulch depth control (treatment 1) and replanting. Replanting of target species will be tested for the effectiveness (speed, cost, overall benefits) in restoring forests to pre-disease levels of ecosystem function.
4. Mastication without removal (treatment 2) and replanting. Similar to 3, this treatment assesses the impacts of currently-available forest management and replanting strategies.

Reference and Control Comparisons

Suitable reference conditions have been located in proximity to each study block:

1. Untreated control plots. These stand conditions are statistically indistinguishable from the treatment blocks with dense regenerating tanoak.
2. Untreated control plots with seedling replanting. Replicating seedling replanting in unmanaged areas is critical for producing baseline data and comparisons for seedling growth and

survival over time as well as understanding the implications of replanting for carbon sequestration and water yield.

3. No disease reference conditions. For the purpose of this study, no disease reference conditions are defined as areas with < 10% basal area mortality due to *P. ramorum*. Given the extent of pathogen invasion within the MMWD and surrounding lands, uninvaded stands are extremely rare. However, some stands have been invaded by *P. ramorum* but have minimal mortality. These conditions occur in isolated patches within MMWD and will be monitored where possible to provide insight into pre-disease ecosystem function.

Tree planting: In the seeded or planted areas, Oregon white oak (*Q. garryana*) and California nutmeg (*Torreya californica*), or other native species, will be the target restoration species. Oregon white oak is expected to be favored by future warmer and drier conditions while restoration of overstory California nutmeg is a larger biodiversity goal of the MMWD and surrounding lands. Oregon white oak is immune to *P. ramorum* and while California nutmeg can be infected during wet periods, these infections have never been associated with significant disease. Both species are expected to be resilient to the pathogen where vegetation is removed and local seed sources are also available. We expect natural regeneration of Douglas-fir (*Pseudotsuga menziesi*), redwood (*Sequoia sempervirens*) and other species to dominate in mastication treated areas that do not have follow-up vegetation treatments. A subset of naturally regenerated tree seedlings will be monitored for survival and growth in each study plot. Herbicides are not permitted for use on MMWD lands therefore, mastication is the available vegetation control technique with the lowest-cost and most realistic potential for application on a broader scale.

Evaluation of Vegetation and Carbon dynamics: Tree density, growth rate, seedling germination and establishment, survival, and understory species establishment will be evaluated annually for five years. Seedling germination success in planted areas will be additionally evaluated monthly for the first two years in conjunction with monthly carbon measurements. Carbon capture will be evaluated by repeated measurements of total carbon in soil, litter and vegetation with analysis done at UC Davis. Annual bird point counts will be conducted in each study plots to provide additional insight into treatment effects on biodiversity and habitat suitability.

Evaluation of Water Yield: For plots of this size (sub-catchment), the single best indicator metric for water yield is measurement of soil moisture at several different depths. From this information, we can predict the depth of infiltration during storm events and also the partitioning of water between water that will remain in the shallow soil and be available for evaporation/transpiration and water that will infiltrate deeper and become part of the longer term storage component.

We will instrument each of the treatment and control plot (24-28 total) with soil moisture sensors at two different depths, 15cm and 30cm. These sensors will be tied into a network of dataloggers that will allow us to monitor soil moisture conditions in real time. Soil pits will be installed using augured holes, minimizing sub-surface disturbance. In conjunction with instrumentation of the study plots, soil samples will be collected to determine basic soil hydrology and physical processes. One plot within each block will be equipped with additional precipitation gauges in order to provide location specific water input information that will supplement existing precipitation records in the area.

Data analysis: Data will be maintained by Cobb, Hartsough, and Rizzo, UC Davis. Empirical data will be analyzed using a combination of linear mixed models and path analysis. Where linked processes determine the overall balance of carbon capture, a series of process-based models will be fitted using the empirical data to estimate parameter values. These process-based models will be the foundation for forecasting the amount of carbon captured over the first 25 years of the study. Hartsough will maintain the instrumentation, data collection, and conduct analysis of hydrological data. For soil moisture measurements, data processing and simple hydrological modeling will allow point measurements to be scaled up to the watershed scale and allow for determination of the efficacy of different treatment options in terms of water yield.

This study will also provide yield and cost information needed to conduct an ongoing biomass utilization analysis. Estimates of biomass production from treatments will be conducted with the aim of evaluating the costs and benefits for various biomass utilization options (i.e. haul to existing co-generation plant, haul to potential biomass plant in Marin Co.).

2015 Plan of Work – Phase 1 Activities

- 1) Layout plot locations and delimit project treatment areas.
- 2) Test project area for *Phytophthora cinnamomi*, *P. ramorum* and other *Phytophthora species* to provide a baseline of pathogen status in the project area. Prior to treatment implementation, Cobb will provide a report on other forest pathogens and occurrences of potentially problematic weeds.
- 3) Inventory plots and evaluate the amount and distribution of healthy, desirable vegetation that could be left on site to grow into a future stand specifically, advanced regeneration. This information will be used to inform treatment specifications and overall study design.
- 4) Sample soil for initial carbon determination and soil moisture probe calibration. Moisture calibration will be conducted in the laboratory at UC Davis.
- 5) Deploy soil moisture and other forest hydrology monitoring equipment.

Timeline

2015

- Summer, fall. Pre-treatment plot installation and measurements (MMWD, UC Davis). Controls and treatment areas.
- Bait and sample for *Phytophthora cinnamomi* and other forest pathogens.
- Implementation of mastication treatments will follow plot establishment and *P. cinnamomi* surveys.
- Summer, fall. Purchase and calibrate soil moisture probes.
- Fall. Deploy soil moisture monitoring equipment and establish other forest hydrology monitoring infrastructure. This step is dependent on successful treatment application.

This agreement only covers 2015 work. If additional funds are provided, the 2016 - 2019, proposed work plan would be added:

2016

- Post-treatment measurements to quantify the amount of density and basal area reduction due to mechanical treatments.
- Establishment of monthly soil respiration and GHG gas exchange measurements
- Establishment of quarterly litterfall and root turnover measurements
- Forest water monitoring

2017

- Plot remeasurement. Reseeding or planting as needed.
- Survey of seedling survival and tree growth
- Continuation of quarterly litterfall and root turnover measurements
- Measurement of monthly soil respiration and GHG gas exchange
- Forest water monitoring

2018

- Plot remeasurement. Reseeding or planting as needed.
- Survey of seedling survival and tree growth
- Continuation of quarterly litterfall and root turnover measurements
- Measurement of monthly soil respiration and GHG gas exchange
- Forest water monitoring

2019

- Survey of seedling survival and tree growth
- Analyze data, paper preparation and present results.

Note. Concurrent with this agreement, MMWD will also prepare needed CEQA documentations. If CA nutmeg and other species plantings are planned for 2016 or 2017, MMWD will investigate sources and methods to grow plants from seeds or starts.

2015 Budget

Total: \$62,442. (\$52,157 costs for personnel, \$3,955 for travel, and \$5,711 for supplies and lab analysis services. At 1% PSW overhead rate, the indirect cost totals \$619. See attached budget and detailed description of equipment, supplies, and travel costs in the Appendix.)

Appendix

Additional treatment description

Mastication treatments will produce a 10-20 cm (approx. 4 to 8 in) thick layer of wood and vegetation mulch generated from pathogen infected understory tanoak. Mastication treatments have the additional advantage that the woody below-ground ligno-tuber of tanoak, which supports prolific post-disease regeneration will be partially removed and thereby is very likely to reduce competition and thereby increase post-treatment seedling establishment by other species.

Treatments with mulch depths to less than 4 inches (10 cm) will emulate other cut and remove biomass treatments which have been applied on MMWD and GGNRA lands. These treatments mimic biomass removal for co-gen power plants; each treatment will extend beyond a 10m buffer around each plot. For removal treatments (treatments 1 & 3) the material will be ground and dispersed in the adjacent forest. Supplemental raking of material will be if necessary to ensure proper mulch depths in all of the mastication treatments.

Budget

Supplies Detail – Soil analysis charges at UC Davis lab:

Analysis	per sample	set up fee	# of samples	Subtotal
Group total C/N	\$17.5	\$30	60	\$1,080
Group NO3-N/NH4-N	\$15.95	\$30	60	\$ 987
Total P	\$12.45	\$30	60	\$ 777
Total Ca	\$12.45	\$30	60	\$ 777
Grind	\$6	\$0	60	\$ 360
Base fee		\$30		\$ 30
Total				\$4,011

Supplies Detail – Field and laboratory survey consumables:

Materials needed to establish field plots and conduct laboratory surveys of *P. cinnamomi*

Work Plan for Collection agreement between MMWD and USDA Forest Service

Field supplies	Paint pens, tree tags, mapping tools and measuring tools	\$700
Laboratory supplies	Petri plates, media base materials, consumables	\$1,000
	Subtotal	\$1,700

Travel Cost Detail:

To cut overall costs, UC Davis researchers will share a single vehicle and travel budget

Rental charges		Total cost
short term vehicle assignment	120 days @ \$26 per day	\$3,120
Estimated mileage charges	\$0.10 per mile (58 round trips)	\$835.20
	Subtotal	\$3,955.20

Personnel Costs Detail

	Total cost MMWD	PSW Will provide
Dr. Richard Cobb (Project Scientist - Davis)	\$15,600	
Dr. Peter Hartsough (Project Scientist - Davis)	\$ 7,080	
Dr. David M. Rizzo	-	
Field Research Assistant	\$7,680	
Undergraduate Support	\$9,000	
Susan Frankel, PSW - 2 days at \$687 per day		\$1,374
Total Salaries	\$39,360	
Benefits by individual		
Dr. Richard Cobb (Project Scientist – UC Davis)	\$5,990	
Dr. Peter Hartsough (Project Scientist - UC Davis)	\$2,719	
Dr. David M. Rizzo	-	
Field Research Assistant	\$3,971	
Undergraduate Support	\$ 117	
Total Benefits	\$12,797	
Total Personnel	\$52,157	\$1,374

Indirect Cost basis: \$61,823 incoming from MMWD

Indirect Cost PSW 1%: \$619

Total MMWD Costs for 2015: \$62,442

**Collection Agreement Financial Plan
Cooperator and FS Contributions**

COST ELEMENTS and related data				Cooperator Contribution	FS Non-Cash Contribution	
Line Item Cost Subtotals				Subtotal	Subtotal	Combined Subtotals
PERSONNEL						
Resource Specialists (List all personnel):	# of Days	\$/Day				
Dr. Richard Cobb (Project Scientist - Davis)	60.00	\$260.00	\$15,600			\$15,600.00
Dr. Peter Hartsough (Project Scientist - Davis)	40.00	\$177.00	\$7,080			\$7,080.00
Field Research Assistant	60.00	\$128.00	\$7,680			\$7,680.00
Undergraduate Support	102.50	\$87.80	\$9,000.00			\$9,000.00
Susan Frankel, PSW	2.00	\$687.00		\$1,374		\$1,374.00
Benefits				\$0.00		\$0.00
Dr. Richard Cobb (Project Scientist – UC Davis)			\$5,990.00	\$0.00		\$5,990.00
Dr. Peter Hartsough			\$2,719.00			\$2,719.00
Field Research Assistant			\$3,971.00			\$3,971.00
Undergraduate Support			\$117.00			\$117.00
					\$0.00	\$0.00
Subtotal, Personnel:	264.50		\$52,157.00	\$1,374.00		\$53,531.00
TRAVEL						
Explanation of trips: From Where/To Where/For Whom	Vehicle Mileage Cost or Airfare Cost	# of Trips	PerDiem and Lodging			
short term vehicle assignment				\$3,120.00		\$3,120.00
Estimated mileage charges	14.40	58		\$835.20		\$835.20
(Sci & crew from Davis to MMWD)					\$0.00	\$0.00
Subtotal, Travel:	\$14.40	58	\$0.00	\$3,955.20	\$0.00	\$3,955.20
EQUIPMENT						
Name and Type of Equipment:	Unit Cost	Quantity				
				\$0.00		\$0.00
				\$0.00		\$0.00
					\$0.00	\$0.00
Subtotal, Equipment:	\$0.00	0	\$0.00	\$0.00	\$0.00	\$0.00
SUPPLIES						
Name and Type of Supplies:	Unit Cost	Quantity				
Field supplies - Paint pens, tree tags, mapping tools				\$700.00		\$700.00

Laboratory supplies- Petri plates, media base			\$1,000.00		\$1,000.00
Soil analysis charges - 240 samples at an avg. of \$16.71			\$4,011.00		\$4,011.00
				\$0.00	\$0.00
Subtotal, Supplies:	\$0.00	0	\$5,711.00	\$0.00	\$5,711.00

CONTRACTUAL				
Describe Contracts that will most likely result from this project:				
				\$0.00
				\$0.00
				\$0.00
Subtotal, Contractual:		\$0.00	\$0.00	\$0.00
OTHER				
Describe Other Costs of the Project:				
				\$0.00
				\$0.00
				\$0.00
Subtotal, Other:		\$0.00	\$0.00	\$0.00
TOTAL DIRECT CHARGES		\$61,823.20	\$1,374.00	\$63,197.20
OVERHEAD ASSESSMENT (if applicable, see FSH 1909.13)	Insert Rate Here:	1.0%	\$618.23	
Total Party Costs		\$62,441.43	\$1,374.00	\$63,815.43
COST ELEMENTS -In house PSW contribution		Cooperator Contribution		
TOTAL CHARGES		\$1,374.00		
OVERHEAD ASSESSMENT (if applicable, see FSH 1909.13)	Insert Rate Here:			\$1,374.00
Total PSW contrib. + overhead at 14%				
TOTAL PROJECT COSTS				\$63,815.43

Forest Service indirect is 7% on all incoming funds for internal FS use (there is no threshold on the amount). *Pass-thru amount(s) will be accessed 2%. Please cite this information on the Indirect Cost Worksheet and WorkPlan you submit. All incoming Joint Fire Science Projects (JFSP) will incur an additional 2.8% indirect costs. Make sure to enter "4.8" for the Overhead Assessment for JFSP projects.

If Cooperator does not pay indirect they must provide their institutional written policy restriction to G&A for documentation to the file for audit purposes. Also, if Cooperator does not pay indirect that amount will be charged to the unit.

Notice of Exemption



Filing Requested By and When Filed Return To:

Marin Municipal Water District
220 Nellen Ave
Corte Madera, CA 94925
Attn: Dain Anderson, Environmental Services Coordinator

Project Title: Resilient Forest Study

Project Location – City: Mt. Tamalpais, Unincorporated Marin County **Project Location – County:** Marin

Project Description: The Resilient Forest Study will implement a research study to evaluate strategies to restore sudden oak death-impacted forests relative to water yield, carbon sequestration, fire hazard reduction, and habitat quality.

Project goals are:

1. Develop land management strategies to restore sudden oak death-impacted forests on Mt. Tamalpais.
2. Evaluate treatments in terms of efficacy to restore carbon sequestration and maintain other natural resource values in stands impacted by *Phytophthora ramorum*.
3. Provide quantitative, credible assessments of the water-cycle impacts of forest vegetation treatments in lands managed by the Marin Municipal Water District (and on adjacent lands managed by members of the Tamalpais Lands Collaborative - pending additional funding).
4. Develop data and tools to guide investments and build partnerships across the range of lands impacted by sudden oak death in central-coastal California forests.

Experimental treatments will be focused on district watershed lands in the vicinity of Kent Lake. Five, 6-acre sets of 4 replicated treatments will be installed starting in summer 2015 and monitored for five years. Each block will be 6 total acres with a full factorial design of forest treatments. Treatments will evaluate different vegetation removal methods and revegetation strategies. Within each block, four 1.5-acre areas of each treatment type will be monitored with a smaller sampling plot (500 m²) where vegetation will be mapped and measured and all instrumentation, carbon measurements, and long-term monitoring will be conducted. A minimum of 30-acres will be treated and monitored along with 6-acres of untreated controls.

Public Agency Approving Project: Marin Municipal Water District

Name of Person or Agency Carrying Out Project: Marin Municipal Water District

CEQA Exemption Status: Categorical Exemption Section 15306, Information Collection.

Reason for Exemption: The project qualifies for exemption pursuant to Section 15306 inasmuch as it includes basic data collection, research, experimental management, and resource evaluation activities which will not result in a serious or major disturbance to an environmental resource.

Project Approval: The Marin Municipal Water District Board of Directors approved the agreement with the U.S. Forest Service for the Resilient Forest Study, which represents project approval as defined by Section 15352 of the Guidelines for Implementation of the California Environmental Quality Act, at their regularly scheduled meeting on June 16, 2015.

Lead Agency Contact Person: Dain Anderson, Marin Municipal Water District **Telephone:** (415) 945-1586

Dain Anderson, Environmental Services Coordinator

Date



STAFF REPORT

SUBJECT: Water Management at West Point Inn
SUBMITTED BY: Mike Swezy, Watershed Manager, Facilities and Watershed
RECOMMENDED ACTION: Information

EXECUTIVE SUMMARY:

Staff will provide a brief summary of efforts to improve water management at the West Point Inn on the Mt. Tamalpais Watershed

FISCAL IMPACT: YES **No** x **FISCAL YEAR:**

BACKGROUND: The water source for the West Point Inn is a spring on West Fork of Fern Creek located on the south slopes of Mt. Tamalpais. The water is stored in a 20,000 gallon wooden tank (Hummingbird Tank) a short ways uphill from the Inn on Old Railroad Grade. During the prolonged drought over the past two years, there was a period of time when the output from the spring exceeded use. As 2015 has so far been a dry year, the West Point Inn Board of Directors have been working with staff to upgrade facilities and water management at the inn.

New Tank: Hummingbird Tank is very close to the end of its useful life. The lease agreement between the Association and the district states that 5,000 gallons are available for domestic use and the remaining 15,000 gallons must be reserved for fire flow. Staff is designing for the installation of a new 8,500 gallon tank to be placed next to Hummingbird Tank Project. With this addition, the full amount available in the new tank would be available for domestic use and an additional 5,000 would be available for fire protection out of the old tank.

Staff is working on an agreement whereby the full cost of the Project is split between the district and the association. The estimated Project cost is \$50,000. The new tank will be installed this summer. The replacement of the wooden tank will be accomplished sometime in the next year or two.

Water Conservation: The inn models excellent water conservation practices and its patrons are reportedly using even less recently, in line with recent statewide drought response efforts. District water conservation staff are working with innkeepers in developing additional measures to reduce water use.

Emergency Supplies: Staff has made provisions for the association to bring potable water using a water truck (approximately 3,000 gallons per load) in case the spring production under performs later in the summer as in recent years. This would only occur on an as needed basis.

Staff is planning to bring a lease amendment for board approval to reflect water allocations from storage once the Hummingbird Tank is replaced.

ATTACHMENTS: NONE



STAFF REPORT

SUBJECT: Log Cabin Planning
SUBMITTED BY: Mike Swezy, Watershed Manager, Facilities and Watershed
RECOMMENDED ACTION: Information

EXECUTIVE SUMMARY: Staff will present preliminary plans for developing concept design for the restoration of the Log Cabin at Phoenix Lake. The process will include significant public participation, review of a range of alternatives and culminate in a design concept. The design concept will provide the basis for the development of architectural plans and construction documents as part of the next phase of the project.

FISCAL IMPACT NARRATIVE: N/A

BACKGROUND:

The Log Cabin at Phoenix Lake has long been considered an important historic resource by Marin Municipal Water District. Located on what was known as the Porteous Ranch, the Log Cabin was built around 1894. Its unique unpeeled redwood log construction, curly grain redwood window trim and distinctive cupola have charmed passing watershed visitors for years. In the past it has been used for staff functions and has been available for public use according to special board approved policies. Due to changing ADA requirements and the building's deteriorating condition, public and staff use was discontinued about ten years ago.

In order to restore and maintain the Log Cabin's historic character and to provide for its public use consistent with district board policies, staff is seeking to develop a plan that will guide investment and public use at the site. This basis of design report will evaluate potential uses of the site and a range of historic presentation alternatives for determining a preferred approach to be selected by the Board of Directors.

I. GENERAL APPROACH

Staff has retained the services of Roth-LaMotte Landscape Architecture. Gary Roth will direct the project. Gary is a licensed landscape architect who has considerable experience working in local parks. Most recently Gary worked under contract with the Golden Gate National Parks Conservancy helping to develop project descriptions to be submitted by MMWD for potential funding by the Tamalpais Lands Collaborative. These were detailed project descriptions and cost estimates that provided the basis for the TLC's 5 Year Vision Document. In the course of

this work Gary helped develop preliminary historic resource action alternatives for managing the Log Cabin. In addition Roth-LaMotte developed the master plan concept for district owned Marin Stables. Also on the Roth-LaMotte team is Mark Hulbert, a preservation architect specialist. Mark is a licensed architect with a specialty in preservation of historic resources. Most recently Mark was retained by the district to accomplish a Historic Structures Report for the Phoenix Lake Log Cabin. The agreement with Roth-LaMotte Landscape Architecture is in an amount not to exceed \$54,474.

The Consultant will review current site conditions, a draft historic structure report, and preliminary program of use of the site to prepare a Basis of Design Report. The Basis of Design Report will be a compilation of technical memoranda addressing design requirement for each alternative.

The preliminary program of use will be one focused on the Log Cabin serving as a meeting space for the current watershed school programs, volunteer events, and public engagement programs offered by the District. A preferred alternative will be presented to the MMWD Board of Directors for approval. The final conceptual design will provide the basis for construction drawings.

II. PRELIMINARY DESIGN OPTIONS

The preliminary design options to be considered and prepared for presentation to the MMWD board and interested public are as follows:

Alternative 1 – Fully restored Log Cabin – Public Use for Engagement Programs

- a. Rehabilitation for reuse of Cabin including accessible restrooms, and landscape improvements including site access and parking.
- b. Design shall consider public use and gathering, outdoor education and other MMWD programming.

Alternative 2 – Stabilization/Mothballing – No public Use

- a. Site restored and building to be stabilized and maintained as an iconic historic remnant for viewing but not use.

Alternative 3 – Modified building with historic fabric – Public Use for Engagement Programs

- a. Design for a new building/structure to replace Cabin and to include some conditioned space and some covered exterior space, including accessible restrooms, and landscape improvements including site access and parking.
- b. Design shall adhere closely to historic footprint and rooflines.
- c. Design shall consider public use and gathering, outdoor education and other MMWD programming.

-
- d. May include retention and rehabilitation of a portion of the existing structure – the kitchen and/or living room structures, for example – in order to retain salient parts of the historic Cabin.
 - e. May include interpretive element to memorialize the cabin and associated historic use of the area.

4. Alternative 4 – Remove building/memorialize site

- a. Remove Cabin and restore the site.
- b. Possible use of site for outdoor public use or gathering.
- c. This option may include the dismantling and salvaging of the Cabin for relocation by the MMWD or by an interested party.
- d. May include interpretive element to memorialize the cabin and associated historic use of the area.

For all options, the site will be studied for how best to restore impacted areas, create public access, embrace program activities and gain a good understanding of the extent of construction required as well as the extent of site restoration opportunities (including the ecological restoration, protection of existing native trees and preservation/display of historic artifacts).

III. PUBLIC PARTICIPATION AND PLANNING SCHEDULE

The district will sponsor a field trip to the Log Cabin and a facilitated discussion on uses and historic structure preservation alternatives. A subsequent public meeting will review a range of conceptual designs and cost estimates that takes into account the range of improvements needed to meet accessibility standards and historic structure preservation goals. This project is a priority project under the Tamalpais Lands Collaborative and

Public meetings/presentations –

- a. Preliminary project on site presentation with public comment (JULY/AUGUST 2015)
- b. Present preliminary schematic alternatives (4) schematic options and rough costs (SEPTEMBER 2015)
- c. Present recommended alternative to MMWD board of directors (DECEMBER 2015)

STRATEGIC PLAN ALIGNMENT: The district’s support for the TLC aligns with Strategic Plan Goal 4 (Environmental Stewardship), Strategy 2 (Increase community engagement in stewardship of Mt. Tamalpais as a water and community asset) Objective 1 (Develop projects and programs for the TLC).

ATTACHMENTS:

1. Agreement with Roth-LaMotte Landscape Architects

AGREEMENT FOR CONSULTING SERVICES

The following is an agreement between **Marin Municipal Water District**, hereinafter "MMWD", and **Roth/LaMotte Landscape Architecture**, hereinafter, "Consultant".

WHEREAS, Consultant is a duly qualified consulting firm, experienced as landscape architect.

WHEREAS, in the judgment of the Board of Directors of the MMWD, it is necessary and desirable to employ the services of the Consultant for the Basis of Design Report for the Phoenix Lake Log Cabin.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the parties hereto agree as follows:

PART A-- SPECIFIC PROVISIONS:

1. DESCRIPTION OF SERVICES AND PAYMENT: Except as modified in this agreement, the services to be provided and the payment schedule are:

- a. The scope of work, schedule, and order of tasks covered by this agreement shall be that included in Attachment A of this agreement.
- b. The fee and fee payment for such work shall be as stipulated under the fee schedule included in Attachment B of this agreement and shall not exceed \$54,474 in total.

PART B-- GENERAL PROVISIONS

1. ASSIGNMENT/DELEGATION: Except as above, neither party hereto shall assign, sublet or transfer any interest in or duty under this agreement without written consent of the other, and no assignment shall be of any force or effect whatsoever unless and until the other party shall have so consented.

2. STATUS OF CONSULTANT: The parties intend that the Consultant, in performing the services hereinafter specified, shall act as an independent contractor and shall have the control of the work and the manner in which it is performed. The Consultant is not to be considered an agent or employee of MMWD, and is not entitled to participate in any pension plan, insurance, bonus or similar benefits MMWD provides its employees.

3. INDEMNIFICATION: MMWD is relying on professional ability and training of the Consultant as a material inducement to enter into this agreement. The Consultant hereby warrants that all its work will be performed in accordance with generally accepted professional practices and standards, as well as the requirements of

applicable federal, state and local laws, it being understood that acceptance of the Consultant's work by MMWD shall not operate as a waiver or release.

- a. Consultant expressly agrees to defend, indemnify and hold harmless MMWD, its officers, agents, and employees from and against any and all loss, liability, expense, claims, suits and damages, including attorneys' fees, arising out of or pertaining or relating to Consultant's, its associates', employees', subconsultants', or other agents' negligence, recklessness, or willful misconduct, in the operation and/or performance under this Agreement.
- b. With respect to all other than professional services under this agreement, Consultant shall indemnify, hold harmless, release and defend MMWD, its officers, agents and employees from and against any and all actions, claims, damages, disabilities, liabilities and expenses, including attorney's and expert fees and witness costs that may be asserted by any person or entity, including the Consultant, arising out of or in connection with this agreement and the activities necessary to perform those services and complete the tasks provided for herein, but excluding liabilities due to the sole negligence or willful misconduct of MMWD.

This indemnification is not limited in any way by any limitation on the amount or type of damages or compensation payable by or for the MMWD or its agents under workers' compensation acts, disability benefit acts or other employee benefit acts.

4. PROSECUTION OF WORK: The execution of this agreement shall constitute the Consultant's authority to proceed immediately with the performance of this contract. Performance of the services hereunder shall be completed **by June 30, 2016** provided, however, that if the performance is delayed by earthquake, flood, high water or other Act of God or by strike, lockout or similar labor disturbance ("Acts"), the time for the Consultant's performance of this contract shall be extended by a number of days equal to the number of days the Consultant has been delayed by such Acts.

5. METHOD AND PLACE OF GIVING NOTICE, SUBMITTING BILLS AND MAKING PAYMENTS: All notices, bills and payment shall be made in writing and may be given by personal delivery or by mail. Notices, bills and payments sent by mail should be addressed as follows:

MMWD: Marin Municipal Water District
Attn Laurie Offenbach/Sky Oaks
220 Nellen Avenue
Corte Madera CA 94925

CONSULTANT: Roth/LaMotte Landscape Architecture
Attn Gary Roth
56 Manor Road
Fairfax CA 94930
Ph.# 415.482.7609

and when so addressed, shall be deemed given upon deposit in the United States Mail, postage prepaid. In all other instances, notices, bills and payments shall be deemed given at the time of actual delivery. Changes may be made in the names and addresses of the person to whom notices, bills and payments are to be given by giving notice pursuant to this paragraph.

6. MERGER: This writing is intended both as the final expression of the agreement between the parties hereto with respect to the included terms of the agreement, pursuant to California Code of Civil Procedure Section 1856 and as a complete and exclusive statement of the terms of the agreement. No modification of this agreement shall be effective unless and until such modification is evidenced by a writing signed by both parties.

7. SEVERABILITY: Each provision of this agreement is intended to be severable. If any term of any provision shall be determined by a court of competent jurisdiction to be illegal or invalid for any reason whatsoever, such provision shall be severed from this agreement and shall not affect the validity of the remainder of the agreement.

8. TERMINATION: At any time and without cause, the MMWD shall have the right in its sole discretion, to terminate this agreement by giving written notice to the Consultant. In the event of such termination, MMWD shall pay the Consultant for services rendered to the termination date.

In addition, if the Consultant should fail to perform any of its obligations hereunder, within the time and in the manner herein provided, or otherwise violate any of the terms of this agreement, MMWD may terminate this agreement by giving the Consultant written notice of such termination, stating the reason for such termination. In such event, the Consultant shall be entitled to receive as full payment for all services satisfactorily rendered and expenses incurred hereunder, an amount which bears the same ratio to the total fees specified in the agreement as the services satisfactorily rendered hereunder by the Consultant bear to the total services otherwise required to be performed for such total fee, provided, however, that there shall be deducted from such amount the amount of damage, if any, sustained by MMWD by virtue of the breach of the agreement by the Consultant.

9. TRANSFER OF RIGHTS/OWNERSHIP OF DATA: The Consultant assigns to MMWD all rights throughout the work in perpetuity in the nature of copyright, trademark, patent, and right to ideas, in and to all versions of any plans and

specifications, reports, video tapes, photographs, and documents now or later prepared by the Consultant in connection with this contract.

The Consultant agrees to take such actions as are necessary to protect the rights assigned to MMWD in this agreement, and to refrain from taking any action which would impair those rights. The Consultant's responsibilities under this contract will include, but not be limited to, placing proper notice of copyright on all versions of plans and specifications, reports and documents as MMWD may direct, and refraining from disclosing any versions of the reports and documents to any third party without first obtaining written permission of MMWD. The Consultant will not use, or permit another to use, any plans and specifications, reports and documents in connection with this or any other project without first obtaining written permission of MMWD.

All materials resulting from the efforts of MMWD and/or the Consultant in connection with this project, including documents, reports, calculations, maps, photographs, video tapes, computer programs, computer printouts, digital data, notes, and any other pertinent data are the exclusive property of MMWD. Reuse of these materials by the Consultant in any manner other than in conjunction with activities authorized by MMWD is prohibited without written permission of MMWD.

10. COST DISCLOSURE: In accordance with Government Code Section 7550, the Consultant agrees to state in a separate portion of any report provided MMWD, the numbers and amounts of all contracts and subcontracts relating to the preparation of the report.

11. NONDISCRIMINATION: The Consultant shall comply with all applicable federal, state and local laws, rules and regulations in regard to nondiscrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical condition or physical handicap.

12. EXTRA (CHANGED) WORK: Extra work may be required. The Consultant shall not proceed nor be entitled to reimbursement for extra work unless that work has been authorized, in writing, in advance, by MMWD. The Consultant shall inform the District as soon as it determines work beyond the scope of this agreement may be necessary and/or that the work under this agreement cannot be completed for the amount specified in this agreement. Failure to notify the District shall constitute waiver of the Consultant's right to reimbursement.

13. CONFLICT OF INTEREST: The Consultant covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services hereunder. The Consultant further covenants that in the performance of this contract no person having any such interest shall be employed.

14. INSURANCE: The Consultant shall obtain insurance acceptable to MMWD in a company or companies with a Best's rated carrier of at least "A". The required documentation of such insurance shall be furnished to MMWD at the time the Consultant returns the executed contract. The Consultant shall not commence work nor shall it allow its employees or subcontractors or anyone to commence work until all insurance required hereunder has been submitted and approved.

The Consultant shall have and maintain at all times during the life of this agreement, up to the date of acceptance, the following policies of insurance:

- a. Workers' Compensation Insurance: Workers' Compensation Insurance to cover its employees, as required by the State of California, and shall require all subcontractors similarly to provide Workers' Compensation Insurance as required by the Labor Code of the State of California for all of the subcontractors' employees. All Workers' Compensation policies shall be endorsed with the following specific language:

"This policy shall not be canceled without first giving thirty (30) days prior notice to MMWD, Attn: Laurie Offenbach, by certified mail."

The Workers' Compensation Insurance self-insured deductibles and retentions for both the Consultant and its subcontractors shall not exceed \$1,000

- b. Public Liability Insurance: Personal Injury (including bodily injury) and Property Damage Insurance for all activities of the Consultant and its subcontractors arising out of or in connection with this agreement, written on a commercial general liability form which provides coverage at least as broad as ISO Commercial General Liability Occurrence Form CG 00 01 11 85 or 88 or any subsequent revision or equivalent including benefit contractual coverage, completed operations coverage, Consultant's protective coverage, and automobile coverage. The automobile coverage should be at least as broad as ISO Business Auto Form CA001 edition 187 or equivalent including employer's non-ownership liability. All deductibles or self-insured retentions shall not exceed \$1,000. Coverage in an amount not less than \$1,000,000 combined single limit personal injury, including bodily injury, and property damage for each occurrence is required. Each such policy shall be endorsed with the following language:

1. The Marin Municipal Water District, its officers, agents, employees and volunteers are additional insureds under this policy.
2. The insurance shall be primary as respects the insured shown in the schedule above.
3. The insurance afforded by this policy shall not be canceled except after thirty days prior written notice by certified mail return receipt requested has been given to the MMWD.
4. The referenced policy does not exclude explosion, collapse, underground excavation hazards or removal of lateral support.

5. The inclusion of more than one insured shall not operate to impair the right of one insured against another insured, and the coverage afforded in the policy shall apply as though separate policies had been issued to each insured.

Consultant's policy shall be endorsed with "Attachment C - Additional Insured Endorsement" form.

The General Aggregate Limits of Insurance in the referenced policies apply separately to this project.

- c. Professional Liability Insurance: The Consultant shall procure and maintain throughout the term of this agreement, Professional Liability Insurance in an amount not less than \$1,000,000. All insurance deductibles or self-insured retentions shall not exceed \$5,000. All Professional Liability Insurance policies shall be endorsed with the following specific language:
 - (i) This policy shall not be canceled without first giving thirty (30) days prior notice to MMWD by certified mail.
- d. Documentation: The following documentation of insurance shall be submitted to MMWD:
 - (i) A Certificate of Insurance for Workers' Compensation Insurance for Consultant. A copy of the required policy endorsements specified in subparagraph a. shall be attached to each such Certificate submitted.
 - (ii) Certificates of Liability Insurance showing the limits of insurance provided. Copies of the required endorsements specified in subparagraphs b. and c. shall be attached to each Certificate submitted.

15. DISPUTE RESOLUTION: Any dispute or claim in law or equity between District and Consultant arising out of this agreement, if not resolved by informal negotiation between the parties, shall be mediated by referring it to the nearest office of Judicial Arbitration and Mediation Services, Inc. (JAMS) for mediation. Each party shall provide the others with a list of four mediators. The parties shall confer on the list and select a mutually agreeable mediator. Mediation shall consist of an informal, non-binding conference or conferences between the parties and the judge-mediator jointly, then in separate caucuses wherein the judge will seek to guide the parties to a resolution of the case. If the parties cannot agree to a mutually acceptable member from the JAMS panel of retired judges, a list and resumes of available mediators with substantial experience in mediating claims of the type at issue between the parties, numbering one more than there are parties, will be sent to the parties, each of whom will strike one name leaving the remaining name as the mediator. If more than one name remains, JAMS arbitrations administrator will choose a mediator from the remaining names. The mediation process shall continue until the case is resolved or until such time as the mediator makes a finding that there is no possibility of resolution.

At the sole election of the District, any dispute or claim in law or equity between District and Consultant arising out of this agreement which is not settled through mediation shall be decided by neutral binding arbitration and not by court action, except as provided by California law for judicial review of arbitration proceedings. The arbitration shall be conducted in accordance with the rules of Judicial Arbitration Mediation Services, Inc. (JAMS). The parties to an arbitration may agree in writing to use different rules and/or arbitrators.

16. BILLING AND DOCUMENTATION: The Consultant shall bill MMWD for work on a monthly or agreed upon basis or as articulated in Attachment B and shall include a summary of work for which payment is requested. The summary shall include time and hourly rate of each individual, a narrative description of work accomplished, and an estimate of work completed to date.

17. REASONABLE ASSURANCES: Each party to this agreement undertakes the obligation that the other's expectation of receiving due performance will not be impaired. When reasonable grounds for insecurity arise, with respect to performance of either party, the other may, in writing, demand adequate assurance of due performance and until the requesting party receives such assurance may, if commercially reasonable, suspend any performance for which the agreed return has not been received. "Commercially reasonable" includes not only the conduct of the party with respect to performance under this agreement but also conduct with respect to other agreements with parties to this agreement or others. After receipt of a justified demand, failure to provide within a reasonable time, not to exceed 30 days, such assurance of due performance as is adequate under the circumstances of the particular case is a repudiation of this agreement. Acceptance of any improper delivery, service, or payment does not prejudice the aggrieved party's right to demand adequate assurance of future performance.

Roth/LaMotte Landscape Architecture

Dated: _____ By _____
Gary Roth

MARIN MUNICIPAL WATER DISTRICT

Dated: _____ By _____
Krishna Kumar, General Manager

Attachment A
Scope of Work
Basis for Design Report for the Log Cabin at Phoenix Lake

I. INTRODUCTION

The Log Cabin at Phoenix Lake has long been considered an important historic resource by Marin Municipal Water District. Located on what was known as the Porteous Ranch, the Log Cabin was built around 1894. Its unique unpeeled redwood log construction, curly grain redwood window trim and distinctive cupola have charmed passing watershed visitors for years. In the past it has been used for staff functions and has been available for public use according to special board approved policies. Due to changing ADA requirements and the building's deteriorating condition, public and staff use was discontinued about ten years ago.

In order to restore and maintain the Log Cabin's historic character and to provide for its public use consistent with MMWD board policies, MMWD staff is seeking to develop a plan that will guide investment and public use at the site. This basis of design report will evaluate potential uses of the site and a range of historic presentation alternatives for determining a preferred approach to be selected by the Board of Directors.

II. GENERAL APPROACH

The Consultant will review current site conditions, a draft historic structure report, and preliminary program of use of the site to prepare a Basis of Design Report. The Basis of Design Report will be a compilation of technical memoranda addressing design requirement for each alternative.

The preliminary program of use will be one focused on the Log Cabin serving as a meeting space for the current watershed school programs, volunteer events, and public engagement programs offered by the District and One Tam. The district will sponsor a field trip to the Log Cabin and a facilitated discussion on uses and historic structure preservation alternatives. A subsequent public meeting will review a range of conceptual designs and cost estimates that takes into account the range of improvements needed to meet accessibility standards and historic structure preservation goals. A preferred alternative will be presented to the MMWD Board of Directors for approval. The final conceptual design will provide the basis for construction drawings.

III. DESIGN OPTIONS

The preliminary design options that are to be considered and prepared for presentation to the MMWD board and interested public are as follows:

1. Alternative 1 – Fully restored Log Cabin – Public Use for Engagement Programs

- a. Rehabilitation for reuse of Cabin including accessible restrooms, and landscape improvements including site access and parking. Additional building consultants following 30% Design Development: systems engineering (structural, mechanical, plumbing, fire protection).
- b. Design shall consider public use and gathering, outdoor education and other MMWD/One Tam programming.

2. Alternative 2 – Stabilization/Mothballing – No public Use

- a. Site restored and building to be stabilized and maintained as an iconic historic remnant for viewing but not use. Additional building consultants: none.

3. Alternative 3 – Modified building with historic fabric – Public Use for Engagement Programs

- a. Design for a new building/structure to replace Cabin and to include some conditioned space and some covered exterior space, including accessible restrooms, and landscape improvements including site access and parking. Additional building consultants: systems engineering (structural, geotechnical, mechanical, plumbing, fire protection).
- b. Design shall adhere closely to historic footprint and rooflines.
- c. Design shall consider public use and gathering, outdoor education and other MMWD/One Tam programming.
- d. May include retention and rehabilitation of a portion of the existing structure – the kitchen and/or living room structures, for example – in order to retain salient parts of the historic Cabin.
- e. May include interpretive element to memorialize the cabin and associated historic use of the area.

4. Alternative 4 – Remove building/memorialize site

- a. Remove Cabin and restore the site. No architectural or building consultants.
- b. Possible use of site for outdoor public use or gathering.
- c. This option may include the dismantling and salvaging of the Cabin for relocation by the MMWD or by an interested party.
- d. May include interpretive element to memorialize the cabin and associated historic use of the area.

For all options, the site will be studied for how best to restore impacted areas, create public access, embrace program activities and gain a good understanding of the extent of construction required as well as the extent of site restoration opportunities (including the ecological restoration, protection of existing native trees and preservation/display of historic artifacts).

IV. PROJECT TEAM

1. Landscape Architecture / Project Lead– Roth/LaMotte Landscape Architecture
2. Architecture – Preservation Architecture
3. Cost Estimating – R. Borinstein Company
4. Geotechnical – MMWD supplied
5. Mechanical, electrical, structural subcontractors shall be approached to submit proposals with the 30% Design Development set once it is approved.

V. PROJECT DELIVERABLES

The Consultant shall provide the following deliverables:

1. Technical memorandum for each design alternative (3 or 4) including site plans, architectural floor plan/elevations, overview of the design concept, parameters and criteria, construction materials, requirements by others, design analysis, and applicable codes and regulations. Technical memoranda will be self-contained to the extent practical. References back to previous documents will be kept to a minimum. A draft of each memorandum will be transmitted to the District. After the District's review, Consultant will meet with District staff to discuss the document and answer questions. Several technical memoranda will be discussed at each meeting. After the meeting, changes or additions requested by the District will be incorporated into a final memorandum. The technical memorandum and the basis for design report will have the following organization:

Technical memorandum (for the 4 options):

1. Brief project descriptions - design programs for each (Bulleted or in a comparative matrix)
2. Site plans and elevations
3. Cost Comparison
4. Governing codes
5. Design Program statement

Basis of Design Report (for the 30% DESIGN DEVELOPMENT preferred alternative):

1. Items from above - plus identify the Preferred Alternative.
2. 30% Design plan and sections.
3. Detailed Cost estimate for 30% Design
4. 30% DESIGN DEVELOPMENT Program

3. Technical memorandum on the cost analysis of alternatives – develop initial order of magnitude understanding of cost categories and comparative budgets for 4 options. May include prioritization matrix of cost categories.
4. Final 30% Design of one select option – Site plan, site sections, architectural plan, elevations and accessibility diagram.
5. Detailed Cost Estimate of the selected option for 30% design development (equivalent to an National Park Service Class B estimate).
6. Rendered plan/elevation of 30% design development option.
7. Five bound Basis of Design Reports and 1 copy on DVD

VI. MEETING PURPOSE AND PRELIMINARY SCHEDULE

RLLA and Preservation Architecture shall be available for the following meetings:

1. Three meetings with MMWD staff to review design progress -
 - a. Initial meeting (JUNE 2015)
 - b. Review meetings for technical memoranda
 - c. Review meeting of materials prior to public presentation (JULY 2015)

- d. Review of feedback and discuss path forward from public input. (SEPTEMBER 2015)
2. Three public meetings/presentations –
- a. Preliminary project on site presentation with public comment (JULY/AUGUST 2015)
 - b. Present preliminary schematic alternatives (4)schematic options and rough costs (SEPTEMBER 2015)
 - c. Present recommended alternative to MMWD board of directors (DECEMBER 2015)

VII. ASSUMPTIONS

- 1. District review period for each technical memorandum will be 14 days.
- 2. Final version of each memorandum will be submitted to the District within 7 days of the review meetings and receipt of District decisions where required.
- 3. Review meetings will be between 1-3 hours. No more than 3 meetings will be required for technical memorandum.

**ATTACHMENT B
FEES/BUDGET**

Fee Schedule – 2015

PROFESSIONAL SERVICES

Principals	\$135.00 per hour
Project Landscape Architect	\$115.00 per hour
Draftsman 1	\$95.00 per hour
Draftsman 2	\$85.00 per hour

DIRECT EXPENSES

Reprographic and Photographic services and materials cost plus 10% handling

Subcontractor management fee (if retained by Roth/LaMotte) cost plus 10% handling

Reimbursable out-of-pocket expenses cost plus 10% handling

In-House Plotting \$1.50 per sq. ft.

Mileage – out of area .54 cents per mile or per IRS standard rate

Invoices to be billed monthly.

Payment for services under this Agreement will be for actual cost of work completed as per the fee schedule.

The same fee schedule will be used for any additional services that may be rendered for this project beyond the scope of this Agreement.

Amount due is payable upon receipt of invoice. Invoices more than 30 days past due may be subject to a late fee of 1.5% per month.

Billing rates subject to increase at 5% per annum.

Budget Estimate Summary

Roth/LaMotte Landscape Architecture								
			Estimate d task Days	Daily Rate	Sub totals	Fee Total	Comments	Time/ Schedule
Preliminary Work								
	Preliminary coordination, project startup		1	\$1,080		\$1,080	Review of background info, initial meetings	
	Subtotal- Prelim Work					\$1,080		
1	Design Studies/Design Options							
	Option 1 - Rehab Reuse							
	RLLA		7	\$1,080		\$7,560	CAD Set up, design study, drafting	
	Preservation Architecture		10.25	\$1,160		\$11,890		
						\$1,189	10% Markup on Sub	
	Option 2 - Stabilize/Mothball Option							
	RLLA		2	\$1,000		\$2,000		
	Preservation Architecture		2.5	\$1,160		\$2,900		
						\$290	10% Markup on Sub	
	Option 3 - Partial Retention and Partial Replacement Option							
	RLLA		5	\$1,080		\$5,400		
	Preservation Architecture		6.25	\$1,160		\$7,250		
						\$725		
	Option 4 - Remove Cabin and Restore							
	RLLA		2	\$1,000		\$2,000	Plan and site section	
	Preservation Architecture		0	\$1,160		\$0		
						\$290	10% Markup on Sub	
	Meetings							
	RLLA		1.33	\$1,080		\$2,000		
	Preservation Architecture		1.25	\$1,160		\$1,450		
						\$145	10% Markup on Sub	
	Direct Expenses- Architect						Allowance- 5% of estimated fees	
	Costing							
	R. Borinstein	Schematic Design Phase				\$4,351	Options Comparisons	
		DD- Preferred Option				\$3,640	DD 30% preferred option pricing	
						\$799	10% Markup on Sub	
	Subtotal					\$54,959	DD + Preliminary Work	
	Subtotal- Design Development					\$54,959	Estimated Fees- N.T.E.	

Other costs not included in above fee structure: Construction Administration, Structural, Civil, or Geotechnical Engineer, Permit Fees

ADDITIONAL INSURED ENDORSEMENT

This endorsement modifies insurance provided under the following:

Commercial General Liability Coverage: Policy _____

Policy Period _____

Automobile Liability: Policy# _____

Policy Period _____

INSURED: Name _____

Address _____

City/State/Zip _____

SCHEDULE

The Marin Municipal Water District, its officers, officials, agents, employees and volunteers (MMWD).

WHO IS AN INSURED

Is amended to include as an insured the organization shown in the schedule above.

- 1. The insurance shall be primary concerning the insured shown in the schedule above.
2. The insurance afforded by this policy shall not be cancelled except after thirty days prior written notice by certified mail return receipt requested has been given to the MMWD.
3. The referenced policy does not exclude explosion, collapse, underground excavation hazards or removal of lateral support.
4. The inclusion of more than one insured shall not operate to impair the right of one insured against another insured, and the coverage afforded in the policy shall apply as though separate policies had been issued to each insured.

Authorized Insurance Representative

Signature

Date

Print Name and Title