



Zone 7 Water Agency

Flood Protection Program

2012 Annual Report

May 2013

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OVERVIEW

Introduction and Background

Zone 7 of the Alameda County Flood Control & Water Conservation District (Zone 7 Water Agency) was established in 1957 by the voters of the Livermore-Amador Valley in order to place water management, including flood control, under local control through a locally-elected Board of Directors. In addition to providing wholesale potable water supply to the businesses and residents of Dublin Livermore, Pleasanton and the Dougherty Valley portion of San Ramon, Zone 7 also provides groundwater basin management for the Livermore-Amador Valley and untreated irrigation water to Eastern Alameda County agricultural customers. Zone 7 also provides for the management of flood and storm waters in order to protect life, property and habitat from damage and destruction within a 430-square-mile area.

Zone 7's Flood Protection Program includes four major sub-programs; additional details about these sub-programs and descriptions of some of the major activities which occurred during 2012 are in the sections which follow.

- Administration

Administration includes staffing and training, legal, safety, property management, and regulation compliance.

- Watershed Stakeholders Collaboration

Watershed Stakeholder Collaboration Program includes participation in a variety of local and regional efforts with specific emphasis on collaboration with the many public and individual stakeholders in the watershed.

- Capital Improvements

The key Capital Improvement Program activities include planning, data collection, hydrologic and hydraulic modeling, financing and budgeting, design and construction management, and working with other entities such as developers, cities, and NGOs to further partnerships on projects identified in the Stream Management Master Plan (SMMP).

- Maintenance

The key Maintenance program activities for the 37 miles of Zone 7-owned channel facilities include emergency repairs, routine maintenance and repairs, clearing debris from channels and access roads, vegetation management along the channels, inspections to ensure the system is in good working condition to receive and convey storm waters, and rehabilitation of existing facilities. This year, Zone 7 also undertook a sediment study

to better understand the magnitude of the sediment transport process within the upper Alameda Creek watershed area.

Highlighted Accomplishments from 2012

The following are some of the key accomplishments by Zone 7 in 2012, all of which are described in more detail in the following chapters:

- Collaborated with local municipalities and park districts in their planning and construction of trail projects utilizing flood control channel maintenance access roads.
- Coordinated with the U.S. Army Corps of Engineers to maintain Zone 7's eligibility for federal funding in the event of a storm disaster.
- Development of Hydrology and Hydraulic models of the watershed to prepare for the Stream Management Master Plan (SMMP) Update is progressing. The models are being developed in-house and are scheduled to be completed in 2013.
- Flood control improvements identified in the Stream Management Master Plan within the El Charro Specific Plan Area were completed in 2012 under a \$10 million Partnership Agreement with the City of Livermore.
- Collaborated with the City of Pleasanton and Alameda County Surplus Property Authority on the extension of Stoneridge Drive into Staples Ranch. Construction of the Stoneridge Bridge began in April 2012.
- Work efforts began in 2012 and continue under a grant of \$190,000 that was approved by the State Coastal Conservancy to help fund a revision of the SMMP that would frame SMMP projects within a larger, more integrated ecosystem/watershed context.
- Zone 7 staff chaired three multi-agency working groups that support environmental studies and collaboration in the Alameda Creek watershed.
- Zone 7 participated in a collaborative effort involving the U.S. Department of Agriculture's Natural Resources Conservation Service to support bank stabilization projects at Line G-1-1 and Pleasanton Canal (Line B-5).
- Design and environmental evaluation per CEQA were completed for the Arroyo Mocho – Stanley Reach Project in 2012. The project design facilitates stream channel enhancements, increased riparian vegetation, and fish passage improvements without impacting the 100-year storm flow capacity. Construction is scheduled to begin in May 2013.
- Beginning in the winter of 2010/11, Zone 7 undertook a sediment study to better understand the sediment transport process within the upper Alameda Creek watershed area.
- Fourteen maintenance repair projects were completed using contract laborers under the direction of Zone 7 staff at an approximate construction cost of \$850,000; in addition, the

planning, permitting, design and construction management, were performed directly by Zone 7 staff.

- Other field activities such as vegetation management, graffiti abatement, mowing, and fencing were completed.
- Staff development activities included training in Civil 3D, AutoCAD Map 3D mapping software, hydrology and hydraulic modeling programs, HAZWOPER 8-hour, refresher on hazardous materials handling, GIS seminars, and stream bank assessment and restoration training.

ADMINISTRATION

The Zone 7 Flood Protection Program's administrative tasks include those related to staffing, planning, budget preparation, preparing board agendas and presentations, updating and managing current agreements and contracts, and issuing permits as appropriate. Flood Protection staff coordinated extensively with other agencies to minimize impacts to the public and utilize Zone 7-owned properties for other compatible community uses such as trails. In addition, Flood Protection staff routinely engaged with the public to address citizen complaints and inquiries.

Following is a description of the key administrative activities which occurred in 2012.

Mitigation Monitoring and Reporting Program

A typical Zone 7 Flood Program capital improvement project usually does not end after the construction is completed. Typically, a project requires an ongoing effort to monitor and mitigate impacts resulting from a project. As a requirement for project approval, Zone 7 must provide a mitigation and monitoring report to various regulatory agencies, such as the Department of Fish and Game, Regional Water Quality Control Board, Army Corps of Engineers and U.S. Fish and Wildlife Services, for a period of five to ten years after project completion, to show that the mitigation for the improvements are doing what they were intended to do. In 2012, Zone 7 continued their project requirement for providing a mitigation and monitoring report for the Granada High Crossing Removal Project in Livermore, which was completed in 2008. The Granada High Crossing Removal Project served as mitigation for a sediment removal project that occurred downstream along the Arroyo Mocho stream. Zone 7 was required to monitor the channel crossing location for a period of five years to insure that removal of the crossing did not affect the channel integrity. Zone 7 administered a consultant contract with Environmental Science Associates to assist with the mitigation monitoring and reporting process. 2012 was the fifth and final year of the required five-year mitigation monitoring and reporting work for the Granada High Crossing Removal Project in the Arroyo Mocho. Regulatory agencies have received our 2012 final report.

Contract/Agreement Administration and Management

Zone 7 staff is responsible for administering and managing various consultant and vendor contracts related to Flood Control projects. It includes the preparation and administration of requests for proposals, contracts, and right-of-way documents. Staff is also responsible for preparing Zone 7 Board Agenda items pertaining to flood control.

Zone 7 staff routinely receive requests from private entities, as well as public agencies, regarding use of a flood control facility for their projects. While temporary access is usually granted through encroachment permits, long-term access is usually provided, when warranted, through a license agreement. A license agreement will generally spell out the terms of operating within a Zone 7 facility, as well as indemnify Zone 7 from any liabilities that may occur from that entity's use of the property.

In 2012, Zone 7 staff worked on several requests with developers and performed a number of requests for proposals, annual purchase orders, consultant contracts, and construction contract

administration. A lease agreement with a private entity leasing Zone 7 property was updated to reflect current terms and conditions.

Technical Support to Claims/Lawsuits Against Zone 7 & Zone 7's Claims Against Others

No claims or lawsuits in 2012.

Encroachment Permit Program

The Encroachment Permit Program involves engineering design review, inspection, and issuance of encroachment permits. Encroachment permits are necessary when adjacent neighbors request use of Zone 7's access roads to work within their property, or when work is proposed within the public right-of-way or easement. They involve developing permit terms, conditions, fees, insurance and bond requirements. In the past twelve months, Zone 7 staff issued 36 permits to both private and public agencies and coordinated with applicants to provide safe access to Zone 7 facilities. See Appendix A for a list of encroachment permits issued in 2012.

U.S. Army Corps of Engineers PL 84-99 Federal Assistance Program

In the past, Zone 7 has participated in the U.S. Army Corps of Engineers' (COE) PL 84-99 Federal Assistance Program. The program provides federal funding for Presidential-declared storm related disasters to complete and rehabilitate damaged facilities. One of the conditions required to participate in the program is a bi-annual eligibility inspection conducted by the Army Corps inspectors on all Zone 7 facilities. In 2012, Zone 7 continued working with the COE to maintain its eligibility in the program.

Trail-Use Collaboration and Support

In 2012, Zone 7 staff collaborated with the City of Pleasanton, City of Livermore, City of Dublin, East Bay Regional Park District and local trail groups to make sure that the trail use and license agreement terms and conditions were up-to-date and reflect current concerns. In addition to our continual collaboration on the Iron Horse Trail Extension Project with East Bay Regional Park District in Pleasanton, where construction is scheduled in spring 2013, staff supported the construction of the I-580 undercrossing project, again with the East Bay Regional Park District, which was completed and officially opened in October 2012. With the completion of this trail gap project, the public may travel off-road between Pittsburg and Livermore uninterrupted. Further, staff engaged in discussions with City of Pleasanton staff to explore the opportunity in opening additional reaches along Tassajara Creek within the Hacienda Business Park for recreational use. As incidents relating to trail-use occurred, Flood Control staff worked with the public to ensure safety as a number one priority.

Alameda Countywide Clean Water Program

In 2012, Zone 7 participated in the Alameda Countywide Clean Water Program by implementing best management practices in its maintenance activities, responding to illicit discharges, and contributing data for the Clean Water Program semi-annual reports. Per the Clean Water Program requirement, staff kept track of violations such as shopping carts, debris, and spills in the channels and prepared reports for the Clean Water Program. By staying proactive and

prepared for action when violations arose, Zone 7 was able to effectively reduce the amount of runoff pollution. Zone 7 also participated in Earth Day 2012, Coastal Clean-Up Day and Dublin Pride Week activities.

Joint Exercise of Powers Agreement for Aquatic Pesticides NPDES Permit

In compliance with the statewide General National Pollutant Discharge Elimination System (NPDES) Permit for the discharge of aquatic pesticides to waters of the United States, Zone 7 entered into a Joint Exercise of Powers Agreement (JEPA) in 2003 with the Contra Costa County Public Works Department, Contra Costa County Flood Control and Water Conservation District, Alameda County Public Works Agency, City of Antioch and City of Concord to monitor and implement aquatic pesticide use. Flood Control staff is responsible for attending all meetings and contract agreements with the selected consultant. All JEPA member agencies share equally in the costs of monitoring and testing for each pesticide being used and for the costs associated with coordination and administration of the JEPA. With the NPDES permit, Zone 7 will be in compliance when aquatic pesticides are used for keeping flood control channels clear of obstructive vegetation. In 2012, Zone 7 continued to be an active participant in the JEPA group.

Employee Development and Staff Training

In 2012, Zone 7 staff had the opportunity to participate in a number of training classes to improve staff productivity and employee development. Classes included Civil 3D software, hydrology and hydraulic modeling programs, HAZWOPER 8-hr. refresher on hazardous materials handling, other safety related classes, and stream bank assessment and restoration training. With increased knowledge of these new programs, Flood Control staff was able to accomplish daily tasks, as well as new assignments, with greater safety and efficiency.

WATERSHED STAKEHOLDER COLLABORATION PROGRAM

During 2012, Zone 7 staff participated in a variety of local and regional efforts with specific emphasis on collaboration with the many public and individual stakeholders in the Upper Alameda Creek Watershed. Zone 7 staff currently chair three multi-agency working groups that support environmental studies and collaboration in the watershed.

Alameda Creek Fisheries Restoration Workgroup

The Alameda Creek Fisheries Restoration Workgroup was formed in early 1999 as a collaborative effort among many parties focusing on water flows and habitat restoration in the Alameda Creek watershed to support steelhead trout. A Memorandum of Understanding (MOU) was authorized by the 17 Workgroup members in 2006, and Zone 7 is one of five funding partners.

A comprehensive study plan, the “Alameda Creek Population Recovery Strategies and In-Stream Flow Assessment for Steelhead Trout,” was completed in 2008. Work included an assessment of hydrologic and habitat conditions, identification of strategies for population recovery, and monitoring.

Meetings are held quarterly and are open to the public.

These efforts are in addition to Zone 7’s collaborative approach with the National Marine Fisheries Service, under the Statement of Understanding which focuses on NMFS’ preparation of a recovery plan for the Central California Coast Steelhead.

Alameda Creek Watershed Council

The Alameda Creek Watershed Council consists of representatives from several local agencies, environmental groups, industries and organizations. The Council’s mission is to protect and enhance water-related beneficial uses and resources in the Alameda Creek Watershed in order to create a healthy and sustainable watershed for the community. The Council promotes collaboration and the sharing of information among all stakeholders.

The Council’s annual conference is held each year in October, and regular meetings are usually held quarterly. They are open to the public.

Arroyo de la Laguna Collaborative

The Arroyo De La Laguna Collaborative is comprised of agencies and municipalities draining into the arroyo and greater Alameda Creek Watershed, more specifically: Alameda County Flood Control and Water Conservation District (Zone 5/6), Alameda County Water Agency, Alameda County Resource Conservation District, Natural Resources Conservation Service (USDA), Contra Costa Flood Control and Water Conservation District, San Francisco Public Utilities Commission, Zone 7 and the cities of Dublin, Livermore, Pleasanton, and San Ramon. This collaborative is discussing the arroyo as a whole to better understand the scientific and engineering data that is available along with what goals for the arroyo will benefit the stakeholders and local residents.

Stoneridge Drive Bridge



The City of Pleasanton and the Alameda County Surplus Property Authority began construction in April 2012 on the extension of Stoneridge Drive into Staples Ranch. The extension requires a non-clear span bridge over the Arroyo Mocho. The bulk of the construction in 2012 included constructing the piers and the bridge structure for the south bound lanes. North bound lanes and the rest of the improvements are not scheduled to be

completed until 2013.

South bound lanes were completed in 2012; while north bound lanes are scheduled for completion in 2013.

Sediment Study

Beginning in the winter of 2010/11, Zone 7 undertook a sediment study to better understand the magnitude of the sediment transport process within the upper Alameda Creek watershed area. Understanding the way the system moves and deposits sediment will allow Zone 7 to develop a more environmentally sound and cost effective maintenance plan to reduce flooding risks from sediment buildup that can decrease



Zone 7 and SFEI staff in action



stormwater carrying capacity in some areas. It will help Zone 7 clarify the need, location, size and maintenance frequency of sedimentation basins and other facilities used for stormwater detention during the SMMP updating process. Furthermore, it will provide basic data on sediment flows affecting various riparian habitats. Flood Control staff works with San Francisco Estuary Institute staff in this endeavor.

Lines B-5 and G-1-1 Revegetation Demonstration Project

Funded by federal dollars administered by the Alameda County Resource Conservation District (RCD), Zone 7 is collaborating with the RCD and Natural Resources Conservation Service (NRCS) on a demonstration project assessing the feasibility of improving bank stability at two locations in Pleasanton. Line G-1-1 has suffered many bank failures due to existing poor soil conditions. With limited additional flow



Pleasanton Canal
(planting on right side)



Line G-1-1 (sod installed on left side)

capacity, deep-rooting native grasses (sod) were installed here in lieu of larger shrubs or trees to preserve capacity. A short distance away is Line B-5 (aka, Pleasanton Canal), which has additional flow capacity above the 1% storm flow and can accommodate adding native trees and shrubs for bank stabilization. The sites were planted in winter 2012-13 and will be monitored for two years.

Arroyo de la Laguna – Foothill Road Project

The Arroyo de la Laguna Collaborative's 2012 agendas included discussion of local issues, with a focus on 1) potential collaboration on acquiring stream maintenance permits, and 2) bank stabilization issues along Foothill Road near the entrance to the Pleasanton Ridge trailhead parking lot. This section of the arroyo is owned by the San Francisco Public Utilities



Bank slide impacting
Foothill Road



Vertical bank shown
along ADLL

Commission (SFPUC) and the roadway is maintained by Alameda County. With technical guidance and financial support from RCD/NRCS, the Collaborative assessed the Foothill Road bank failure and agreed on an approach to re-direct some flow away from the roadside bank by cutting-in-place and moving within the channel some downed trees that were directing flow. The regulatory community was supportive of the Collaborative's actions and did not require any additional permits. The Collaborative will monitor the progress of this action and may opt to take another step such as planting willows on the bank to increase stability and protect from further erosion.

Arroyo de la Laguna – Bank Stabilization Project near Verona Bridge

Since 2006, Zone 7 has participated in a collaborative effort involving local, state and federal agencies, organizations, landowners and special interest groups, which employed various bank stabilization processes designed by the Natural Resources Conservation Service (NRCS) and administered by the Alameda

Stream bank stabilization improvement



Public signage display



County Resource Conservation District (RCD). This latest effort was a unique project that leveraged over a million federal dollars with local matching dollars to support several bank stabilization projects on the SFPUC-owned portion of the Arroyo de la Laguna – an area that suffers from severe bank erosion. With financial support from Zone 7, RCD and NRCS installed and will maintain a public signage display on the Verona Bridge over Arroyo de la

Laguna to commemorate this successful collaborative project and to help educate the public about the project and the watershed.

Public Outreach

Zone 7 recognizes the importance of public concern over flood control activities. In 2012, Flood Control staff documented, responded to, and investigated 98 complaints and inquiries. Typical inquiries included trail user complaints over graffiti and illegal dumping (i.e., shopping carts, tires, sofas, mattresses, etc.), complaints about downed branches and untrimmed vegetation on Zone 7's property, and neighbors' complaints of dust and vibration generated by moving equipment. By working calmly and reasonably with residents, Flood Control staff was able to resolve many of their concerns while educating them about flood control activities. See Appendix B for a list of complaints and inquiries which occurred in 2012.

CAPITAL IMPROVEMENT PROGRAM

Stream Management Master Plan (SMMP)

In August 2006, the Zone 7 Board adopted a new Flood Control Master Plan, the Stream Management Master Plan (SMMP). The SMMP proposes to implement 45 individual multi-benefit projects selected strategically throughout the Livermore-Amador Valley, while focusing mainly on regional storage of flood and storm waters within the Chain of Lakes. The SMMP also focuses on achieving project goals by being multi-benefit and environmentally friendly, while forming partnerships with related agencies.

Staff continues to develop the implementation plan for the SMMP. The implementation plan will prioritize projects and identify a financial plan. Through partnerships with various local agencies, environmental and regulatory groups and community organizations, the implementation plan will explore ways for the SMMP to be completed while addressing the community's concerns regarding environmental impacts as well as costs. While the SMMP currently collects Development Impact Fees (DIF) to mitigate for the creation of new impervious surfaces in developments, additional sources of funding are necessary to implement the SMMP in whole.

Updates to the SMMP and the Development Impact Fee (DIF) Programs

In preparation for updating both the SMMP and DIF, staff began evaluating the studies performed to date on the SMMP, which led to the decision to develop valley-wide hydrologic and hydraulic models. Hydrologic and hydraulic modeling of Zone 7's watershed area is necessary to clarify the priorities for the proposed SMMP projects. Rather than have consultants perform the work, staff within Flood Control and Integrated Planning were tasked with creating working hydrologic and hydraulic models of the Zone 7 watershed. In 2012, staff focused on putting together a hydrologic model that best represents the existing conditions of the watershed, utilizing City and County General Plans (for land use information), soil parameter data, rainfall data, and stream gage data to calibrate to historic storm events. In parallel, staff are also developing a hydraulic model representing the flood control system (channels, culverts, bridges etc.). Both of these models are scheduled to be completed in 2013.

Also, as a part of examining the SMMP and other stream related work efforts, staff consulted with other flood control agencies in the region and the Urban Creeks Council (UCC) to identify ways to better integrate environmental elements into the SMMP/DIF project costs. Staff determined that specific and targeted, environmental studies and plans would help streamline the CEQA, permitting, and mitigation of future projects.

In particular, staff concluded that three study elements should be pursued initially to begin addressing concerns raised by stakeholders and to fill identified data gaps for completing the SMMP/DIF update:

- Frame SMMP projects within a larger watershed context. This will facilitate project selection and prioritization, guide project design, and provide an overall context for

regulatory agencies so that projects are not perceived as “one-offs” but rather as contributing to an overall goal of improving environmental conditions.

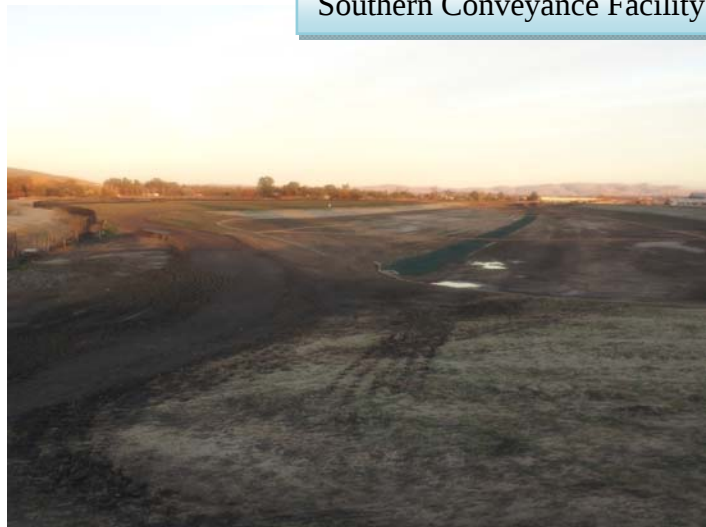
- Identify potential mitigation needs and opportunities in advance. This will facilitate project planning and budgeting, and, along with the preceding item, will help foster the understanding within the regulatory agencies that environmental protection and enhancement is a key goal of the SMMP.
- Develop a maintenance plan that will lessen the need for mitigation when routine maintenance (such as de-silting) must be carried out.

In early 2011, Staff began discussions with the State Coastal Conservancy (Conservancy) to explore the Conservancy’s willingness to help fund an update of the SMMP. The Conservancy invited a proposal, which was jointly produced by staff and Urban Creeks Council and submitted in July 2011. The grant request was approved in the amount of \$190,000 by the Conservancy’s board in November 2011. Work on this grant effort began in 2012 and continues.

Flood Protection Improvements in the El Charro Specific Plan Area

In 2011, Zone 7 also finalized a partnership agreement with the City of Livermore for flood protection improvements within the El Charro Specific Plan Area and the Las Positas Golf Course. The partnership agreement appropriated \$10 million to the City to facilitate the construction of flood protection improvements, as well as provide easements for several City-owned properties that are integral to providing flood protection and water management benefits to the community in the future. The El Charro Specific Plan includes flood protection improvements that are intended to function in conjunction with the regional flood control system and remove certain developable parcels from the floodplain. The City and Zone 7 have collaborated to integrate the SMMP and the El Charro Specific Plan. When fully implemented, the SMMP proposes to divert flood flows from the Arroyo Las Positas in the El Charro Specific Plan area into the Chain of Lakes for storm water

detention. Construction within the El Charro Specific Plan Area and Las Positas Golf Course began in the summer of 2011 and was completed in the fall of 2012. Major flood protection improvements include the Southern Conveyance Facility, which would detain floodwaters; Golf Course berms to provide initial flood protection of the Livermore Airport; and a culvert system beneath the newly constructed Jack London Boulevard bridge extension.

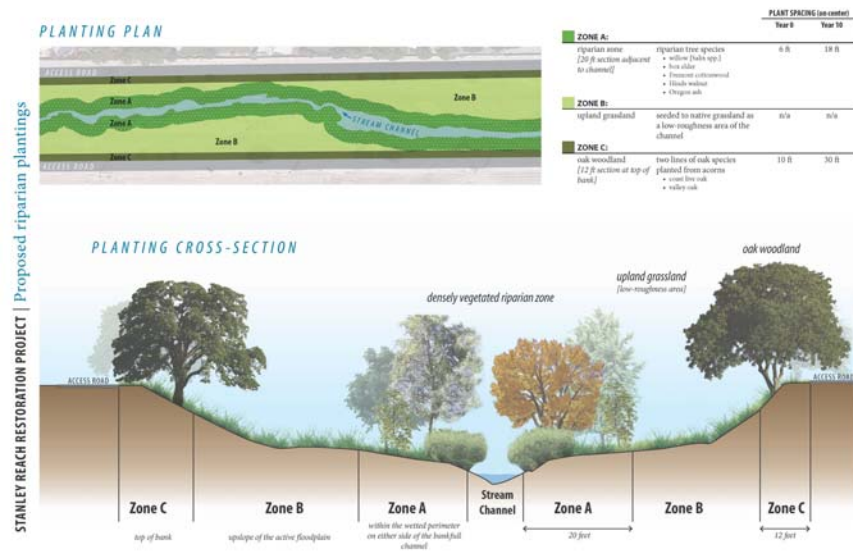


Southern Conveyance Facility

Arroyo Mocho Stanley Reach Riparian Restoration and Channel Enhancement Pilot Project

One project identified in the SMMP was advanced under a pilot program to explore alternatives to funding similar projects in the future. Project R.3-5 (now known as 'Arroyo Mocho Stanley Reach Riparian Restoration and Channel Enhancement Pilot Project') is located adjacent to Stanley Boulevard between Murrieta Boulevard and Isabel Avenue in the City of Livermore. This area is also

identified as a location that is of interest for the Regional Iron Horse Trail in the City of Livermore. During 2012, Zone 7 contracted with ESA PWA to develop a design and assist in environmental assessments at the site. The project design facilitates stream channel enhancements, increased riparian vegetation, and fish passage improvements without impacting the 100-year storm flow capacity. Additional benefits include aesthetic and water quality enhancements, as well as partner funding opportunities. Zone 7 also worked with the Urban Creeks Council to develop a planting palette and plan that is compatible with site conditions and explores a new long-term maintenance strategy that could ultimately produce cost savings over traditional methods. This strategy also engages the community in learning about and caring for their local streams. This project is supported by the regulatory agencies and has positively elevated Zone 7's profile among community groups and regulating bodies. Construction will take place in 2013.



Arroyo las Positas Improvements at Vasco Road Project

This reach of the Arroyo las Positas has recently been acquired by Zone 7 in a partially improved state from the Alameda County. The channel is undersized to carry 100-year capacity and does not have full maintenance roads along the top of bank. In 2012, Zone 7 worked with an adjacent landowner to pilot an experimental stormwater/channel overflow detention area. The adjacent development will detain stormwater up to the 25-year event in a low-lying park area. In flow events greater than the 25-year event, water from the channel will interact with and overflow into the park area, thereby providing additional storage of floodwaters. Construction work for the development including the detention area began in 2012. This creative detention is not sufficient, however, to alleviate the expansion of the existing undersized channel. Zone 7 also initiated preliminary channel expansion design work as well as contacted a second adjacent neighbor to explore the possibility to acquiring a narrow strip of the owner's property to accommodate the proposed channel width in order to bring this reach of the Arroyo las Positas into compliance with the standards of the Zone7 flood protection system. Project continues in 2013.

Development Referral Review Program

The Development Referral Program is an interagency program designed to keep public agencies abreast of public projects and private developments that may have an impact on an agency's facilities or operations. Staff reviews and evaluates other public agencies' and private parties' development plans and inquiries, environmental documents (CEQA), master plans, improvement plans, and engineering studies, as they relate to impacts to Zone 7 flood control facilities and/or proposed projects identified in the SMMP. In 2012, Zone 7 staff conducted 16 reviews. Typical reviews included evaluating the impact of developing Garaventa Ranch, north of Altamont Creek; floodplain partnering opportunities with the proposed Monte Vista Memorial Gardens; and evaluating the phase two development of the Livermore Premium Outlets.

Development Impact Fee Program Administration

Zone 7 staff continued to answer questions related to the Development Impact Fee and interpretation of its ordinance. Staff continued to evaluate developer's projects to determine when and if fees are applicable or not.

MAINTENANCE PROGRAM

Zone 7 owns and maintains approximately 37 miles of improved channels throughout the Livermore-Amador Valley. Maintenance is one of Flood Control's highest priorities and involves routine, major, and emergency maintenance and repair of Zone 7's flood protection facilities. Such activities are directed toward preventing minor problems from becoming major flooding problems, minimizing unnecessary damage to private property through proactive planning, preserving and maximizing flood carrying capacity of existing creeks and channels, and post-storm rehabilitation of flood control facilities damaged in storms.

To implement the various maintenance projects, Zone 7 staff are responsible for all aspects of the project, including program management, planning, scheduling, CEQA compliance, permit acquisition, surveying, design, cost estimates, construction management, inspection, as-built updates, and base-map updates.

Following is a description of the key maintenance activities that were conducted in 2012.

Annual Maintenance/Repairs

In 2012, Zone 7 staff identified, planned, designed and managed construction of the Annual Maintenance Time and Material Contract with Fanfa.

- Began - June 6, 2012
- Projects Completed – 14 bank repairs, 4 biotech brush walls for bank erosion, and 4,194 linear feet of access road and drainage renovation.
- End – November 15, 2012; expended \$850,000.
- Deferred to 2013 – 21 bank repair projects, preliminary estimated cost \$727,000.
- Flood Control staff utilized to design, supervise and manage contract: one engineer and one technician.

The following highlights a few of the key projects implemented under this year's FANFA contract:



Line F-4 slide
repair



Alamo Creek at Line J-1
install headwall



Chabot Canal
access road
renovation



Arroyo Mocho access road
and drainage renovation



Vegetation Management Program

In 2012, Zone 7 staff administered the Vegetation Management Program, which cleared obstructive vegetation such as weeds and tall grasses that could affect the flow of water in channels, vehicle access along channel access roads, and pedestrian access on local trails. The program also aimed at reducing the fire fuel loads per the requirements of the local Fire Marshalls. In addition, herbicides were applied to inhibit the growth of obstructive vegetation and control weed growth.

With the exception of clearing vegetation for annual maintenance/repair projects by staff, in 2012 the majority of vegetation clearing was handled through various maintenance contractors under annual service contracts. Zone 7 utilized the following contract labor providers to assist with such maintenance activities under Zone 7's direction: Alameda County Public Works Agency, California Conservation Corps, East Bay Conservation Corps, Pacheco Brothers Gardening, Inc., and Bruce Balala Mowing.

Contract with Alameda County Public Works Agency - \$400,000

During 2012, Zone 7 contracted with the Alameda County Public Works Agency to provide contract labor for some limited routine maintenance activities within Zone 7's facilities. Such activities included spraying of maintenance roadways and control of broad leaf plants and aquatic vegetation within the facilities. The contract also allowed Zone 7 staff



Homeless encampment cleanup along Arroyo Las Positas



Broad leaf vegetation management along Arroyo Mocho

to use County labor for graffiti removal, cleaning debris from drainage inlets, repairing/cleaning concrete v-ditches and cleaning up homeless encampments. As with all contract labor, services are performed under the direction of Zone 7 staff.

Contract with Bruce Balala Mowing - \$95,000

In 2012, Zone 7 staff administered and managed an annual contract with Bruce Balala Mowing to provide spring mowing services for all 37 miles of Zone 7 channels. The mowing consisted of cutting tall weeds and grasses along channel embankments (sometimes on both sides of the channel) to meet the local Fire Marshal's requirements for establishing a fire break.



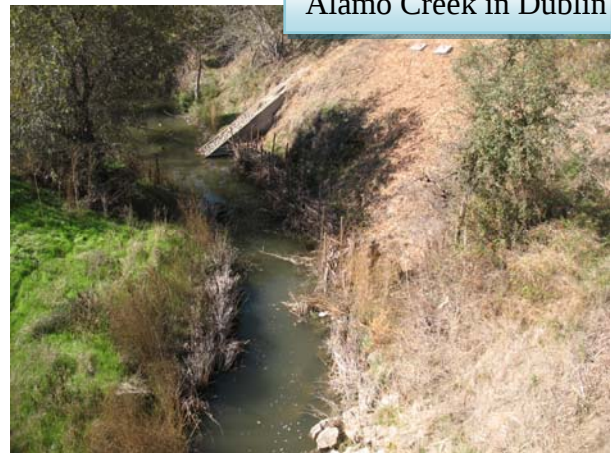
Bruce Balala mows the grass per Fire Department's request on Tassajara Creek in Pleasanton.

Contracts with California Conservation Corps (CCC) and East Bay Conservation Corps (EBCC) - \$25,000 each

In 2012, annual contracts with the CCC and EBCC involved labor crew usage for projects requiring manual labor such as biotech bank stabilization projects, concrete v-ditch cleaning and vegetation clearing.



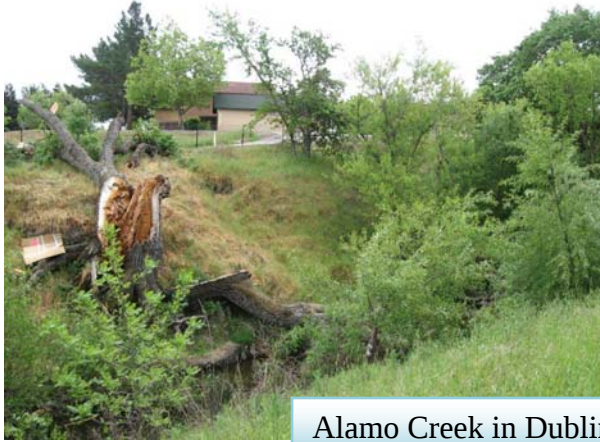
Second location in Alamo Creek in Dublin



Alamo Creek in Dublin

Contract with Pacheco Brothers Gardening, Inc., Landscape Contractor - \$25,000

Zone 7 uses this annual contract for more specific vegetation maintenance, such as tree trimming to ensure adequate vehicle clearance, removal of broken tree limbs and replanting of trees where applicable.



Alamo Creek in Dublin



Line F-4 in Dublin

Inspection Program

Throughout the year, Zone 7 staff performed inspections to ensure that Zone 7's flood control channels were prepared for the next big storm event. The inspection program comprised of multiple elements, including:

Routine Facilities Inspection

Zone 7 staff performed routine inspections by thoroughly inspecting Zone 7 facilities and past repair projects at a minimum of once per month and documenting any problems. Problematic areas were tracked on a spreadsheet with relevant information, such as description, priority, location, and dates. These spreadsheets are used to prioritize future repairs and improvements.

Project Specific Inspection

Zone 7 staff performed inspections for both Maintenance and Capital Project related projects. Staff is generally responsible for inspecting any project that requires an encroachment permit from Zone 7 as well. Staff inspectors act as the eyes and ears for the project engineer and report their findings on a daily basis. Only after communicating with the project engineer, does the inspector inform a contractor of the directive.

Storm Watch Inspection

During major storm events, Zone 7 staff immediately change into a pre-emergency response organization, working to minimize the loss of life and property. Flood-fighting activities such as responding to emergency phone calls, storm monitoring, and field patrolling were top priorities during the storm season. Zone 7 staff documented all areas that are more prone to problems during storms.

On-Call Emergency Response

For emergency situations, such as flooding or major damage to facilities and other property related issues (i.e., hazardous material spilled into Zone 7's flood control facilities), Zone 7 staff are on-call and ready to respond as necessary. In addition, Zone 7 issues annual contracts to support these efforts. During 2012, both FANFA and the Alameda County Public Works crews were available to assist Zone 7 staff by providing both labor and equipment in dealing with such emergencies. In 2012, there were no flooding emergencies; however, Zone 7 staff responded to three separate incidents where gasoline and paint were found in Zone 7-owned flood control facilities. In all three incidents, the spills were cleaned up.

Gasoline spill response along Line J-1 adjacent to I-680 in Dublin



Paint spill along J-6

Miscellaneous Facility Maintenance Activities

Facility Fencing Repairs



Chabot Canal at Scarlett Drive and Scarlett Court in Dublin. Fence was damaged by a vehicle that fled the scene. Zone 7's fencing contractor has made the repair.

Zone 7 protects its facilities from trespassers through the use of fencing around the property line. When fencing is damaged, it becomes a liability to Zone 7 if the fencing is not repaired. An annual fencing contract with a fencing contractor has been utilized to fix cut or damaged fences, install new fence netting and access gate repair to maintain the required level of security at Zone 7-owned facilities.

Hydroseeding

After channel embankment repairs, all denuded areas are hydroseeded by Zone 7 contractors. Hydroseeding of repaired embankments encourages the re-establishment of new grass cover. During 2012, an annual hydroseeding contract was used to meet this need.

Storm Drain Pipe Inspection

Some of Zone 7's storm drain pipes are corroded and leaking, thereby causing channel embankment failure. Inspection of the storm drain pipes is needed and is routinely performed as part of all facility inspections to locate and repair the damaged pipes before any embankment failure.

Proactive replacement of corroded storm drain piping has prevented embankment failure in many of Zone 7's flood control facilities.



Crew is replacing corroded storm drain pipe at outfall structure.



Corroded storm drain pipe found along Chabot Canal

Rodent Control

When considering the maintenance of a Flood Control Facility, the inevitable subject of rodent control always arises. Rodents, specifically ground squirrels, cause damage to the flood control banks by burrowing through the ground, causing water intrusion and destabilization of the flood control banks. Zone 7 executes contracts annually to bait and/or gas the 37 miles of channels that Zone 7 owns. In 2012, a \$25,000 contract was issued to the Alameda County Community Development Agency, Department of Agriculture to provide these services.



Rodent holes found along flood control facilities need to be addressed.