

INITIAL RESTORATION GOALS AND ACTIVITIES

The *Initial Restoration Goals and Activities* are those that can be achieved within a short time frame by volunteers and/or a restoration contractor. Four main activities are highlighted. *Goals* provide overall guidance on canyon restoration, while *Volunteer Restoration Activities* (p. 10) specify specific tasks for volunteers. To provide volunteers with the rationale for the selection of these activities, a section called *Background for Volunteer Restoration Activities* (p. 12) is included.

Contractor Activities are covered by both the *Restoration Plans* (pp. 16-18), and discussion in the section on *Contractor Activities* (p. 14). In addition, the plans are supported by technical specifications outlining restoration materials and procedures, and also by a preliminary cost estimate. These documents can be found in the *Appendix*.

Initial Restoration Goals

Six initial restoration goals grew out of public meeting discussions which included the Butters Land Trust, the community-at-large, and the City of Oakland. They were also influenced by the project's site inventory and analysis. These goals are built on the foundation of the *Urban Ecological Restoration Strategy* (p. 2) and address site specific and community-wide aspirations for land management in the canyon.

1. Reduce invasive and non-native vegetation
2. Increase native vegetation and biodiversity
3. Address fire safety/abatement requirements in Butters Canyon
4. Protect the water quality of Peralta Creek
5. Promote stewardship and community support
6. Increase awareness of the watershed ecosystem (plants, insects, animals, birds, and people)

The first two goals directly address increasing diversity within the canyon and will result in an ecosystem with enhanced native plant community integrity, biodiversity, and resiliency to detrimental change.

The third goal addresses the risk of fire in the canyon. Creating a fire abatement goal ensures that proactive management of the canyon will reduce the risk of large scale fire and manage the canyon's natural habitat and surrounding properties. Integrating fire abatement into other restoration goals ensures that fire abatement practices do not adversely affect other goals such as water quality and habitat.

The fourth goal is to protect the water quality of Peralta Creek. Peralta Creek supports aquatic life both within Butters Canyon and downstream. In addition it serves to treat local storm water run-off as it flows through its riparian corridor. A water quality goal ensures that restoration work and long-term management actively support reducing erosion and increasing native vegetation along the creek.

The final two goals focus on long-term care. Inviting community members to participate in restoring the canyon increases local stewardship of the resource and ecological awareness.

Volunteer Restoration Activities

Volunteers currently maintain Butters Canyon. This group of committed people typically gathers at two City-wide events, *Creek to Bay Day* in the fall and *Earth Day* in the spring. Additional volunteer events occur on an as-needed basis and are typically organized through individuals associated with the Butters Land Trust or the immediate neighborhood. This section and the following section on *Planning a Restoration Event* provide guidance to these volunteer efforts.

Four priority restoration activities address crucial restoration management concerns. These activities should be integrated into every volunteer event and should occur at least two times a year. The priority restoration activities include the following:

1. Invasive Plant Control
2. Soil Erosion Management
3. Trash Removal and Fire Abatement
4. Native Plant Establishment

Each activity and recommended action is noted below. Recommended actions focus on existing restoration areas to ensure that past work is not lost through neglect and critical canyon-wide activities. Additional information (*Background for Volunteer Restoration Activities*) related to these activities is at the end of this section.

1. INVASIVE PLANT CONTROL

Objective: To control invasive plant colonization of Butters Canyon and eradicate select areas of invasive plants.

What to do at volunteer events:

Restoration Areas:

- Control vinca, ivy, ehrharta and acacia.

Canyon-wide:

- Cut ivy from the base of trees.
- Remove plum, acacia, and eucalyptus saplings.
- Remove new infestations of broom, ehrharta, cape ivy, and other aggressive invasive species.

Refer to Technique #1: **Invasive Plant Control** under the *Techniques* section of this report for help identifying the various species and appropriate control methods.

2. SOIL EROSION MANAGEMENT

Objective: Monitor the canyon to ensure that soil erosion is not occurring and to stabilize soils if a need emerges.

What to do at volunteer events:

Restoration Areas:

- Ensure that newly cleared and planted slopes have adequate vegetative cover and/or are protected by wattles and coir fabric. Stabilize areas of concern.

Canyon-wide:

- Survey the creek and slopes for signs of erosion. Stabilize areas of concern.
- Contact Butters Land Trust and seek additional assistance from a restoration professional if erosion poses an imminent threat.

Refer to Technique #2: **Erosion Control**, Technique #3: **Seeding**, and Technique #4: **Soil Bioengineering** under the *Techniques* section of this report for help identifying and implementing the appropriate erosion stabilization approach.

3. TRASH REMOVAL AND FIRE ABATEMENT

Objective: To remove trash and debris from Butters Canyon and comply with fire abatement requirements.

What to do at volunteer events:

Canyon-wide:

- Remove all debris and litter.
- Remove dead vegetation to comply with City of Oakland fire abatement requirements.
- Trim or prune grasses and low-lying vegetation to comply with City of Oakland fire abatement requirements.
- Address other fire abatement requirements if determined by City or restoration professionals.
- Contact City of Oakland to report dumping if necessary.

Refer to Technique #10: **Trash Removal**, and Technique #9: **Fire Abatement** under the *Techniques* section of this report for additional guidance and resources.

4. NATIVE PLANT ESTABLISHMENT

Objective: To ensure the health of native plants and the integrity of their respective plant community habitats.

What to do at volunteer events:

Restoration Areas:

- Assess health/vigor of native plants in past restoration areas.
- Replace dead plants and replant bare areas.
- Remove invasive species encroaching in newly planted area.
- Control masses of invasive plants encroaching on the perimeter.
- Prune or remove trees that threatening to crush or unfavorably shade out plants in the restoration areas. Obtain City of Oakland tree permit if required.
- Repair existing structures such as tree stakes, deer fencing, wattles and coir fabric.
- Assess area watering needs and commit to a minimum watering regime during the first dry season following new plant establishment.

Canyon-wide:

- Consider what activities are desirable to achieve desired balance of plant community boundaries and characteristics. See the *Long-Term Restoration Vision and Activities* section of this report for further information on management of each of the site's plant communities.

Refer to Technique #5: **Planting**, Technique #6: **Watering**, Technique #7: **Pruning / Tree Felling**, and Technique #8: **Deer Protection** under the *Techniques* section of this report for additional guidance and resources. Refer to the *Long-Term Restoration Activities* section of this report for recommended planting lists for new planting.

Background for Volunteer Restoration Activities

1. INVASIVE PLANT CONTROL

The colonization of native habitat at Butters Canyon by invasive, non-native plants (trees, shrubs, ground covers, grasses, and forbs) poses the most persistent and obvious threat to the ecology of Butters Canyon. Invasive plants are now commonly understood to be the primary non-development threat to habitat in the region, and their control is a significant challenge to land stewards. Site wide eradication of invasives at Butters Canyon is not feasible in the current ecological context. The financial demands of a wholesale eradication followed by intensive maintenance and monitoring is an unrealistic goal. However, a measured and strategic approach to invasive plant control, coupled with limited on-going spot eradication is feasible and appropriate.

The *LTMP* recommends addressing invasive plant control from both a canyon-wide perspective and within specific plant communities. It recommends isolated, canyon-wide infestations be addressed before taking on the challenge of large masses of invasive species, in particular ivy. This site wide approach focuses restoration effort on isolated infestations that can be removed effectively before they get a foothold, e.g., isolated populations of Cape ivy, thistle, broom, ehrlharta, pittosporum, and cotoneaster. In addition, acacia, eucalyptus, and young plum tree sprouts should be removed from the entire site while they are still small enough to be pulled by hand or cut with a pruning saw. Mature trees should only be felled by a licensed arborist. Also of concern is ivy climbing trees. Ivy can kill mature trees if allowed to climb into the canopy. It is relatively easy to remove, making it a high priority activity.

2. SOIL EROSION MANAGEMENT

Soils at Butters Canyon lie on steep slopes incised by the historical flows of Peralta Creek. Site soils are characteristic East Bay hills soils; shallow, high clay content, and susceptible to erosion. The site should be regularly monitored for new areas of erosion. Minor slumps and slides do not require immediate attention but should be monitored and addressed with professional consultations should they degrade. Minor erosive events along the active channel of Peralta Creek should be addressed in the same manner. Careful management and restoration of the site will further stabilize site soils both on side slopes and within Peralta Creek and its tributaries. Some key considerations to safeguard against soil erosion include:

- Encourage sheet flow: Minor flow from neighboring residential downspouts can quickly become a rill, or gully. As the gully incises into the erodible soils, significant erosion can result. Spreading flow so that it does not collect into a rill will reduce erosion. This can be done by blocking or filling the rill while it is small and directing the water to sheet flow down the hill. Installing straw wattles following the contour of the slope can also assist in encouraging sheet flow where rills are beginning to develop. Consider planting natives and installing coir fabric and wattles in areas where rills are developing.
- Maintain vegetation along and within the creek corridor: The stability of Peralta Creek is directly linked to the amount of vegetation present. The roots help stabilize the soil and provide a hard surface to control incision. Peralta Creek should be assessed annually to determine if channel incision or active head cutting (water falls) is occurring. Planting big-leaf maple and white alder 10 to 20-feet upstream of a headcut can help stabilize the creek in the future. Preventative maintenance can occur by anticipating areas of risk and planting plants just upstream. Willow and dogwood stakes can also be planted at the location of the headcut, but like the alder, both require direct sunlight to grow successfully.
- Protect bare slopes, especially in restoration areas. Use coir fabric or wattles, and additional restoration plantings to stabilize bare slopes.

3. TRASH REMOVAL AND FIRE ABATEMENT

Debris and litter are typical concerns for wildland areas with public access. Butters Canyon is surrounded by homes and public roadways, it is both readily accessible and secluded. The secluded nature of the site is its beauty and its bane. Without eyes on the site from neighboring residents, dumping and litter occur without sanction. Fortunately, it does not appear that litter, inorganic debris, or vegetation dumping is a critical issue at the site. There are some minor areas of debris on-site such as concrete in the upstream area east of the culvert (this may be on private land), and tires and concrete block rubble in the creek in various areas. Monitoring and removal of debris and litter is important in establishing a level of community care for the canyon, and to-date the Butters Land Trust has been vigilant on this front. The community's efforts to keep the site litter and debris free are resulting in fewer instances of on-going littering and dumping.

Most of the litter enters the site from the roadways or from washing down the creek during the winter high flows. Once litter is removed from deep within the site it is anticipated that it will likely only be found along the roadways and in the creek. The restoration tasks for keeping the site clean include an initial task of removing remnant litter from deep within the site, and more regular removal of litter around the creek and roads. Litter dumped within the Butters Drive and Robinson Drive rights-of-ways should be reported to the City of Oakland.

Debris is also an issue for fire abatement. Brush piles that consist of small branches and leaves pose a fire risk and should be removed from the site. Large branches and downed tree trunks are less of a fire risk and provide quality habitat. All debris created from restoration work weeding should be removed from site, both from a fire abatement standpoint and for the risk of spread and re-sprouting of weedy invasive species. Dead branches and leaves should be removed from fallen trees and hauled off-site.

4. NATIVE PLANT ESTABLISHMENT

Assessing previous restoration areas for drought, deer predation, and invasive species will ensure that previous restoration efforts are not lost. Following this strategy places emphasis on restoration quality, not quantity. It further challenges stewards to persist in ensuring plant establishment trumps expanding the extent of restoration on-site. Efforts to eradicate invasive species and plant native species must be followed by diligent, long-term care for restoration areas. As Butters Canyon restoration areas grow in scope, so will the required commitment to maintaining these areas until they become established, and as a result require less maintenance effort. Maintenance of previous restoration areas should follow the recommendations of the restoration tasks for each plant community.

Contractor Activities / Plans & Specifications

WORKING WITH A CONTRACTOR

Using a professional contractor can give a huge lift to any restoration project. Contractors can pursue work in larger blocks of time and commit significant resources to a restoration task. Utilizing a contractor gives a project an opportunity to accomplish a large amount of work in a relatively short period of time, and create a significant leap towards meeting a project's *Initial Restoration Goals*. In addition to their ability to focus significant resources to a project they also bring highly specialized skills and valuable empirical experience. Their expertise in erosion control techniques, tree felling, and the use of high risk mechanical equipment such as chain saws provide a compliment to volunteer-based restoration skills and energy.

Several of the restoration tasks proposed as *Initial Restoration Activities* for the canyon are most effectively accomplished by a professional contractor. Tasks that require material procurement, site staging, vehicles for debris hauling, and capital expenditures are tasks best suited to professional contractors. A partial list of activities suggested for contractor completion is included below:

- Removal of pine trees and the limbing-up of dead pines for habitat snags in Restoration Area #4
- Removal of invasive non-native trees in Restoration Areas #5 and #6
- Pruning selected bay tree limbs affecting young oak recruitment in Restoration Area #7
- Installation of wattles and other erosion control measures following clearing in several Restoration Areas
- Ground preparation and planting of large native plants and trees
- Hauling and disposal of restoration related debris

Hiring a professional contractor can appear to be a challenging task, but the results are rewarding, and the process can be fairly straight forward. First you want to create a short list of say 6 (you may only get 3)

contractors from references. Consult first with other non-profit groups working in restoration. Then check with local restoration advocates, and regional restoration design firms.

Once you have your list of potential restoration contractors you are ready to contact each one to ascertain their interest level and experience with your specific project. Telephone interviews are an excellent way to initiate the investigation. Should you arrive at a few that seem to meet your needs then an in-person interview is the next step. At the interview ask the same questions of each company and record answers for later discussion with your larger group of decision makers.

Contact references offered by the company as well as ones associated with their past work; hearing only from clients that love their work will not tell the complete story of what working with them will be like. Check with colleagues to get the straight scoop. Be sure to ask about their skill at project budgeting, limiting change orders, staying on a schedule, promptness and thoroughness, special skills, their dedication to restoration, and their familiarity with projects and locations such as yours. Also review their payment requirements and ensure that the billing is fair to both client (you) and the restoration company.

To move forward from the select list of contractors you need to decide how you want to work. Are you ready to take your project out to bid, say with the plans and specifications included in this Appendix? Or would you be more comfortable selecting a contractor and negotiating a bid based on the plans and specifications but tailored to your immediate budget and restoration needs. Either way will work and either way has advantages. You need a fair bid for your project and the contractor needs a fair price or wage. Bidding, if the timing and economy are in your favor should work out the best, but a negotiated bid can lead to a more friendly and cooperative experience for all involved.

Design-build firms will work with you to create the specific restoration implementation tasks that meet your budget. Other firms are accustomed to bidding (giving you a fixed price) for your project based on a set of plans and specifications, such as the ones in the *Appendix*.

You can proceed by soliciting bids for your plans and specifications, or you can solicit proposals based on more generalized direction. It will depend on you comfort with the bidding and contracting process.

Once you are ready to proceed with soliciting bids or proposals, it helps to have a pre-bid or pre-proposal meeting on-site (for all interested companies at once). At this meeting you walk the site with company representatives, review your past work effort, explain your goals, and layout the project at hand. Pre-bid meetings enhance contractor confidence in the project and the client and typically make bids reflect the actual on the ground conditions. This doesn't necessarily lead to lower bids or proposals, but it does lead to a more solid contractor price that is less susceptible to increases down the road when previously unknown site conditions or tasks come to light. Do not hide project tasks or expectations from contractors—put everything on the table and then expect a fair price in return. The pre-bid meeting can be conducted by the restoration consultant, or the client.

Once bid and proposals come in, have a review process in place with a restoration design consultant to ensure you are getting a fair price for the work advertised. When the final contractor—either lowest bidder or the best bidder (based on your criteria)—is selected, you begin to negotiate the final contract price and terms. Negotiations will include payment schedule, project calendar schedule, coordination with client representative, submittals for project materials and procedures, permits, and complying with City requirements.

USING PLANS, SPECIFICATIONS, and COST ESTIMATES

The primary function of the Plans, Specifications, and Cost Estimates (PS&E) is to serve as contract documents between the Butters Land Trust and a restoration contractor. Any restoration/construction project needs a document that defines the work and forms the scope of the legal agreement between the contracting parties. The Plans locate and quantify the work and the Specifications call out what and how the work will be done. The Cost Estimates, while not a bid, can inform users of the generally accepted costs for restoration (be sure to use escalation factors of 5-10% per year).

When contractors provide bids for restoration work they need to know what is to be done and how. The PS&E spell out the entire project. During the project and at its completion they are used to answer questions, settle disagreements of scope and cost, and finally to determine if the project is completed. Finally, the Plans and Specifications become the record drawings or as-builts, describing the restoration work completed at a particular place and time. Secondary functions of Plans, Specifications, and Cost Estimates include the ability to inform and document volunteer restoration efforts. Should a contractor not be used to complete the work called out in the Plans and Specifications, either in part or in whole, then the responsibility will fall to volunteers. Having a set of professional Plans, Specifications, and Cost Estimates will provide volunteers with a guide to complete the work, a plan to record what was completed and what was altered.

In addition to guiding these volunteer efforts, the Plans, Specifications, and Cost Estimates can also be used to assist in the development of future restoration design consulting. PS&E can serve as the basis for future restoration design phases. Instead of starting from scratch, the restoration consultant will have a foundation of information to build on, effectively reducing their scope of service.

RESTORATION PLANS

Construction Documents (Contractor Project)

See pages 16-19

SPECIFICATIONS

See Appendix

COST ESTIMATE

See Appendix