

**Compendium of Development Policies
For the San Francisquito Watershed Communities**

*Prepared for:
San Francisquito Watershed Council*

FINAL REPORT

May 10, 2007

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CREDITS

This report was prepared for the San Francisquito Watershed Council for use by the Watershed Council and the municipalities that were reviewed.

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TABLE OF CONTENTS

	<u>Page No.</u>
<i>Introduction</i>	1
<i>Erosion and Sediment Control</i>	3
<i>Reduction of Impervious Surface</i>	5
<i>Implementation of Stormwater Treatment Measures</i>	6
<i>Reducing Pollutants of Concern</i>	7
<i>Natural Resource Protection</i>	8
<i>Alternative Transportation</i>	9
<i>Watershed-Based Planning</i>	10
<i>References</i>	13

Appendices

<i>Appendix A</i>	<i>San Francisquito Watershed Jurisdictions</i>	A-1
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ACRONYMS AND ABBREVIATIONS

BMPs	Best Management Practices
CASQA	California Stormwater Quality Association
FY	Fiscal Year (July to June)
HMP	Hydromodification Management Plan
IPM	Integrated Pest Management
JPA	Joint Powers Authority
MRP	Municipal Regional Permit
NPDES	National Pollutant Discharge Elimination System
SCBWMI or WMI	Santa Clara Basin Watershed Management Initiative
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SCVURPPP	Santa Clara Valley Urban Runoff Pollution Prevention Program
SCVWD	Santa Clara Valley Water District
STOPPP	San Mateo Countywide Stormwater Pollution Prevention Program
SWMP	Stormwater Management Plan
UCCE	University of California Cooperative Extension
Water Board	San Francisco Bay Regional Water Quality Control Board
Watershed Council	San Francisquito Watershed Council

Introduction

Background

The San Francisquito Watershed comprises portions of the Cities/Towns of Palo Alto, East Palo Alto, Menlo Park, Woodside, and Portola Valley and the Counties of Santa Clara and San Mateo. The Santa Clara Valley Water District (SCVWD) service area covers the portion of the watershed in Santa Clara County. Information about the development policies, codes and ordinances of these agencies that are related to watershed and water quality protection has been provided in several recently published documents, including:

- Santa Clara Basin Municipal Development Policies Comparison Project (SCVURPPP, 2003) and updates – covers Palo Alto, Santa Clara County and SCVWD;
- San Mateo Countywide Stormwater Pollution Prevention Program “Provision C.3.j.: Site Design Review Submittal” (STOPPP, 2004) and updates – covers Portola Valley, Woodside, and San Mateo County
- Development Policies Comparison Project for the Cities of East Palo Alto and Menlo Park, CA (EOA; 2006);

The San Francisquito Watershed Council requested assistance from EOA, Inc. to compile the results of these studies into one concise document that can be used for watershed planning.

Regulatory Environment

The current water quality and development review regulations that apply to the watershed jurisdictions provide important context for understanding drivers of development policies. A brief description of three important regulatory frameworks for this area follows.

NPDES Permits. The five municipalities and two counties in the watershed and the SCVWD are subject to countywide Phase I National Pollutant Discharge Elimination System (NPDES) permits for discharging stormwater to San Francisco Bay and tributary creeks. The agencies in Santa Clara County have formed a countywide program known as the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) to assist with compliance with their permit requirements, and the agencies in San Mateo County have formed a similar program known as the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP; formerly the San Mateo Countywide Stormwater Pollution Prevention Program, or STOPPP). The watershed jurisdictions are “co-permittees” of either the Santa Clara or San Mateo permits.

The NPDES permit requirements for SCVURPPP and SMCWPPP are very similar. The section of the permit that addresses control of pollutants from new and

redevelopment projects, and thus directly influences development policies, is Provision C.3. In summary, Provision C.3 requires co-permittee agencies to:

- Implement performance standards for development planning (C.3.a.);
- Modify project review processes and impose conditions of approval on projects to mitigate stormwater impacts via source control, site design, and treatment measures (C.3.b.);
- Require projects creating or replacing 10,000 square feet or more of impervious surface to provide stormwater treatment best management practices (BMPs) (C.3.c.);
- Ensure that BMPs are operated and maintained properly (C.3.e.);
- Require certain projects to limit increases in runoff peak, volume and duration (i.e., “hydromodification”) caused by development of the site (C.3.f.);
- Review local design standards and guidance and make revisions that would result in reduced impacts to water quality in creeks and the Bay (e.g., reduction of impervious surface) (C.3.j.);
- Control sources of pollutant generation, discharge and runoff (C.3.k.); and
- Update General Plans and water quality reviews processes (i.e., CEQA reviews) to include water quality and watershed protection principles (C.3.l. and m.).

Provisions C.3.b. and C.3.j. were essentially the drivers for the development policy and site design standard reviews that are described in the three source documents listed above.

In the near future, SCVURPPP and SMCWPPP agencies will be covered under one Bay Area Municipal Regional Permit (MRP) which is currently being developed by the San Francisco Bay Regional Water Quality Control Board (Water Board). The new permit is expected to be adopted by the Water Board in the fall of 2007. Provision C.3. in the new permit is likely to contain similar and possibly more stringent requirements for development projects than the current permits.

Water Resources Protection Ordinance and Collaborative (Santa Clara County jurisdictions only). In Santa Clara County, the Santa Clara Valley Water District has had authority to regulate certain activities near streams. On October 24, 2006, the District adopted a new Water Resources Protection Ordinance that governs and requires permits for activities that encroach on District land or facilities. The County and local municipalities continue to exercise their own land use authority and will incorporate review of streamside activities into their existing land development approval and permitting processes. In the Ordinance, the District recognizes that the most effective way to regulate land uses near streams on non-District properties is to incorporate the review and permitting into existing development review conducted by the municipalities.

During development of the Ordinance, in order to clarify and streamline local permitting for streamside activities, a partnership known as the Santa Clara Valley Water Resources Protection Collaborative was created, including representatives from the District, cities/county, businesses, agriculture, streamside property owners and environmental groups. The Santa Clara Valley Water District, City of Palo Alto, and County of Santa Clara are the three San Francisquito watershed jurisdictions that are participating members of the Collaborative. The Collaborative produced a User Manual¹ of model guidelines and standards for land use near streams which will be implemented by the District and municipalities as appropriate. Effective February 28, 2007, the District requires encroachment permits only for modifications of District land, facilities and easements.

Stream and Wetland Systems Protection Policy. Water Board staff is developing proposed amendments to the San Francisco Bay Basin Plan that are expected to establish new water quality objectives and new beneficial uses for the Bay and tributary streams. The Policy is going through a public review process and is scheduled for adoption in early 2008. If adopted, the Policy will likely result in changes to NPDES permit requirements and environmental review requirements. Any changes to water quality objectives and beneficial uses for San Francisquito Creek and its tributaries could then necessitate review of and revisions to development policies in the watershed.

Contents of This Document

The following sections contain brief summaries of the development policies of the municipalities and agencies with jurisdiction in the San Francisquito watershed, and general recommendations for policy improvement watershed-wide to better protect the creek and creek resources. Summaries are organized by topic, including erosion and sediment control, reduction of impervious surface, implementation of post-construction controls, reduction of pollutants of concern (focused on pesticides), natural resource protection, alternative transportation, and watershed-based planning. Specific recommendations for each agency are provided in the source documents described above and are not repeated here². Appendix A contains a brief description of each jurisdiction in the watershed.

Erosion and Sediment Control

Overview. All of the jurisdictions in the San Francisquito watershed regulate activities that can cause erosion and sedimentation through their municipal codes. The stormwater ordinances adopted by all of the stakeholders ensure legal authority to control erosion and sediment transport. Palo Alto, East Palo Alto, Portola Valley and Woodside

¹ The Santa Clara Valley Water Resources Protection Collaborative manual is available on the web at http://www.valleywater.org/Water/Watersheds_-_streams_and_floods/Taking_care_of_streams/Guidelines_&_Standards.shtm

² Two of the source documents (the Santa Clara Basin Municipal Development Policies Comparison Project and the STOPPP Provision C.3.j Site Design Review Submittal) are several years old and may not reflect changes that agencies have made since their publication. The scope of work for this document did not include updating the source documents; however, updated information was included in this document if it was readily available or known to the authors.

have grading and site development ordinances that require permits before grading or clearing above a threshold level can occur. Erosion and sediment control plans are required in order to be granted a permit. The subdivision ordinances for Menlo Park and Santa Clara County specify grading controls. In addition, Menlo Park's Grading and Drainage Plan Guidelines identify specific erosion control measures required for single lot residential and mixed-use projects including additions that expand the building footprint by 500 square feet or more. Building Officials and City or Town Engineers can issue stop work orders when project managers fail to adequately install or maintain erosion and sediment control measures.

As co-permittees under SMCWPPP or SCVURPPP, the jurisdictions are also required to implement performance standards that reduce construction impacts on stormwater to the maximum extent practicable. The performance standards generally require the implementation of construction best management practices (BMPs), inspections of erosion and sediment control measures, and staff training. The stakeholders report on their implementation of these performance standards in yearly work plans and annual reports or deliverables submittals to the Water Board. The City of Palo Alto, for example, reports in its FY 06-07 Work Plan on the frequency of erosion and sediment control inspections on active construction sites. The SMCWPPP municipalities, in accordance with SMCWPPP's Pollution Prevention and Control Measures plan, are also required to promote annual Construction Site Management Workshops, and report on staff training and ways to improve enforcement of erosion and sediment control measures at construction sites. The Town of Woodside requires erosion and sediment control plans for all projects requiring a site development permit, and sends notices of impending rainy season site inspections to property owners of active construction sites to ensure that erosion and sediment control measures have been installed. Menlo Park requires staff and contracted inspectors to complete construction site management training.

In accordance with countywide stormwater / urban runoff management plans, municipalities require applicants whose projects disturb one acre or more to demonstrate coverage under the Statewide Construction Activity General Permit prior to issuance of grading or site development permits. Under this permit, managers of these projects must prepare a Storm Water Pollution Prevention Plan and keep it on site so that inspectors can verify that erosion and sediment control measures have been installed according to the plan.

San Francisquito Creek is listed under the Clean Water Act Section 303(d) list as impaired by sediment/siltation based primarily on a decline in native fish populations. The San Francisquito Creek sediment TMDL Project, which began in 2003, is focusing on defining water quality problems and how they relate to impacts to fish populations. Once the relationship between human activity, sediment sources, water quality, and fish populations are better understood, the TMDL will focus on actions to create solutions. As of March 2007, the Problem Statement and Sources Assessment had been completed; the remaining TMDL elements are Numeric Targets, Allocations, and an Implementation Plan. The TMDL and Habitat Enhancement Plan will require a CEQA review and Basin

Plan amendment, which could necessitate review of and revision to erosion and sediment control policies and regulations in the watershed.

Recommendations. In order to effectively manage erosion and sediment at construction sites, those persons responsible for the design, installation and maintenance of erosion and sediment controls should be adequately trained. This includes contractors and their engineers and subcontractors, as well as municipal engineers and inspectors. As mentioned above, the annual training of municipal staff on stormwater pollution prevention at construction sites, including erosion and sediment control, is covered under the SCVURPPP and SMCWPPP Co-permittees' Construction Inspection Performance Standards in their local urban runoff management plans. However, for most agencies, qualifications and training requirements for contractors are not specified in policies, codes, and ordinances. It is recommended that these qualifications and training requirements be included in such documents, e.g., grading or erosion control ordinances, to ensure the proper implementation of erosion and sediment controls. Example language could read, "All personnel responsible for installation, inspection, maintenance, and repair of BMPs shall be appropriately trained. Training should be both formal and informal, occur on an ongoing basis, and should include training/workshops offered by the International Erosion Control Association, the Association of Bay Area Governments, and/or the Regional Board/San Francisco Estuary Project or other recognized agencies or professional organizations."

Reduction of Impervious Surface

Overview. Methods encouraging limitations on impervious surfaces during development or redevelopment exist in a variety of ways throughout the watershed. Many jurisdictions have limits on the amount of site coverage in a zoning area. Portola Valley limits the amount of impervious surface on any property in the town, based on studies of site slope, geology, run-off potential and flood hazard constraints. Woodside limits paved area coverage per zoning district, but this limitation is intended to discourage excessive hardscape and does not include building coverage. Palo Alto limits maximum site coverage in its municipal code, and has a policy in its General Plan to "limit the amount of impervious surface in new development or public improvement projects to reduce urban runoff into...creeks."

Municipalities can also encourage the reduction of impervious surface by allowing narrower street, driveway and sidewalk widths, or limiting parking ratios. Principal access driveways in hilly areas of the watershed, such as Portola Valley, Woodside, and San Mateo and Santa Clara County unincorporated areas are typically required to meet minimum width and strength/compaction requirements for emergency vehicle access, but hammerhead turnarounds are allowed and are frequently constructed of semi-pervious surfaces such as turf block or grasscrete.

Menlo Park has an impervious surface reduction incentive program whereby commercial and industrial properties that reduce the amount of impervious surface on their sites or install and maintain post-construction stormwater controls can get a

reduction in their stormwater fees. Palo Alto's monthly stormwater utility fee for multi-family residential, commercial and industrial properties is also based on the amount of impervious surface on the property, and a reduction in impervious surface can result in cost savings for the owner. Palo Alto's stormwater utility budget includes \$125,000 per year to fund a grant program for innovative projects that reduce stormwater runoff and pollutant levels (beyond what is required by permits). Palo Alto also has an ordinance requiring that at least 50% of a front setback area must be landscaped.

Recommendations. Because urban areas of the San Francisquito watershed are substantially built out and more rural lands are designated as open space or appropriate for only very low-density development, recommendations regarding parking lots or street width design would generally apply only in redevelopment or retrofit opportunities. However, jurisdictions should continue to encourage creative site design and use of pervious surfaces in small projects such as home remodeling and landscaping, and should explore limiting impervious surface by zone and site characteristics, similar to Portola Valley's ordinance.

Implementation of Stormwater Treatment Measures

Overview. As co-permittees under the NPDES permits issued to SMCWPPP and SCVURPPP, the municipalities implement municipal stormwater permits by requiring stormwater treatment measures at new and redevelopment projects that create or replace 10,000 square feet or more of impervious surface (Provision C.3). The SMCWPPP and SCVURPPP co-permittees also participated in the development of Hydromodification Management Plans (HMPs) as required by Provision C.3.f. These plans have been approved by the Water Board, and co-permittees are implementing them to meet their municipal stormwater permit obligations. The municipalities will continue to require stormwater treatment measures for applicable new development and redevelopment projects as part of the Municipal Regional Permit.

SMCWPPP and SCVURPPP permits require site design and source control measures for single-family homes, which are the predominant form of development or redevelopment in the less-dense jurisdictions. Although stormwater treatment measures are not specifically required, some jurisdictions encourage applicants to include them in site plans where possible. For example, the Towns of Portola Valley and Woodside, where residential sites are typically large enough to retain all runoff on site and no large storm drain system exists, often require that any runoff from impervious surfaces be directed to natural drainage swales on the property or discharged to vegetated areas for infiltration.

Both SMCWPPP and SCVURPPP have created C.3 Stormwater Handbooks (see References for links) for use by municipal staff that explain the various C.3 provisions and provide guidance on proper sizing, selection and maintenance of stormwater treatment measures. SMCWPPP has created a C.3 Stormwater Technical Guidance manual for use by project proponents in selecting, designing and maintaining stormwater treatment measures such as vegetated swales, tree well filters, detention basins, flow-

through planter boxes and bioretention areas. The manual also contains guidance on protecting sensitive areas and site design techniques such as disconnected downspouts and permeable paving that benefit water quality, as well as appendices showing how post-construction controls could be used in example development scenarios, such as single-family residences, parking lots and zero-lot line developments. Representatives from the City of Menlo Park and the Town of Portola Valley participated in the work group for the development of the guidance manual. The manual is available at <http://www.flowstobay.org>.

Recommendation. SCVURPPP member agencies should consider developing standard design details for stormwater treatment measures similar to those developed by SMCWPPP. Having clear standards should increase their use and reduce reluctance on the part of developers and lenders to use these types of measures in their projects.

Reducing Pollutants of Concern

Overview. Pollutants of concern in San Francisquito Creek include pesticides, mercury, nickel, copper, sediment, trash and polychlorinated biphenyls (PCBs). Sediment, which is related to development policies through erosion and sediment control measures at construction sites, was discussed previously. This section will focus on pesticides as a pollutant of concern that is directly related to development policies through controls on landscaping.

SMCWPPP and SCVURPPP have developed outreach materials promoting integrated pest management (IPM) techniques as ways to reduce pesticide use. Both agencies provide these materials to co-permittees to distribute to residents and project proponents. SMCWPPP also provides a C.3 Technical Guidance manual for project proponents on the use of native plants and IPM and conducts yearly IPM workshops for municipal staff who are responsible for vegetation management. Both SMCWPPP and SCVURPPP contribute funds to the annual Regional IPM Conferences. In their annual reports, SMCWPPP and SCVURPPP co-permittees are required to provide a summary of the types of pesticide reduction measures required for all new development and significant redevelopment projects subject to Provision C.3, and must provide the percentage of all such new development and significant redevelopment projects for which pesticide reduction measures were included.

Most jurisdictions in the watershed have policies or ordinances that promote integrated pest management and/or discourage the use of pesticides. Woodside's General Plan states, "The use of pesticides shall be strictly limited to ensure protection of the environment. Special attention shall be given to local streams, ponds or other waterways." The use of native plants, which typically are more pest-resistant than non-natives, is strongly encouraged in Woodside's General Plan and Residential Design Guidelines. Portola Valley's Subdivision Ordinance mandates the use of drought-tolerant and pest-resistant trees and shrubs from the Town's native plant list for Planned Unit Developments. Menlo Park has adopted an Integrated Pest Management Plan, and also

requires standard, NPDES-related conditions of approval for single-family residential projects that include minimized use of fertilizers, herbicides and pesticides.

Santa Clara County adopted an IPM and Pesticide Use Ordinance in 2002 that covers a broad range of IPM elements including monitoring, pesticide product screening, an approved reduced-risk pesticides list, and IPM awareness among staff and public through education and outreach. To support the ordinance and assist departments in its implementation, the County hired an IPM Coordinator. The City of Palo Alto adopted a reduced-risk pest management policy and developed an IPM plan for City staff and contractors in 2001. The City has also developed a standard contract for structural pest control requiring IPM techniques, and requires structural pest control contractors to have "Ecowise" (IPM practices) certification. Palo Alto recently hired an IPM service provider to help the various City departments implement IPM practices. The Santa Clara Valley Water District also implements an IPM Policy that is required for its Stream Maintenance Plan. In addition, the District has developed specifications for contracted pest control operators requiring them to follow the IPM Policy, Best Management Practices, and Standard Operating Procedures; provide evidence of current IPM training; and provide monthly pesticide use reports.

Recommendations. Under the upcoming Municipal Regional Permit (anticipated to be adopted by the Water Board in fall 2007), all jurisdictions may be required to adopt and implement an IPM policy or ordinance. East Palo Alto, Portola Valley, Menlo Park and Woodside should begin a process for developing an IPM policy or ordinance. This will also help to standardize regulations requiring the reduction in use of pesticides across the watershed.

Natural Resource Protection

Overview. Nearly all of the jurisdictions have strong policies calling for the protection of natural resources, including trees, riparian corridors, and watercourses. Portola Valley and Woodside take great pride in the natural beauty of the area and therefore general plans for both Towns list preservation of the natural beauty and landforms as primary goals. Both Towns' design guidelines also stress the protection of drainage swales, streams, slopes, trees and plant communities. Woodside, Palo Alto, Menlo Park, and Santa Clara County have adopted general plan policies to protect riparian corridors by creating buffers; only Woodside has implemented that policy in its zoning ordinance. Portola Valley has created a Creekside Corridor Committee to study recommendations for establishing regulations and policies along creeks. Menlo Park also is planning to revise its Grading and Drainage Site and Design Guidelines or standard Conditions of Approval to promote the benefits of buffer zones and creek setbacks and restrict or prohibit structures and impervious surface within a specified distance from the top of the creek bank.

As described in the Introduction, the Santa Clara Valley Water Resources Protection Collaborative, which includes Santa Clara County, the Water District, the City of Palo Alto, and other municipalities and interest groups, prepared a User Manual for

land use near streams that provides uniform development guidelines and standards. The guidelines apply to new development, major re-development and single-family dwellings near streams proposed within what is called a “streamside protection area.” Projects inside this area receive a more detailed review and recommendations for riparian corridor protection, bank stability, erosion prevention and repair, and trail construction. Each jurisdiction is making locally appropriate modifications and incorporating the standards into its own permitting process. For example, Palo Alto applies these standards only to its discretionary permits.

The Joint Powers Authority for San Francisquito Creek works with landowners and local jurisdictions to promote environmentally sensitive bank stabilization methods consistent with recommendations from the San Francisquito Creekbank Stabilization and Revegetation Master Plan. This document provides guidance to agencies and landowners’ consultants in the planning, conceptual design and permitting of bank stabilization and revegetation projects along San Francisquito Creek. It recommends treatments that are based on analyses of site conditions and consideration of the entire creek system. The JPA produced a similar document for Corte Madera Creek in Portola Valley, with the specific goal of facilitating communications between the Town and private property owners who wish to address erosion and property loss.

Menlo Park, Palo Alto, Portola Valley, Woodside and Santa Clara County have provisions regulating the removal of trees larger than a certain diameter, depending on the species and jurisdiction. An arborist’s report to justify removal may be required if the tree is not obviously dead or diseased. Woodside frequently requires transplanting to other areas on the property for notable trees that would otherwise be removed as part of a development plan. Likewise, most jurisdictions promote street tree canopy coverage for aesthetic and environmental benefits.

Recommendations. All jurisdictions should continue to encourage, and codify if possible, the protection of open space near sensitive areas and prohibit the removal of riparian vegetation except in emergency situations. Agencies should also require replacement trees (where additional tree coverage is desirable) when a permit to remove a mature tree is granted.

Alternative Transportation

Overview. Because the upper watershed primarily consists of open space and low-density residential communities not served by any public transit, alternative transportation in the upper watershed area is recreational in nature. The scenic roads in the area are heavily used by cyclists. Woodside and Portola Valley frequently require the dedication of horse trail easements on properties when they redevelop, and the Towns have very active equestrian communities.

The lower reaches of the watershed are much more urbanized and therefore more opportunities for linking of mass transit opportunities exist. East Palo Alto, Palo Alto and Menlo Park participate in the Metropolitan Transportation Commission, and promote

higher-density, mixed land uses adjacent to public transportation routes. In the less dense neighborhood areas of Menlo Park and Palo Alto, pedestrian and bike trail corridors are provided through a network of streets and pathways. Riparian lands in Menlo Park and Palo Alto are also used for paths and trails, where appropriate. East Palo Alto may require bicycle paths for new subdivisions through conditions of approval for tentative maps. Palo Alto's General Plan contains many policies aimed at preserving walkable neighborhoods, and improving pedestrian and bicycle paths and access. The City also maintains a locally funded neighborhood shuttle service that brings residents downtown, to schools, and to the community center. Residential streets are treated as both public roads and neighborhood amenities to favor pedestrians. Commercial areas are located near major arterials.

Recommendations. The more developed, lower watershed areas should continue to promote bicycle and pedestrian use by providing and improving paths and access, and continue promoting higher-density, mixed land uses and activity centers near mass transit opportunities. Appropriate jurisdictions should also promote trail development as identified in the San Mateo County, Santa Clara County, and Bay Trail master plans³.

Watershed-Based Planning

Overview. One forum for watershed-based planning is the San Francisquito Creek Joint Powers Authority (JPA). Member agencies include Menlo Park, East Palo Alto, Palo Alto, the San Mateo County Flood Control District, and the Santa Clara Valley Water District; associate members include Stanford University and the San Francisquito Watershed Council. The JPA was formed to:

- Manage the joint contribution of services from its member agencies,
- Provide policy direction on issues of mutual concern relating to the San Francisquito Creek,
- Facilitate and perform bank stabilization, channel clearing, and other Creek maintenance,
- Plan flood control measures for the San Francisquito Creek watershed,
- Take actions necessary to preserve and enhance environmental values and instream uses of San Francisquito Creek,
- Coordinate emergency mitigation and response activities relating to San Francisquito Creek, and
- Make recommendations to Member Entities for funding and alternatives for long-term flood control for Member Entity consideration.

³ Association of Bay Area Governments. Bay Trail Plan. <http://baytrail.abag.ca.gov/baytrailplan.html> (updated 7/30/99).

San Mateo County, 2001. San Mateo County 2001 Trails Plan. Prepared by MHA Environmental Consulting. <http://www.eparks.net/> (select Park Planning, then scroll down to Trails Master Plan)

Santa Clara County Trails Plan Advisory Committee, 1995. Santa Clara County Countywide Trails Master Plan Update. <http://parkhere.org/portal/site/parks/> (select Planning and Development, then Countywide Trails Master Plan)

Another forum for more informal watershed-based planning is the San Francisquito Watershed Council. The Watershed Council provides a community forum⁴ that helps to identify and clarify creek issues related to water quality, flooding, and habitat. At its monthly meetings, the Watershed Council Steering Committee hosts presentations on issues related to watershed health. Sometimes project proponents use this forum to seek feedback from local agency staff and watershed residents on projects that could affect the creeks of the watershed. The chief goal of these meetings is to provide an opportunity for dialogue among individuals, community organizations, local governments, and agency representatives to promote understanding and consensus on watershed issues. Longtime Watershed Council participants and staff provide local agencies with data, historical information, technical expertise, and perspective on watershed concerns.

Individually, the jurisdictions implement different aspects of watershed-based planning. Santa Clara County, Palo Alto and the Water District participate in the Santa Clara Valley Water Resources Protection Collaborative and helped develop standards for development and redevelopment near streams in a “streamside protection area” along the top of a stream bank, including measures such as standards for riparian corridor protection, bank stability, erosion prevention and repair, trail construction, etc. San Mateo County participates in the Fishnet 4C program (further described in Appendix A), through which participating counties have taken a proactive stand for salmonid fisheries protection throughout the region. Information for Woodside and Portola Valley on watershed-based planning activities, other than participation in the San Francisquito Watershed Council, was not available.

Recommendations. Numerous opportunities for watershed-based planning exist. Jurisdictions could incorporate watershed protection goals and objectives into future updates of the General Plan by outlining a watershed-based planning approach. As part of this, jurisdictions within the watershed could work together to create a collaborative watershed-based planning strategy. Watershed planning goals should be incorporated into the definition of “cumulative impacts” for environmental reviews.

Once watershed protection goals and objectives have been adopted as General Plan policies, more advanced watershed-based planning measures could be considered. For example, a mechanism calling for the development of specific plans on a watershed-wide scale could be incorporated in General Plan updates. The creation of watershed-overlay zoning districts in municipal codes could specify policies and development standards for all parcels in the watershed. The development guidelines and standards created by the Santa Clara Valley Water Resources Protection Collaborative could be implemented by Collaborative member agencies in the San Francisquito watershed as projects arise, and the San Mateo County jurisdictions should consider adopting these guidelines and standards as well. Another opportunity for watershed-based planning in

⁴ Members include interested individuals, the City of Palo Alto, the City of Menlo Park, the Town of Portola Valley, the Town of Woodside, San Mateo County, the Santa Clara Valley Water District, Crescent Park Neighborhood Association, League of Women Voters, Acterra, Youth Community Service, CLEAN South Bay, Jasper Ridge Biological Preserve, Stanford Linear Accelerator Center, Stanford Utilities, and Office of Stanford Real Estate.

the San Francisquito watershed is the Army Corps of Engineers' Flood Damage Reduction and Ecosystem Restoration project with the local sponsorship of the JPA.

A multitude of additional guidance on watershed-based planning exists, ranging from regional to national. A short discussion of three sources of such guidance, the Santa Clara Valley Water District's "Lower Peninsula Watershed Stewardship Plan," the San Francisco Estuary Project's "Comprehensive Conservation and Management Plan," and the U.S. Environmental Protection Agency's "Top 10 Watershed Lessons Learned," follows:

- The Santa Clara Valley Water District, with stakeholder participation by the Santa Clara Basin Watershed Management Initiative, has developed a Lower Peninsula Watershed Stewardship Plan that covers the watersheds of San Francisquito Creek and several nearby creeks. This plan provides a discussion of general watershed planning tools and issues, and a chapter with varying levels of information for each of the Lower Peninsula watersheds. The San Francisquito chapter provides graphical data depicting various physical, biological, and land use characteristics of the watershed that could be useful in watershed-based planning. A more detailed stewardship plan for San Francisquito similar to those done for other Lower Peninsula watersheds is pending completion of current planning and visioning processes including the JPA's Feasibility Study with the Army Corps of Engineers for a Flood Damage Reduction and Ecosystem Restoration project and the 2007 strategic planning processes currently underway for the JPA and the San Francisquito Watershed Council.
- The Land Use and Watershed Management section of the San Francisco Estuary Project's "Comprehensive Conservation and Management Plan" (CCMP) recommends actions that local governments and other stakeholders can take to protect the San Francisco Estuary and its watersheds. Both San Mateo and Santa Clara Counties and the Santa Clara Valley Water District signed the original resolution endorsing CCMP implementation. The San Francisco Estuary Project will be releasing a CCMP update later this year (2007). The above-mentioned jurisdictions, as well as the watershed's municipalities, should consider endorsing the anticipated new resolution for this update, and determine how best to implement these recommendations.
- The U.S. Environmental Protection Agency "Top 10 Watershed Lessons Learned" was developed from 1991 – 1997 through working in partnership with local agencies and organizations to pursue a watershed approach to protecting lakes, rivers, wetlands, estuaries, and streams. Each chapter contains a short description of the lesson, a few examples to illustrate it (with contacts from whom more information about the example can be obtained) and a list of key contacts and resources associated with the lesson. The document was peer-reviewed by over 100 citizens, scientists, government employees, corporate sponsors, and nonprofits, among others. It is recommended reading for any groups considering or undertaking watershed-based planning.

References

Association of Bay Area Governments. Bay Trail Plan (updated 7/30/99).
<http://baytrail.abag.ca.gov/baytrailplan.html>.

Harris, R.R. and S.D. Kocher, University of California, Berkeley, Center for Forestry, 2006. Local Agency Policies and Procedures for Protecting Steelhead Habitat: San Francisquito Watershed, Santa Clara and San Mateo Counties, California.

Philip Williams & Associates, et al, 2005. Maintaining Corte Madera Creek: A Citizen's Guide to Creek-Side Property Protection.

Royston, Hanamoto, Alley & Abey, et al, 2000. San Francisquito Creek Bank Stabilization and Revegetation Master Plan.

San Francisco Estuary Project, 1993. Comprehensive Conservation and Management Plan. <http://sfep.abag.ca.gov/reports/ccmp/ccmp-index.html>

San Francisquito Watershed Council, 2006. Development Policies Comparison Project for the Cities of East Palo Alto and Menlo Park, CA. Prepared by EOA, Inc.

San Mateo County, 2001. San Mateo County 2001 Trails Plan. Prepared by MHA Environmental Consulting. <http://www.eparks.net/> (select Park Planning, then scroll down to Trails Master Plan).

Santa Clara County Integrated Pest Management website,
<http://www.sccgov.org/portal/site/ipm> (select Background, then Strategy)

Santa Clara County Trails Plan Advisory Committee, 1995. Santa Clara County Countywide Trails Master Plan Update. <http://parkhere.org/portal/site/parks/> (select Planning and Development, then Countywide Trails Master Plan).

Santa Clara Valley Water District, 2006. Guidelines and Standards for Land Use Near Streams manual,
http://www.valleywater.org/Water/Watersheds_streams_and_floods/Taking_care_of_streams/Guidelines_&_standards/Guidelines_&_Standards.shtm .

Santa Clara Valley Water District, 2006. Lower Peninsula Watershed Stewardship Plan. Prepared by Tetra Tech, Inc.
http://cf.valleywater.org/wmi/Stewardship_plan/index.shtm (select Products/Comments, then Lower Peninsula)

Santa Clara Valley Water District, 2006. Water Resources Protection Ordinance website,
http://www.valleywater.org/Business_Info_and_Permits/Permits/Water_Resources_Protection_Ordinance/index.shtm.

SCVURPPP, 2003. Santa Clara Basin Municipal Development Policies Comparison

Project. Prepared by EOA, Inc.

SCVURPPP FY 2002-2003 Annual Report, September 15, 2003.

SCVURPPP FY 2005-2006 Annual Report, September 15, 2006.

SCVURPPP, 2006. C.3 Stormwater Handbook. Prepared by EOA, Inc.

http://www.scvurppp-w2k.com/permit_c3_docs/C3_Handbook/Handbook_May_2006-Oct_update.pdf

SCVURPPP FY 2006-2007 Work Plans, March 1, 2007.

SMCWPPP, 2007. C.3 Stormwater Technical Guidance. Prepared by EOA, Inc.

<http://www.flowstobay.org/pdfs/bmp/Construction%20Series/C3TechnicalGuidance03202007.pdf>

Stanford Community Plan,

<http://gup.stanford.edu/pdf/Stanford%20Community%20Plan.pdf>

STOPPP, 2004. Provision C.3.j: Site Design Review Submittal. Compiled by EOA, Inc.

STOPPP, 2005. C.3 Stormwater Handbook. Prepared by EOA, Inc.

http://www.flowstobay.org/pdfs/bmp/Construction%20Series/stoppp_c3_handbook_final.pdf

STOPPP FY 2005-2006 Annual Report, August 31, 2006.

U.S. Environmental Protection Agency, 1997. Top 10 Watershed Lessons Learned, EPA 840-F-97-001.

<http://www.epa.gov/owow/lessons/>

Appendix A: San Francisquito Watershed Jurisdictions

City of East Palo Alto

The City of East Palo Alto is nestled along the shore of South San Francisco Bay in San Mateo County between San Francisco and San Jose. The two and one-half square mile city is bordered by the San Francisco Bay to east, the City of Menlo Park to the north and west, and the City of Palo Alto to the southwest and south. East Palo Alto sits approximately 15 feet above sea level and has a population of approximately 32,000. Most policies relevant to land use, water quality and development can be found within the City of East Palo Alto's Municipal Code and General Plan.

City of Menlo Park

The City of Menlo Park lies in the midpeninsula region between San Francisco and San Jose. Located in the southern part of San Mateo County, it is bounded on the south by Palo Alto, Stanford University, and East Palo Alto, on the east by the San Francisco Bay, on the north by Atherton and Redwood City and on the west by unincorporated San Mateo County (Ladera), Portola Valley and Woodside. Menlo Park encompasses about 18 square miles, including nearly 12 square miles of the San Francisco Bay and wetlands, and has a population of 30,750. The approximately 6.5-square mile urbanized portion of the City is virtually built out, and much of this area is devoted to single-family residential development at densities of 3.5 to 5.0 units per acre. Office development is found primarily close to freeways, on Middlefield Road, in the central downtown area, and also along El Camino Real and Sand Hill Road. Industrial areas are primarily located east of the Bayshore Freeway near the Dumbarton Bridge approaches, between Marsh Road and University Avenue. Most policies relevant to land use, water quality and development can be found within the City's General Plan, Municipal Code and City Center Design Guidelines.

City of Palo Alto

Spanning from Skyline Boulevard in the Santa Cruz Mountains east to the San Francisco Bay, Palo Alto is home to 62,000 people and covers about 26 square miles. Development is primarily concentrated in the flat terrain between the foothills and the Baylands, bounded by expanses of preserved open space comprising approximately 37% of the total land area. The remaining land is used for the following purposes: 26% public/institutional, 22% residential, 7% industrial, 6% miscellaneous, and 2% commercial. Slightly more than half of the homes in Palo Alto are single family, owner occupied residences and 30% of residents are over 50 years of age. There is a strong sense of environmental stewardship as evidenced by the large amount of preserved publicly-owned open space, commitment to the preservation of the urban forest, and heavy usage of the City's nature interpretive facilities and programs. Most policies relevant to land use, water quality and development can be found within the City's

Municipal Code, General Plan, Tree Technical Manual and guidance document entitled “Planning Your Land Development Project.”

Town of Portola Valley

The Town of Portola Valley is located just west of Stanford University lands astride the San Andreas Fault, and is also bordered by the Town of Woodside (to the north) and undeveloped San Mateo County unincorporated area (to the north, west and south). The ten square mile town has a population of approximately 4,550. Portola Valley is a very low-density, rural, residential community with limited commercial area, and the Town encourages the preservation of open space. Most policies relevant to land use, water quality and development can be found within the Town’s Design Guidelines, Municipal Code and General Plan.

Town of Woodside

Woodside is a town of fourteen square miles extending from rolling woodlands east of Interstate 280 into a rural valley of wildflowers and grasses and up into the redwood forests of the western coastal range. Woodside has a population of approximately 5,500 in about 2,000 homes, most of which are on lots ranging from 1-5 acres. Two small commercial areas exist on Woodside Road in the town center and along Skyline Boulevard at Highway 84. Woodside is bordered by County unincorporated area on all sides, as well as Portola Valley and Stanford to the south, and Redwood City and Atherton to the east. The Town takes great pride in its natural beauty and encourages development to blend with the surroundings. Most policies relevant to land use, water quality and development can be found within the Town’s Residential Design Guidelines, Municipal Code and General Plan.

County of San Mateo

San Mateo County is geographically the third smallest county in California and the fourteenth most populous, with a population of approximately 724,000. The 531-square mile county is located between San Francisco and Santa Clara counties on the San Francisco peninsula and boasts 54 miles of spectacular coastline bluffs and beaches. Seventy-four percent of its land is in agricultural use, watershed, open space, wetlands or parks. The County contains 20 cities and towns that are home to about 91% of the county’s residents. Development within the unincorporated lands tends to be low-density rural uses, with some pockets of higher-density residential. Nearly all of the County’s land within the San Francisquito creek watershed is steeply sloped and undeveloped besides roads and park-related uses. Most policies relevant to land use, water quality and development can be found within the County’s General Plan, Zoning Ordinance and Local Coastal Program.

The County is also a member of FishNet 4C, a county-based, regional salmonid protection and restoration program, created under a Memorandum of Agreement between

the six Central California Coastal Counties of Mendocino, Sonoma, Marin, San Mateo, Santa Cruz and Monterey. Coho salmon was listed in 1996 as *threatened* under the Federal Endangered Species Act (ESA), and *endangered* in San Mateo and Santa Cruz Counties under the California State ESA. Steelhead was added to the federal list as *threatened* in 1997. In light of the listings, Supervisors from the six counties decided to take a proactive stand for fisheries protection throughout the region, and formed FishNet 4C- the Fishery Network of the Central California Coastal Counties. A prime objective of the FishNet 4C program has been to evaluate county land management practices and written policies relative to protecting salmonid populations, and to make recommendations for improving those practices and policies.

County of Santa Clara

Santa Clara County encompasses 1,300 square miles located at the southern end of the San Francisco Bay. Its 2006 population of nearly 1.8 million is the largest of the nine Bay Area counties and constitutes about one quarter of the Bay Area's total population. The County contains 15 cities, which cover approximately 26% of the total land area. The cities are mainly on the flat valley floor, with some smaller cities in the foothills, while the surrounding mountain ranges remain largely unincorporated, rural and undeveloped. Although the unincorporated County covers nearly 75% of the land, these areas contain only 5.5% of the total population of the county. Because the County and cities were able to agree upon joint urban development policies that make the cities collectively responsible for accommodating and managing urban development, the unincorporated areas of the County are sparsely developed. Development sites in the unincorporated areas are single-family homes on large lots and commercial projects suited to rural locations such as recreational sites and agricultural uses. Most policies relevant to land use, water quality and development can be found within the County's General Plan, Design Review Guidelines, Zoning Ordinance and Standard Details Manual.

Santa Clara Valley Water District

The Santa Clara Valley Water District is a special district responsible for water supply, flood protection, and watershed stewardship in Santa Clara County. The District encompasses all of the County's 1,300 square miles and serves the area's 15 cities and 1.8 million residents. The District's responsibilities are derived from their missions to provide (1) healthy, clean drinking water, (2) natural flood protection that balances environmental quality, community benefit and protection from creek flooding, and (3) the protection and enhancement of watersheds, streams, and the natural resources in Santa Clara County. The District recently adopted a new Water Resources Protection Ordinance describing their permitting authority for lands owned or under easement near streams that run through Santa Clara County. Information on policies relevant to water quality and development was obtained from the completed Policy, Code & Ordinance Worksheet dated April 2003, the SCVURPPP Annual Reports and the District's Water Resources Protection Ordinance.

Stanford University

Stanford University is the largest private landowner in the San Francisquito watershed. Approximately 70% of its lands, primarily the campus, Stanford Linear Accelerator Center, and Jasper Ridge Biological Preserve, are in the San Francisquito watershed, and these lands account for almost 20% of the total watershed area. Stanford's lands, totaling approximately 8,180 acres, are located in six jurisdictions: unincorporated Santa Clara (49%) and San Mateo (33%) counties, the cities of Palo Alto (14%) and Menlo Park (1%), and the towns of Portola Valley (1%) and Woodside (1%). It should be noted that Stanford University's policies, regulations, and practices are governed by the respective city and county jurisdictions in which that part of its lands are located. Stanford's management of stormwater goes back to its original campus design in which runoff from portions of the campus were directed to Lake Lagunita, the Palm Drive Oval, and the Stanford Arboretum. More recently, Stanford has built several flood control and stormwater quality Best Management Practice features. These features include: detention basins near Stock Farm Road and Sand Hill Road, and at El Camino Real and Serra Street (Matadero Creek watershed) that detain runoff from the campus from approximately the 10-year through 100-year storms; vegetated swales that slow, clean, and absorb runoff from Sand Hill Road and the Serra Street drainage ditch; a continuous deflection separation unit at Pasteur Drive near Welch Road that treats runoff; and a cistern on Jasper Ridge Biological Preserve that captures almost all the runoff from the roof of the field station for irrigation.