

**Sierra Nevada Conservancy-Progress Report**

**Sierra Nevada Conservancy Grant Program  
Safe Drinking Water, Water Quality and Supply, Flood Control  
River and Coastal Protection Act of 2008 (Proposition 84)**

**Grantee Name:** Sierra Nevada Alliance

**Project title:** Sierra Nevada Alliance – Land & Water Project

**SNC Reference Number:** SNC 070020      **Submittal Date:** 12/24/2010

**Report Preparer:** Dan Keenan      **Phone#:**(530) 542-4546 x315

**Check one:**

         **6-Month Progress Report**

  X   **Final Report**

<p><b>6-Month Progress Reports</b> should reflect the previous six months. <b>Final Reports</b> should reflect the entire grant period.</p>
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**A. Progress Report Summary:** (Please provide a general description of work completed during this reporting period.)

The Land & Water Project, coordinated by the Sierra Nevada Alliance, conducted a series of trainings for watershed groups, resource conservation districts and other groups to help them start Best Management Practices (BMPs) consultation programs and distribute the *Sierra Nevada Yard & Garden*, a new, step-wise conservation landscaping guide for Sierra homeowners that addresses the issues of nonpoint source pollution, erosion control, defensible space, water conservation, and living in areas with wildlife.

During the project period, the Alliance issued a Request For Proposals, inviting groups to apply to coordinate local consultation programs and workshops. The Alliance selected four (4) groups. Then, the Alliance hosted five (5) workshops, three (3) of which were designed to train the selected project partners to run successful local programs. By the end of the project period in Fall 2010, the *Sierra Nevada Yard & Garden* guide was completed, the Alliance and project partners distributed over 1,000 guides and completed 129 home consultations, helping homeowners assess their properties and create action plans for erosion control, native planting, water conservation, defensible space and living in wildlife areas. In addition, the four partner groups conducted local workshops to train homeowners and share information in the *Yard & Garden* with local professionals.

**B. Deliverables or Outcomes completed during this Reporting Period or Milestones Achieved:** (Include specific information, such as public meetings

held, agency participation, partnerships developed, or acres mapped, treated or restored.)

Outcomes during the project period:

- The Desert Mountain Resource Conservation & Development Council in the Kern Watershed was one of the groups that was trained and funded to begin a local program. Over the course of the project period, this group:
  - Completed 36 home consultations and action plans
  - Completed three public workshops in the Kern Watershed on irrigation efficiency in conjunction with the sale of native plants. In addition, the group developed outreach and presentation materials for tabling opportunities at local events such as farmers' markets. The group also gave presentations to community groups and the local Fire Safe Council about the program.
  
- The El Dorado Chapter of the California Native Plant Society in the American Watershed was another group that was funded to begin a consultation program. Project Coordinator Rosemary Carey developed a program integrating erosion control with water wise irrigation and native plants to provide twenty-five (25) homeowners with landscaping consultations and action plans.
  
- Wildflowers Forever developed a consultation program focused on integrating nonpoint source pollution reduction and erosion control with Sierra-friendly landscaping. The consultations by this group spanned the issues of native planting, water conservation, defensible space, wildlife and healthy soils. Wildflowers Forever completed fifty (50) home consultations and action plans. The group contracted landscape architect Karin Kaufman to conduct the consultations and draft site plans and action plans.
  
- The Tehama County Resource Conservation District coordinated a program that became an extension of their successful Mobile Irrigation Lab Unit, which is a free service from the RCD that evaluates agricultural and residential irrigation efficiency and makes recommended improvements. TCRCDD and watershed coordinator Randy Cousineau hosted three local workshops, each focusing on a different issue, including natural landscaping, water-wise irrigation and defensible space. Each workshop focused on integrated techniques to improve yards and gardens, while reducing pollution and conserving resources. The RCD completed 18 home consultations.

In addition to the deliverables mentioned above, each group engaged in outreach campaigns in their communities to recruit workshop attendees and home consultation participants. This included news articles, radio announcements, advertisements, public appearances at local events, and other outreach that highlighted the program and benefits of a Sierra-friendly yard and garden.

**C. Challenges or Opportunities Encountered:** (Please describe what has worked and what hasn't; include any solutions you initiated to resolve problems. If your project is not on schedule, please explain why here.)

Overall, the project was very successful. There were some challenges and learning experiences that arose over the course of the project period. The Sierra Nevada Alliance regularly regrants to smaller groups to do on-the-ground work and it was interesting to work with such a diverse set of groups for this project. Each group came in with different expertise and experience. In addition, each group was working in different watersheds with different needs.

Initially, this was a challenge because we had to think creatively in order to design a training program that would be effective and beneficial for all the groups. On three occasions at the beginning of the project, we gathered them to train them on integrating the principles of the *Sierra Nevada Yard & Garden* into an on-the-ground consultation program and workshop series. At the point where each group was charged with creating a project plan, we allowed each group to use its expertise and skills to address the issues unique to their watershed. For example, the DMRC&DC program in the Kern Watershed focused largely on defensible space because many of the properties were on large parcels with major forest fire fuel loading. Meanwhile, the El Dorado CNPS program focused largely on native plants since invasive species have become such a major problem and many of the new housing developments in the area installed large water-intensive landscapes.

Allowing these groups the flexibility to develop a program that met the needs of the community and paired well with their skills made for successful programs.

**D. Unanticipated Successes Achieved:** (Please describe any additional successes beyond completing scheduled tasks or meeting scheduled milestones.)

One unanticipated success was the extent of the lasting impact that this project had in the communities where we started consultation programs. Many of the groups plan to continue conducting workshops series and consultation programs. All groups indicated that they would like to continue the consultation programs and most are seeking additional funding to continue this work.

Another unanticipated success was the excellent quality of work by the contracted groups. Our expectations for the selected groups was high, but in the end, many of the groups spent extra time and care to complete very thorough home consultations with extremely detailed action plans. In some cases, groups went to the level of detailing specific native plants for microclimate conditions and other information that would make it more likely for homeowners to implement the plans.

In addition, we also found that by integrating the elements of defensible space, water conservation, native plants, soil conservation and living with wildlife into one program, we were able to reach out to a broader audience. For example, a homeowner who may have requested a home consultation based on their interest in specific defensible space measures also received information on the other elements.

**E. Compare Actual Costs to Budgeted Costs:** (Please refer to your grant agreement to list your deliverables/budget categories and budgeted costs compared to actual costs incurred during this reporting period in the table below.)

<b>PROJECT BUDGET CATEGORIES</b>	<b>Budgeted SNC Dollars</b>	<b>Actual Dollars</b>
Personnel	\$31,000	\$31,000
Operating	\$17,000	\$16,000
Consultant Services	\$102,000	\$102,000
<b>GRAND TOTAL</b>	<b>\$150,000</b>	<b>\$149,000</b>

**F. Do you have information to report on the project-specific Performance Measures for your project?** (If so, please list the Performance Measures below and describe your progress.)

N/A

**G. Were there any other relevant materials produced under the terms of this Agreement that are not a part of the budgeted deliverables? If so, please attach copies.** (Include digital photos, maps, media coverage of project, or other work products.)

N/A

**H. Next Steps:** (Work anticipated in the next 6 months, including location and timing of any scheduled events related to the project.)

N/A. Project is complete. However, subcontracted groups are seeking additional funding to continue work.

## **Please Complete this Section for FINAL Report ONLY**

### **Capacity-Building Results and Collaboration and Cooperation with Stakeholders:**

(What partnerships did you initiate or strengthen as a result of this project? How did they affect the project outcome? If applicable, how did this grant increase your organization's capacity? What is your plan to sustain this increase?)

The successful implementation of this project was based on collaborative partnerships. Through the processes of writing the *Sierra Nevada Yard & Garden*, selecting project partners and hosting trainings, we gathered a diverse set of organizations and individuals. The *Yard & Garden* guide was a collaborative effort by the Sierra Nevada Alliance, the California Association of Resource Conservation Districts, the University of Nevada Cooperative Extension, Sierra Nevada Conservancy staff and other professionals and experts in the natural resources fields. The guide took an integrated approach to conservation landscaping issues, while addressing critical issues in Sierra watersheds including nonpoint source pollution, soil erosion, invasive plants, and forest fire fuel loads.

After the guide was produced, the collaborators that helped author and edit the guide also helped us develop the workshop series and consultation program. Some of these project partners acted as trainers in public workshops and training sessions for the groups that were selected to coordinate local Sierra Nevada Yard & Garden programs. The coordinators of the local programs were Wildflowers Forever (Yuba Watershed), Desert Mountain RC&DC (Kern Watershed), El Dorado Chapter of the California Native Plant Society (American Watershed) and Tehama County RCD (Upper Sacramento Watershed).

Partnerships with all the above mentioned groups were strengthened through this project and the process of designing a new, innovative curriculum to address a set of watershed issues, rather than just one. The gardening guide was a new resource for Sierra residents and teaching tool for groups working with the public on watershed issues. The workshops, trainings and consultation programs provided great networking opportunities to build a new Sierra-based and Sierra-wide conservation effort that worked on-the-ground in several watersheds at once.

This grant increased our organization's capacity in a tremendous way. It enabled the Alliance to hire a new staff member to coordinate the project, it enabled the printing of the *Yard & Garden* guide and it provided funding for the Alliance to take Sierra-friendly landscaping beyond the pages of the guide and test the new approach in Sierra watersheds.

Currently, the Alliance is working to expand the Sierra Nevada Yard & Garden program and maintain our network. To do this, the Alliance is developing a companion program that takes a similar approach to indoor elements of residential sustainability such as

energy efficiency, water conservation, indoor air quality, waste/recycling and local food. This new focus will build upon the successes of the Sierra Nevada Yard & Garden program and the goal is to address the issues of green house gas emissions from residential energy inefficiency, residential water waste, and human health issues related to radon and other household toxins.

## **Description of Project Accomplishments:**

### **1. Most Significant Accomplishment**

Describe in one concise, well-written paragraph, the most significant accomplishment that resulted from this grant.

The most significant accomplishment of the Sierra Nevada Alliance's Land and Water Project was that it integrated resource management issues that are traditionally treated as separate issues. This project joined experts to create a new one-stop shopping resource guide, workshop series and four home consultation programs that actively educated residents and watershed groups on solutions to the issues around nonpoint source pollution, wildfire protection, soil erosion, polluted stormwater, invasive species, water conservation and life in areas with wildlife. This new approach was designed to inspire homeowners to voluntarily take steps to reduce the impacts their yards and gardens have on the watershed.

### **2. WOW Factor**

If applicable, please describe anything that happened as a result of the project or during the project that is particularly impressive.

In addition to the amazing volume of work and projects that were completed during the project period, there were some unexpected outcomes that came out of the project. One heart-warming story emerged from the Desert Mountain RC&DC home consultation program. The watershed coordinators organizing the home consultation program focused largely on issues with defensible space. Early in the project, they discovered that most homeowners were particularly concerned about wildfire protection since they live in areas with a lot of forest fire fuel loading and many live on properties with several acres of land. While conducting the home consultations, the watershed coordinator realized that many of the recommended treatments would not be implemented because many of the homeowners were elderly, unable to do the work themselves and did not have the money to pay a landscape company to do the necessary clearing for defensible space on such large properties.

In response, Bob Robinson and Bill Wilson at the DM RC&DC coordinated volunteer work days to complete the defensible space work – work that has the potential to save homes and lives in the likely event of a catastrophic wildfire. The volunteer days also raised awareness of wildfire protection and the other components of the Yard & Garden program being coordinated in the Kern Watershed. This demonstrates that

local groups, when given the tools, training and seed funding, can go above and beyond, dedicating time and energy to ensuring quality projects that have a lasting impact and meet the overall goals.

### **3. Design and Implementation**

When considering the design and implementation of this project, what lessons did you learn that might help other grantees implement similar work?

A key component of the design and implementation of this project was getting experts on issues to agree on the most effective techniques or Best Management Practices (BMPs). Also, getting the groups highly trained before they started local programs was a critical component of the project design. Before each group began work, we established subcontracts and work plans, which we reviewed and commented on before they implemented them.

### **4. Indirect Impact**

Please describe any indirect benefits of the project such as information that has been developed as a result of the project is being used by several other organizations to improve decision-making, or a conservation easement funded by this grant that encouraged other landowners in the area to have conservation easements on their property.

The most significant indirect impacts come from the production and distribution of the *Sierra Nevada Yard & Garden, a homeowner's guide to landscaping in the Sierra*. We were able to publish and print the guide, which has been used for this project and others. Several groups are using the guide as an education tool on conservation landscaping and the Alliance plans to continue using it as a resource for projects. We have copies available to the public and charge a nominal fee to cover the cost of printing more.

### **5. Collaboration and Conflict Resolution**

If you worked in collaboration or cooperation with other organizations or institutions, describe those arrangements and their importance to the project. Also, describe if you encountered conflict in the project and how you dealt with it, or if there was conflict avoided as a result of the project.

This was a highly collaborative project and the successes of those relationships are discussed above. Some challenges did arise during the project. During the State Bond Freeze that was issued in December 2008, groups had to discontinue working on the project. When funding resumed, one of the original groups, Amador County Master Gardeners, elected to discontinue the project altogether. In response, the Alliance staff had to scramble to find another group to take their place and host workshops and conduct fifty home consultations. Fortunately, Wildflowers Forever,

based in Grass Valley, was willing to take on the task of picking up where Amador County Master Gardeners left off.

In other cases, some groups encountered challenges as they implemented the local programs. In those cases, the Alliance acted in an advisory role to help think of creative solutions to keep the project on track or develop a new strategy to meet challenges on the ground in order to complete the deliverables. In all cases, we were able to meet challenges and resolve any conflicts.

## **6. Capacity-Building**

SNC is interested in both the capacity of your organization, as well as local and regional capacity. Please describe the overall health of your organization including areas in need of assistance. SNC is interested in the strength and involvement of your board, significant changes to your staff, size and involvement of membership. In addition, describe how your project improved capabilities of partners, or the larger community.

The Sierra Nevada Alliance is a network of conservation groups in the Sierra Nevada. We work to build the capacity of our member group organizations which include several types of nonprofit conservation organizations working on issues related to land, water, wildlife, sustainable communities and more. With funding from the SNC, the Alliance is able to coordinate region-wide projects that work on-the-ground in the Sierra communities that would benefit most from the projects. The overall health of the Sierra Nevada Alliance is strong, despite monumental financial challenges due to the State Bond Freeze that was enacted in December 2008. At the time, the Alliance was the recipient of several bond-funded grants for different projects. During the freeze, outstanding subcontractor invoices remained unpaid and Alliance staff were laid-off. When the freeze was lifted and Recovery Act funds began funding the bond-funded projects again, the Alliance was able to bring some staff members back to complete projects. As of now, the Alliance and its Board of Directors are highly stable and continue to work to coordinate successful projects to protect and restore the Sierra, while building the capacity of conservation groups.

The staff capacity of the Alliance is good. Alliance Staff coordinate two program areas: The Sustainable Sierra Communities Program and the Regional Climate Program. The Sustainable Sierra Communities Program fosters and supports local actions and planning that advance resilient and thriving communities. Through on-the-ground projects, innovative programs, informative publications and inspiring workshops, we empower and catalyze local actions across the entire Sierra for a sustainable future. The Regional Climate Program engages and supports regional efforts to adopt exemplary sustainable regional plans throughout the Sierra Nevada. These high-quality plans protect and restore Sierra water, lands, wildlife and rural communities, while acting to adapt to climate change and reducing greenhouse gas emissions.

Funding from the Sierra Nevada Conservancy gave a great capacity boost to the Alliance and its partner organizations that worked on the project.

## 7. Challenges

Did the project face internal or external challenges? How were they addressed? Describe each challenge and any actions that you took to address it. Was there something that SNC did or could have done to assist you? Did you have to change any of your key objectives in response to conditions “on the ground”?

The main challenge was the Bond Freeze enacted in December 2008. Sierra Nevada Conservancy staff members were very helpful and flexible during and after the freeze. This helped us get the project back on track and make it successful in meeting the original goals, despite the disruption.

## 8. Photographs

Grantees are strongly encouraged to submit photos, slides or digital images whenever possible. These images will be used for SNC publications such as annual reports or on the website. Please make sure you clearly identify location, activity, and your project with each submitted image. Images will be credited to the submitting organization, unless specified otherwise.

We have attached samples of site plans created by each of the groups to this report.

Below: Karin Kaufman, a landscape architect working with Wildflowers Forever in Grass Valley, drafts a site plan while conducting a home consultation



Below: Bob Robinson at an outreach event in the Kern Watershed educating residents about the Sierra Nevada Yard & Garden program and the free home consultation services offered by the Desert Mountain RC& DC



#### 9. Post Grant Plans

What are the post-grant plans for the project if it does not conclude with the grant? Include a description of the following (if applicable): (1) Changes in operations or scope; (2) Replication or use of findings; (3) Names of other organizations you expect to involve; (4) Plans to support the project financially, and; (5) Communication plans?

N/A

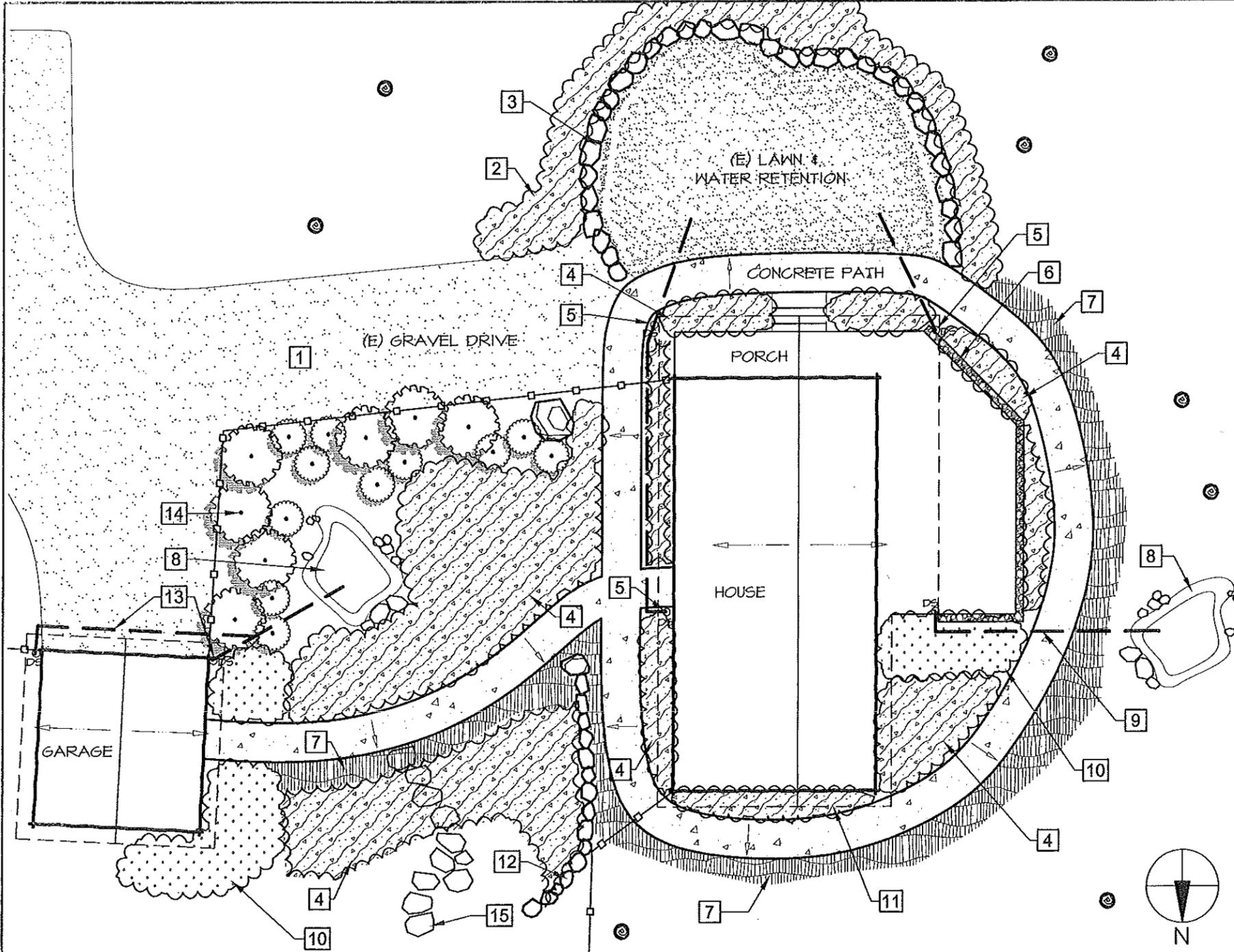
#### 10. Post Grant Contact

Who can be contacted a few years from now to follow up on the project? Please provide name and contact information.

Dan Keenan  
(530) 542-4546 x315  
dan@sierranevadaalliance.org

**Exhibit A**

**Sample Site Plan - Wildflowers Forever**



**LEGEND**

- (E) EXISTING
- ◻ EXISTING BOULDER
- ⊙ EXISTING TREE
- DRAIN LINE
- Ops EXISTING DOWNSPOUT
- IMPERVIOUS SURFACE FLOW
- EXISTING FENCE

**REFERENCE NOTES SCHEDULE**

SYMBOL	DESCRIPTION
1	Maintain existing gravel drive and parking.
2	Perennials and grasses. See plant list #1.
3	Maintain existing retaining wall and water retention area. For water conservation, consider an alternative to the conventional turf grass. See plant list #25.
4	Perennials and grasses. See plant list #2.
5	Connect downspout to drainpipe under concrete path to flow into water retention area.
6	Place drain rock under deck. See detail # BMP 011.1.
7	Low-growing groundcover. Plant densely along edge of concrete path. See plant list #14.
8	Rain garden. See vignette #3 and plant list #18.
9	Connect downspout to drain pipe under concrete path and direct to flow into rain garden.
10	Foundation planting. See plant list #11.
11	Perennials and grasses. See plant list #3.
12	Maintain existing retaining wall.
13	Connect downspouts to rain garden.
14	Screening planting. See plant list #5.
15	Install stepping stones through planting to veggie garden.

**GENERAL NOTES**

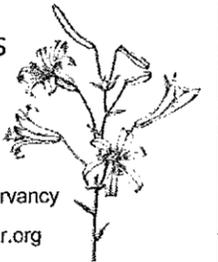
1. This plan is conceptual and not intended for construction purposes.
2. Mulch all exposed soil with wood chips or gravel.
3. Mix a 4"-6" layer of compost into the top 12" of soil
4. Place a 2"-4" layer of wood chip mulch in all planting areas.

**KARIN KAUFMAN**  
Landscape Architect

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**Wildflowers Forever**



A Natural Lands Conservancy  
www.wildflowersforever.org

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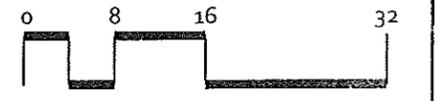
**HENRY RESIDENCE**

15293 Big Dog Road  
Penn Valley, CA

**LANDSCAPE ACTION PLAN**

DATE: 10-20-10

SCALE: 1/16" = 1'-0"



SHEET

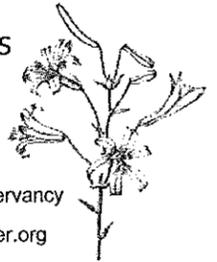
**L-1**

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Wildflowers  
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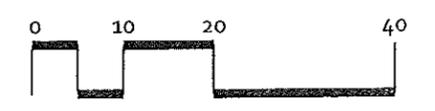
# RUNNE RESIDENCE

25074 Rodeo Flat Road  
Auburn, CA

## LANDSCAPE ACTION PLAN

DATE: 10-25-10

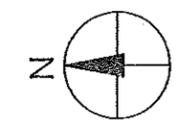
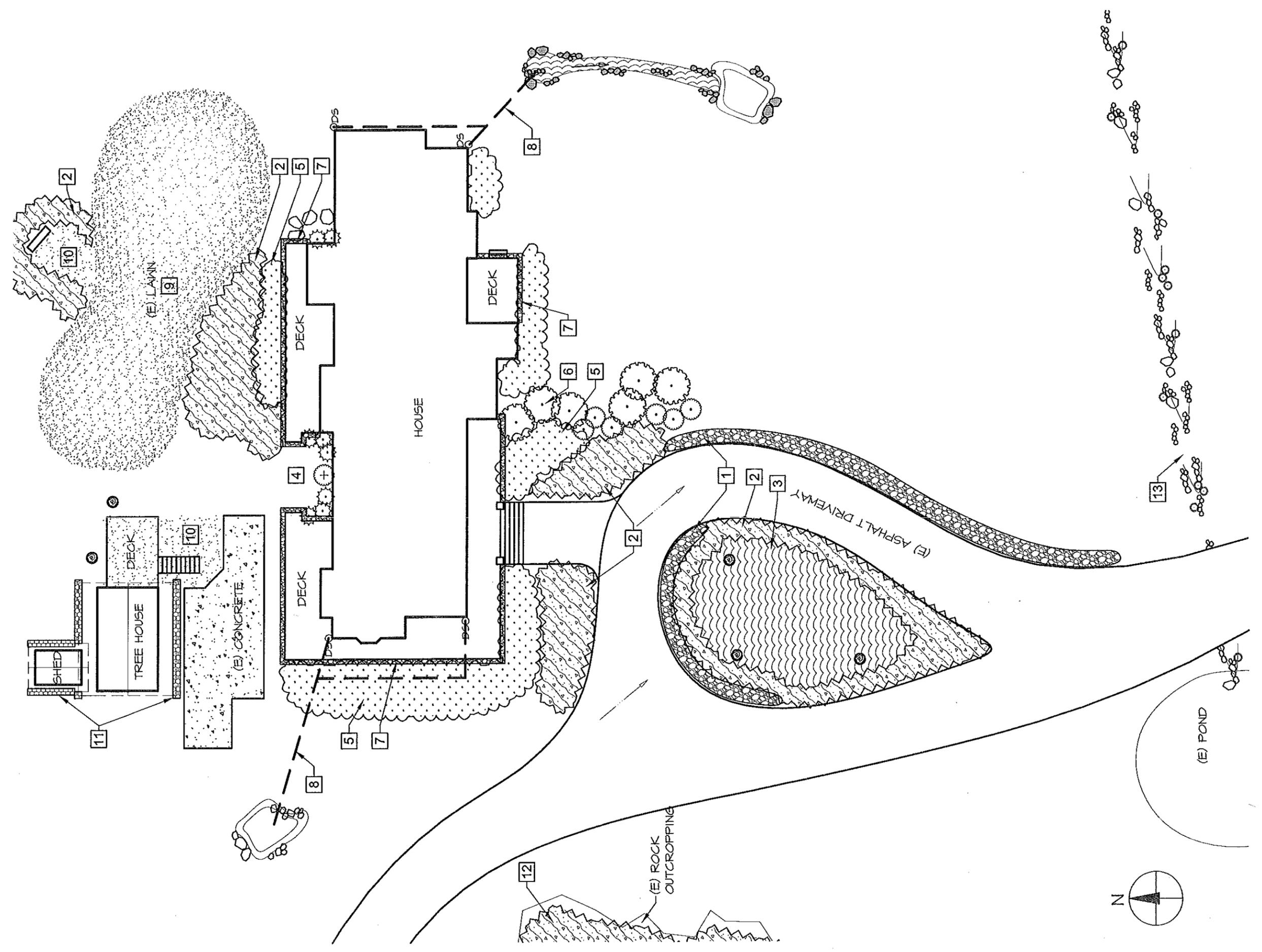
SCALE: 1"=20'



SHEET

# L-1

1 of 2



## REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION
1	Armor soil along edge of driveway with river cobble or drain rock.
2	Perennials and grasses. See plant list #2.
3	Low-growing ground cover. See plant list #14.
4	Consider permeable paving, such as sand-set flagstone or interlocking pavers, for newly paved areas.
5	Foundation planting. See plant list #11.
6	Screening planting. See plant list #5.
7	Armor bare soil under elevated deck with drain rock. See detail BMP-010.1.
8	Connect downspouts to vegetated swale and rain garden. See plant lists #18 and #21, detail #3 and vignette #3.
9	Consider a lawn alternative. See plant list #25.
10	Maintain D.G. paving.
11	Install drip line infiltration trenches beneath roofs without gutters. See detail BMP-001.1.
12	Perennials and grasses. See plant list #2.
13	Armor existing swale with boulders, river cobble, and drain rock. Plant from list #21.

## GENERAL NOTES

1. THIS PLAN IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION PURPOSES.
2. THIS PLAN IS BASED ON ARCHITECTURAL PLANS BY ABOVE & BEYOND BUILDING DESIGN DATED 8/5/2009.
3. THE INTENTION OF THIS PLAN IS TO ILLUSTRATE STORMWATER MANAGEMENT AND WATER-CONSERVING PLANTING POSSIBILITIES FOR THE FUTURE REMODELING OF AN EXISTING HOME.
4. TO PREVENT SOIL COMPACTION, CREATE A STAGING AREA FOR TRUCK AND EQUIPMENT PARKING, AND FOR STORAGE OF CONSTRUCTION MATERIALS.
5. PLACE A 2"-4" LAYER OF WOOD CHIP MULCH IN ALL PLANTING AREAS.
6. PLACE A 2" LAYER OF MULCH OVER ALL EXPOSED SOIL.

## LEGEND

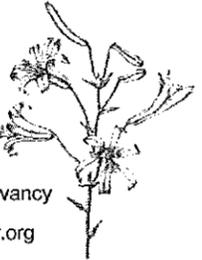
- ⊙ EXISTING TREE
- (E) EXISTING
- ODS DOWNSPOUT
- ▶ IMPERVIOUS SURFACE FLOW

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## RUNNE RESIDENCE

25074 Rodeo Flat Road  
Auburn, CA

## LANDSCAPE ACTION PLAN

DATE: 10-25-10

SHEET

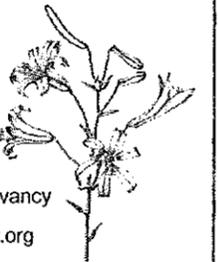
L-2

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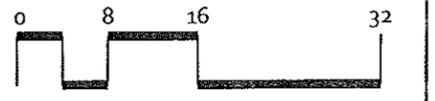
### SHIOTSUKA-CENTER RESIDENCE

10794 Arrow Point Place  
Grass Valley, CA

### LANDSCAPE ACTION PLAN

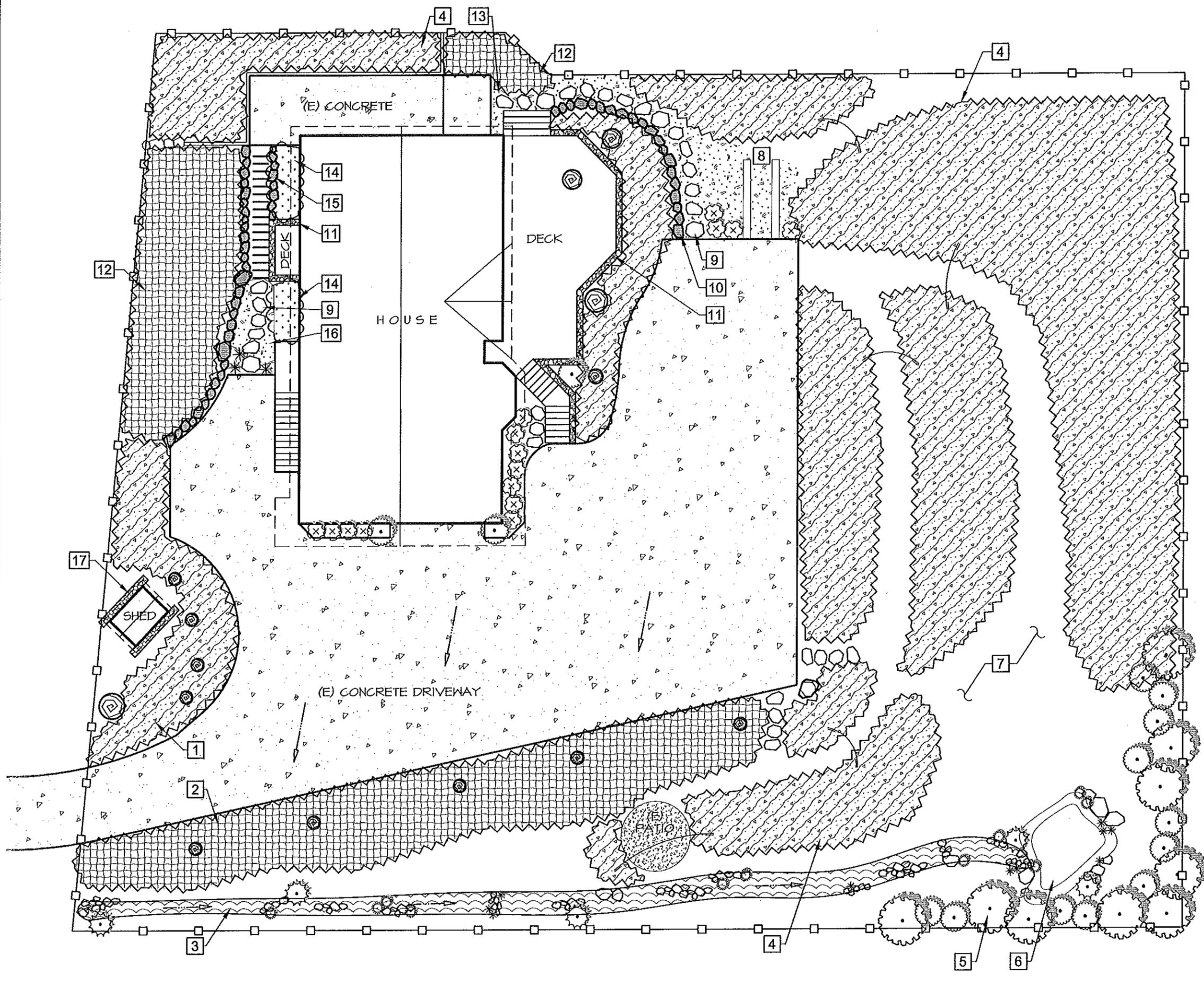
DATE: 11-3-10

SCALE: 1/16" = 1'-0"



SHEET

# L-1



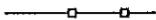
## REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION
1	Perennials and grasses. See plant list #2.
2	Erosion control planting. See plant list #8.
3	Vegetated or rock-lined swale. See detail #3, vignette #3, and plant list #21.
4	Perennials, grasses, & small shrubs. See plant list #2.
5	Screening plants. See plant list #5.
6	Rain garden. See vignette #3 and plant list #18.
7	Maintain gravel pathways and sitting area.
8	Consider relocating parking area and/or installing paved tire spurs to prevent soil compaction.
9	Install stepping stones or mulch pathway.
10	Move stone border away from house to create a large planting area. Select perennials, grasses, & small shrubs from plant list #2.
11	Install drain rock under deck. See detail BMP-010.1.
12	Erosion control planting. See plant list #8.
13	Mulch with gravel or plant a ground cover along edge of paving.
14	Foundation planting. See plant list #12.
15	Place rock retaining on both sides of existing steps.
16	Mulch bare soil with gravel or wood chips.
17	Drip line infiltration trench. See detail BMP-001.1.

## GENERAL NOTES

1. THIS PLAN IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION PURPOSES.
2. MIX A 4"-6" LAYER OF COMPOST INTO THE TOP 12" OF EXISTING SOIL.
3. LOCATE WHERE DOWNSPOUTS DAYLIGHT AND INSTALL ENERGY DISSIPATION TRENCHES OR CONNECT TO SWALE.
4. PLACE A 2"-4" LAYER OF WOOD CHIP MULCH IN ALL PLANTING AREAS.
5. ONLY IRRIGATE (E) OAKS IN CASES OF EXTREME WINTER DROUGHT.
6. CONDUCT A SOIL ANALYSIS TO DETERMINE EXISTING LEVELS OF NUTRIENTS IN SOIL.
7. CONSIDER SWITCHING TO LOW-FLOW IRRIGATION EMITTERS FOR WATER CONSERVATION.

## LEGEND

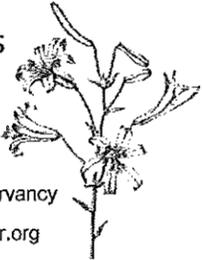
(E)	EXISTING
	NEW BOULDER
	EXISTING TREE
	IMPERVIOUS SURFACE FLOW
	(E) FENCE W/ GATES

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Wildflowers  
Forever



A Natural Lands Conservancy  
www.wildflowersforever.org

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## SHIOTSUKA-CENTER RESIDENCE

10794 Arrow Point Place  
Grass Valley, CA

## LANDSCAPE ACTION PLAN

DATE: 11-3-10

SHEET

L-2

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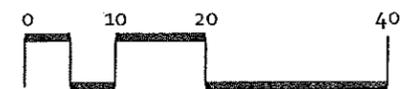
### HODGSON-CARTER RESIDENCE

21816 Rambling Road  
Grass Valley, CA

### LANDSCAPE ACTION PLAN

DATE: 11-6-10

SCALE: 1"=20'



SHEET

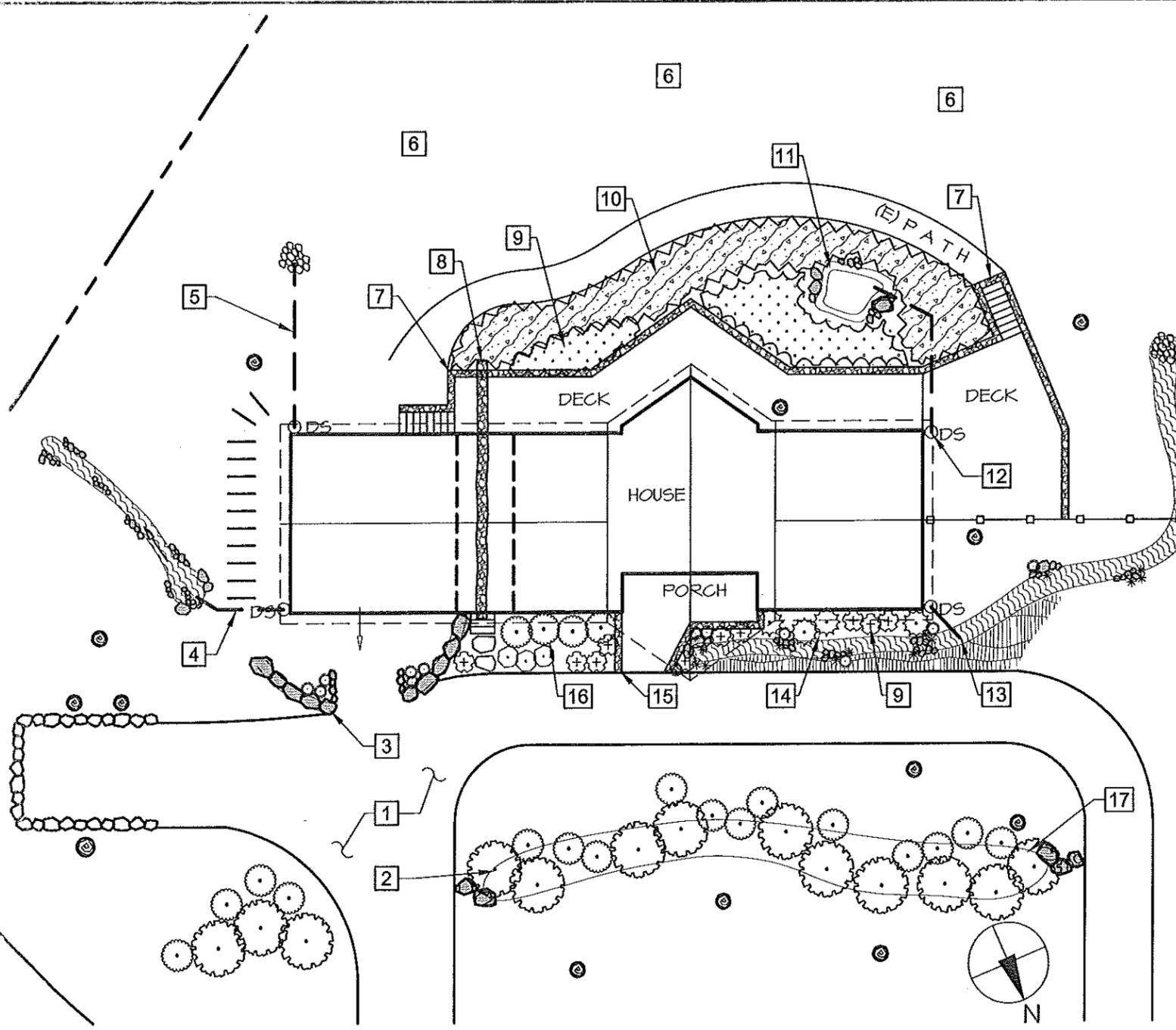
# L-1

### REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION
1	Maintain gravel driveway.
2	Screening plants. See plant list #5.
3	Grade to create positive drainage away from garage and install a low retaining wall to accomodate grade change. Leave opening in wall with ramp to allow for truck back-up for loading and unloading.
4	Relocate swale further away from house. Direct downspout to daylight into swale. Add river rock, drain rock, and plants. See plant list #21, vignette #3 and detail #3.
5	Direct downspout to daylight away from house foundation. Install energy dissipation trench where it daylights.
6	Maintain existing native garden.
7	Install drain rock under elevated deck. See detail BMP-010.1.
8	Armor existing swale that runs under house with drain rock.
9	Foundation planting. See plant list #11.
10	Perennials and grasses. See plant list #2.
11	Install rain garden. See vignette #3 and plant list #18.
12	Connect downspout to rain garden.
13	Connect downspout to vegetated and/or rock-lined swale. See Plant list #21, detail #3 and vignette #3. End swale in energy dissipation trench.
14	Regrade to create positive drainage away from house and into swale for a minimum of 5'.
15	Install drain rock under elevated deck. See detail BMP-011.1.
16	Remove existing raised bed and plant directly into ground from plant list #11.
17	Install berm or on-contour swale to slow run-off coming down the slope towards the house.

### GENERAL NOTES

1. THIS PLAN IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION PURPOSES.
2. PLACE A 2"-4" LAYER OF WOOD CHIP MULCH IN ALL PLANTING AREAS.
3. MIX A 4"-6" LAYER OF COMPOST INTO THE TOP 12" OF EXISTING SOIL.



### LEGEND

- (E) EXISTING
- NEW BOULDER
- EXISTING BOULDER
- EXISTING TREE
- DRAIN LINE
- ODS EXISTING DOWNSPOUT
- EXISTING FENCE
- PROPERTY LINE

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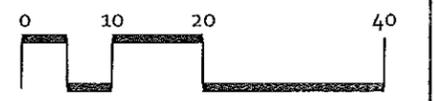
### BOUSOURIS RESIDENCE

16058 Indian Flat Road  
Nevada City, CA

### LANDSCAPE ACTION PLAN

DATE: 11-10-10

SCALE: 1"=20'



SHEET

# L-1

### REFERENCE NOTES SCHEDULE

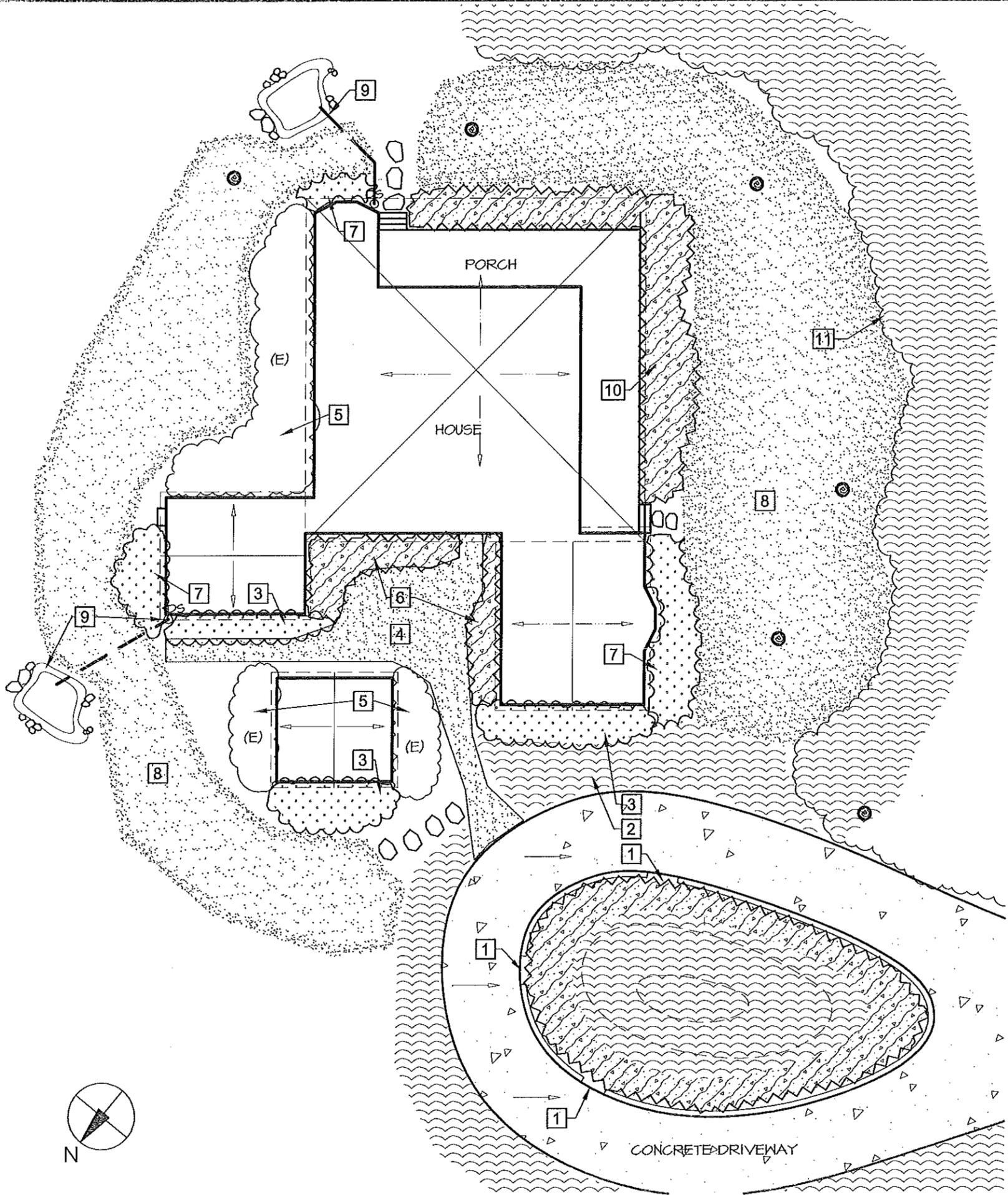
SYMBOL	DESCRIPTION
1	Create curb cuts to allow run-off into center planting area. Regrade planting area to create a slight depression in the middle. Replace lawn with perennials and grasses from plant list #1 and low groundcover from plant list #13.
2	Low groundcover. See plant list #13.
3	Foundation planting. See plant list #12.
4	Maintain gravel courtyard.
5	Maintain dense planting under roof drip line.
6	Perennials and grasses. See plant list #2.
7	Foundation planting. See plant list #11.
8	Reduce existing lawn to area indicated. Consider a lawn alternative. See plant list #25.
9	Connect downspout to rain garden. See plant list #18, vignette #3 and detail #3.
10	Perennials and grasses. See plant list #2.
11	Consider replacing existing Vinca (periwinkle) with a low-growing groundcover from list #14.

### GENERAL NOTES

1. THIS PLAN IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION PURPOSES.
2. CONSIDER INSTALLING AN AUTOMATIC IRRIGATION SYSTEM.
3. MULCH ALL AREAS OF BARE SOIL WITH WOOD CHIPS OR GRAVEL.
4. PLACE A 2"-4" LAYER OF WOOD CHIP MULCH IN ALL PLANTING AREAS.

### LEGEND

- (E) EXISTING
- DRAIN LINE
- ODS EXISTING DOWNSPOUT
- > IMPERVIOUS SURFACE FLOW



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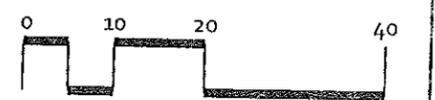
Funding for this project has been provided by the Sierra Nevada Alliance's Yard & Garden Program and the Sierra Nevada Conservancy, an agency of the State of California. For more information on the Sierra Nevada Alliance, visit www.sierranevadaalliance.org.

DAGGETT  
RESIDENCE  
15498 Ridge Estates Rd.  
Nevada City, CA

LANDSCAPE  
ACTION  
PLAN

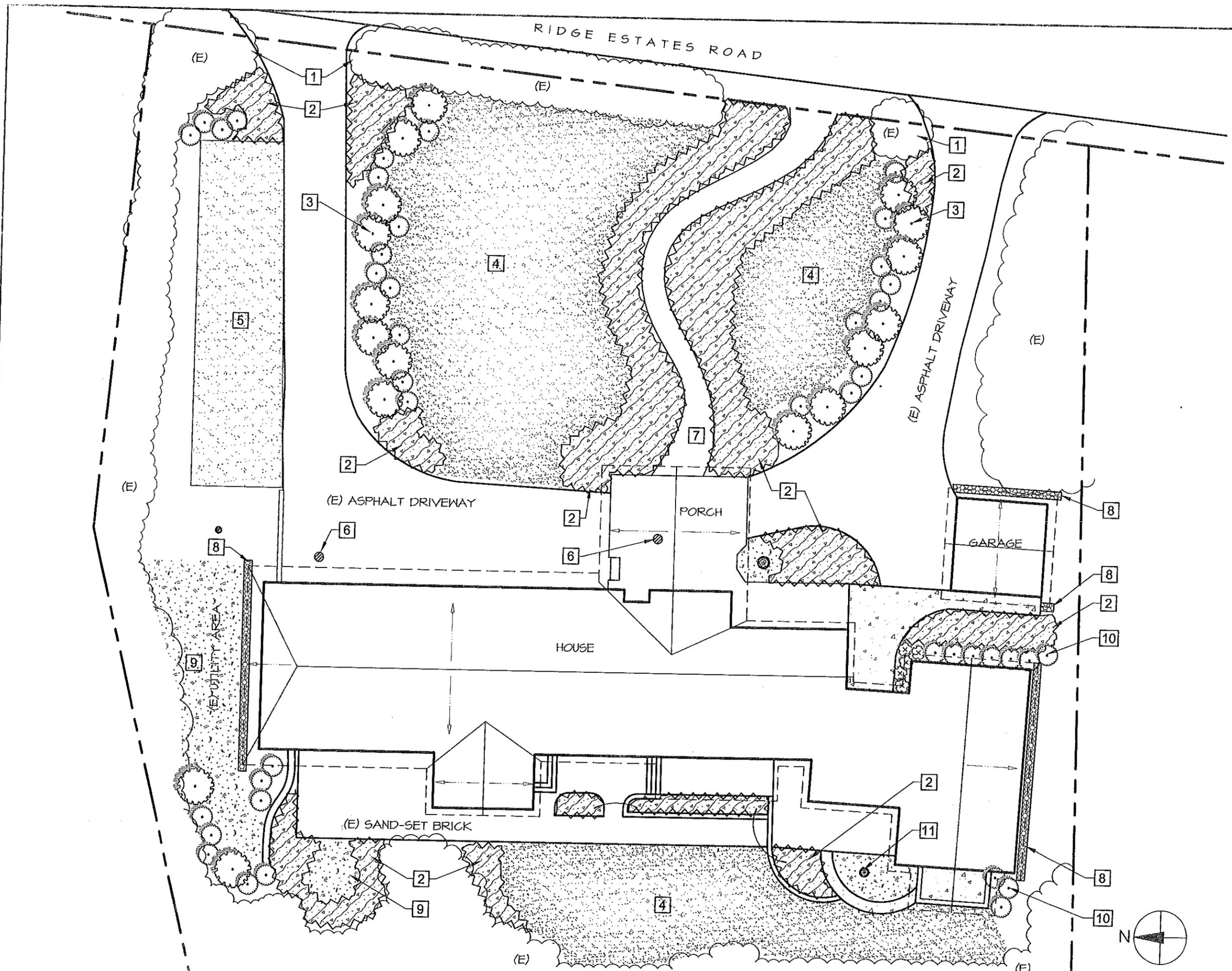
DATE: 11-11-10

SCALE: 1"=20'



SHEET

L-1



REFERENCE NOTES SCHEDULE

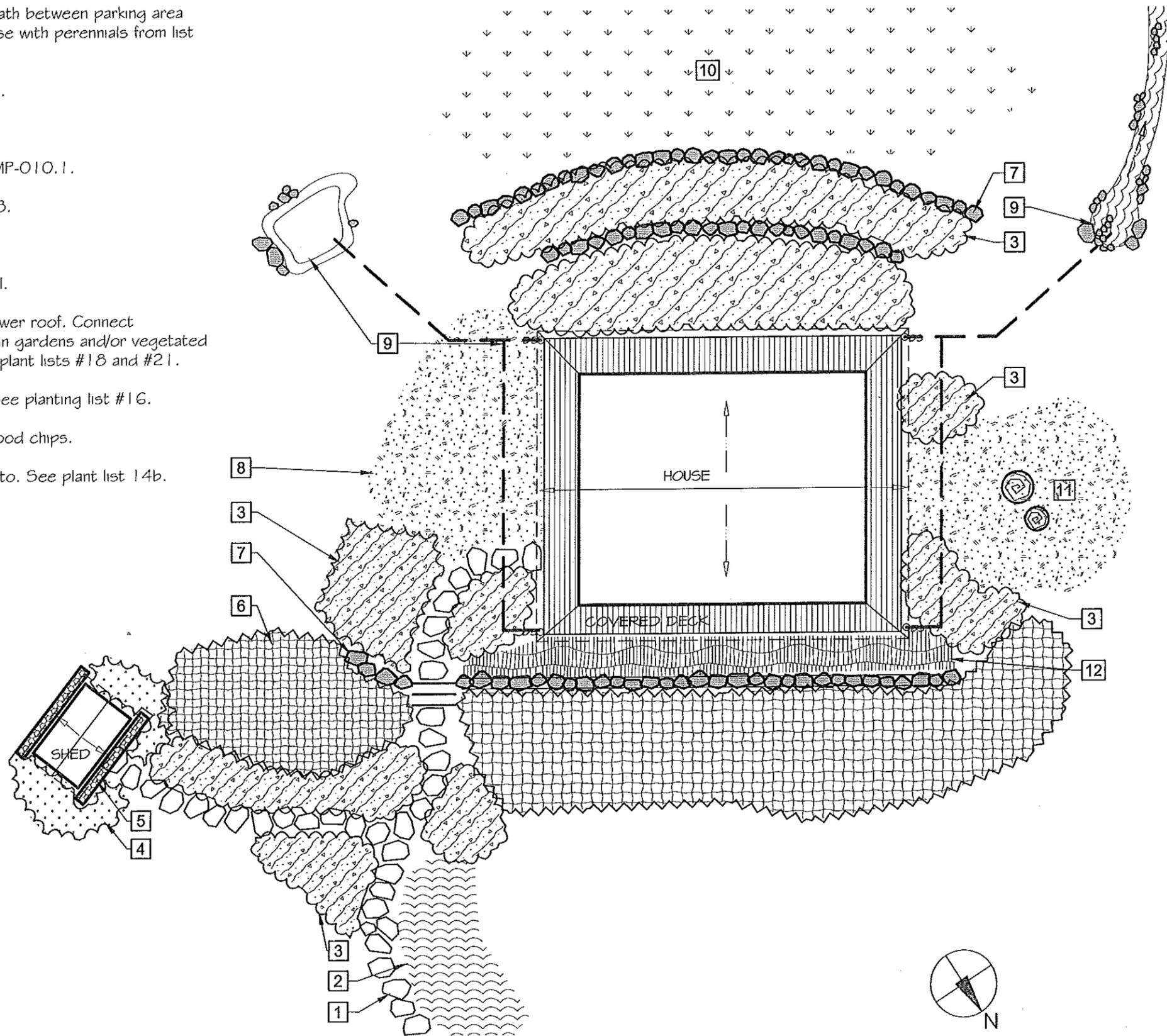
SYMBOL	DESCRIPTION
[1]	Install stepping stones along path between parking area, house, and shed.
[2]	Low-growing groundcover. Place along path between parking area and house. See plant list #14. Intersperse with perennials from list #2.
[3]	Perennials and grasses. See plant list #2.
[4]	Foundation planting. See plant list #11.
[5]	Drip line infiltration trench. See detail BMP-010.1.
[6]	Erosion control planting. See plant list #8.
[7]	Install retaining wall and steps.
[8]	Mulch bare soil with wood chips or gravel.
[9]	Install rain gutters and downspouts on lower roof. Connect downspouts with underground pipe to rain gardens and/or vegetated swales. See detail #3, vignette #3, and plant lists #18 and #21.
[10]	Meadow. Place over septic leach lines. See planting list #16.
[11]	Mulch under existing heritage oak with wood chips.
[12]	Low-growing groundcover and ferns grotto. See plant list 14b.

GENERAL NOTES

1. THIS PLAN IS CONCEPTUAL AND NOT INTENDED FOR CONSTRUCTION PURPOSES.
2. MIX A 4"-6" LAYER OF COMPOST INTO THE TOP 12" OF EXISTING SOIL.
3. REMOVE (E) CEDAR SAPLINGS.
4. PLACE A 2"-4" LAYER OF WOOD CHIP MULCH IN ALL PLANTING AREAS.

LEGEND

- EXISTING TREE
- EXISTING
- DRAIN LINE
- NEW DOWNSPOUT
- IMPERVIOUS SURFACE FLOW

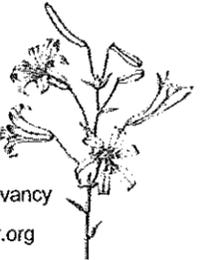


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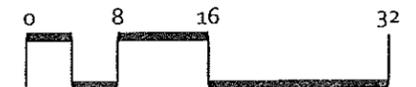
NOEL-ORTEGREN  
RESIDENCE

16855 China Flats Road  
Nevada City, CA

LANDSCAPE  
ACTION  
PLAN

DATE: 10-28-10

SCALE: 1/16" = 1'-0"



SHEET

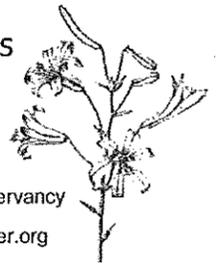
L-1

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HEALY-DIETER  
RESIDENCE  
111 Mill Street  
Nevada City, CA

LANDSCAPE  
ACTION  
PLAN

DATE: 11-13-10

SCALE: 1"=10'-0"



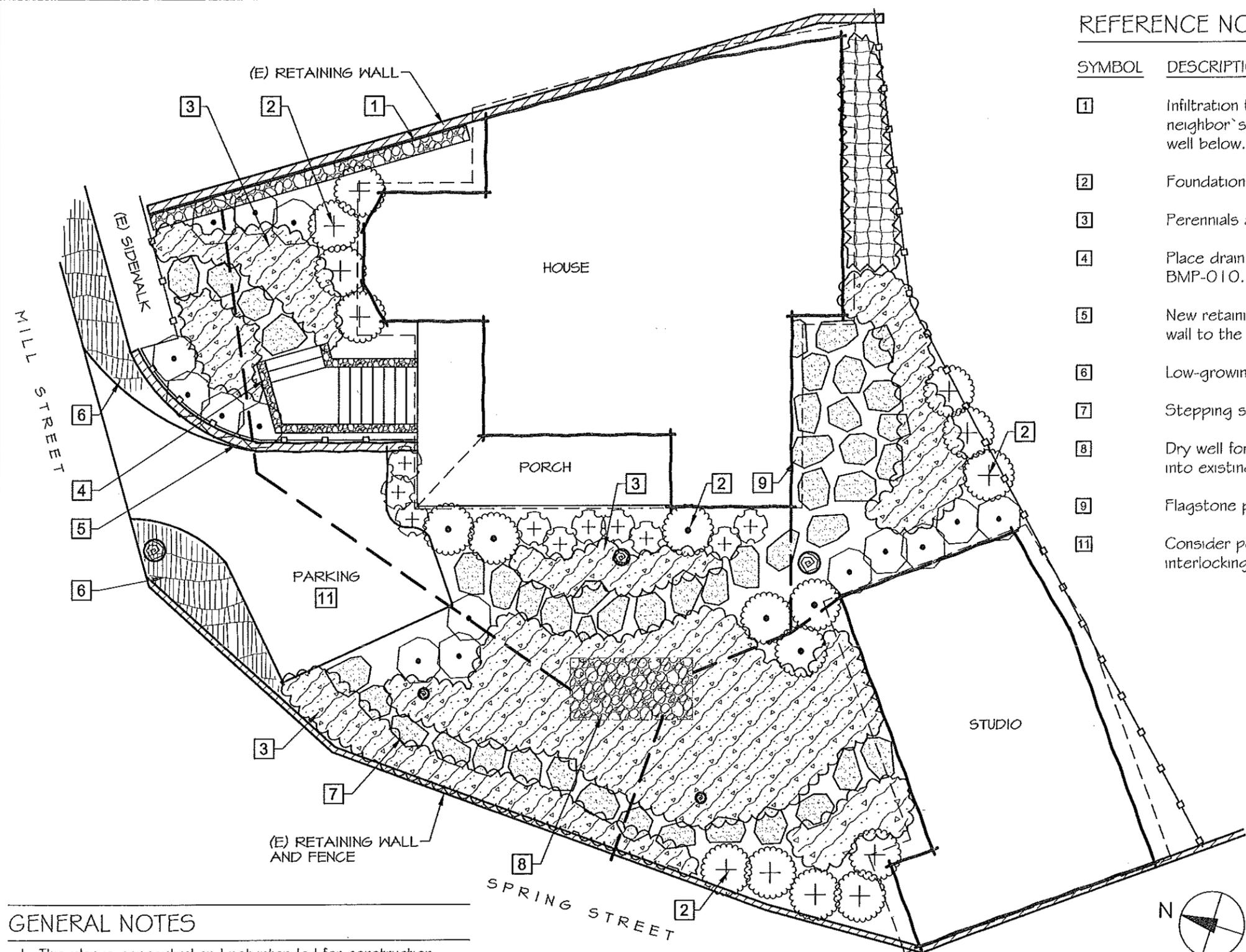
SHEET

L-1

1 of 1

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION
1	Infiltration trench with perforated pipe for drip line of neighbor's roof, with drain line that connects to dry well below.
2	Foundation plants. See plant list #11.
3	Perennials and grasses. See plant list #2.
4	Place drain rock under stairs. See detail BMP-010.1.
5	New retaining wall. Connect drainage from behind the wall to the dry well below.
6	Low-growing groundcover. See plant list #14.
7	Stepping stones pathway, typical.
8	Dry well for all roof run-off. Drain overflow into street into existing drainage.
9	Flagstone patio (or other permeable paving).
11	Consider permeable paving such as sand-set interlocking pavers or Xeripave for parking area.



GENERAL NOTES

1. This plan is conceptual and not intended for construction purposes.
2. This plan was prepared for a property with two buildings currently under construction. Due to the Owner's concern about the integrity of existing City-owned retaining walls, some run-off is being directed to permeate the soil on-site, and some is being directed to existing drainage in the adjacent street.
3. Mulch all exposed soil with wood chips or gravel.
4. Mix a 4"-6" layer of compost into the top 12" of soil
5. Place a 2"-4" layer of wood chip mulch in all planting areas.



LEGEND

- EXISTING TREE
- (E) EXISTING
- DRAIN LINE
- FENCE

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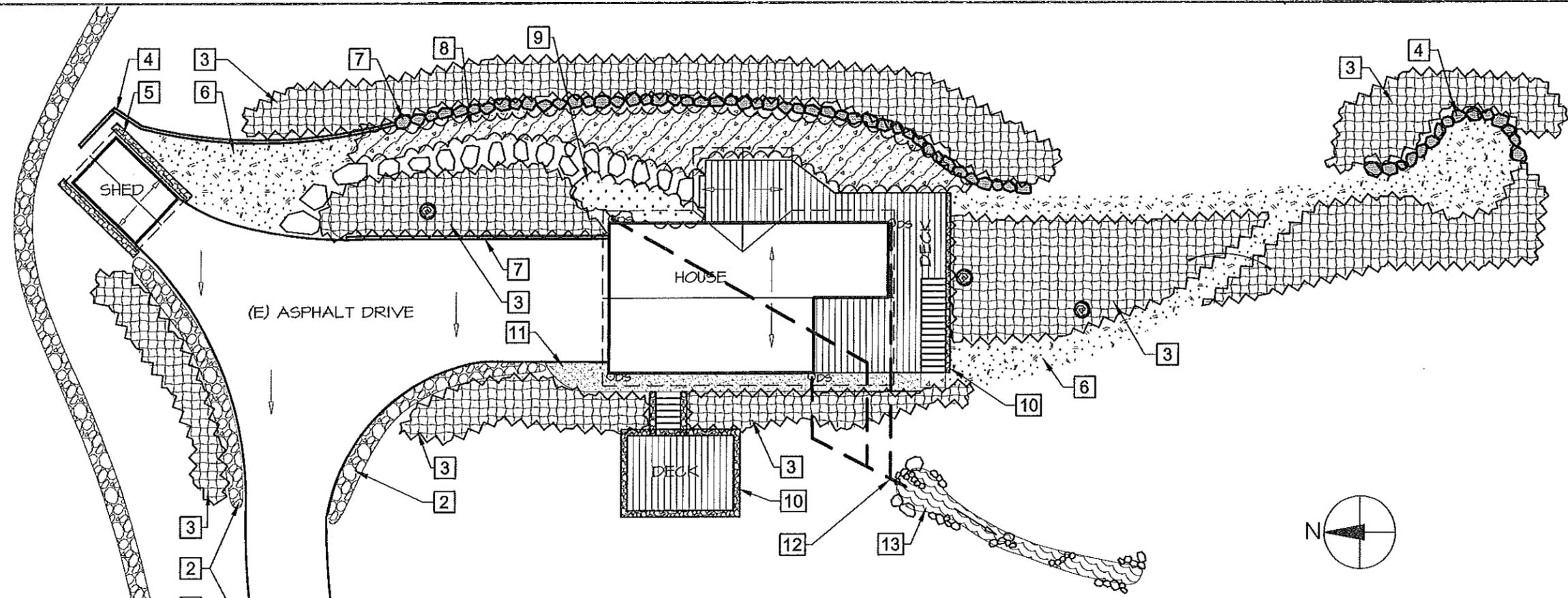
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PERUNKO-DEKKER  
RESIDENCE  
21695 Oak Meadows Road  
Grass Valley, CA

LANDSCAPE  
ACTION  
PLAN

DATE: 11-13-10  
SCALE: 1"=20'  
0 10 20 40

SHEET  
L-1  
1 of 1



REFERENCE NOTES SCHEDULE

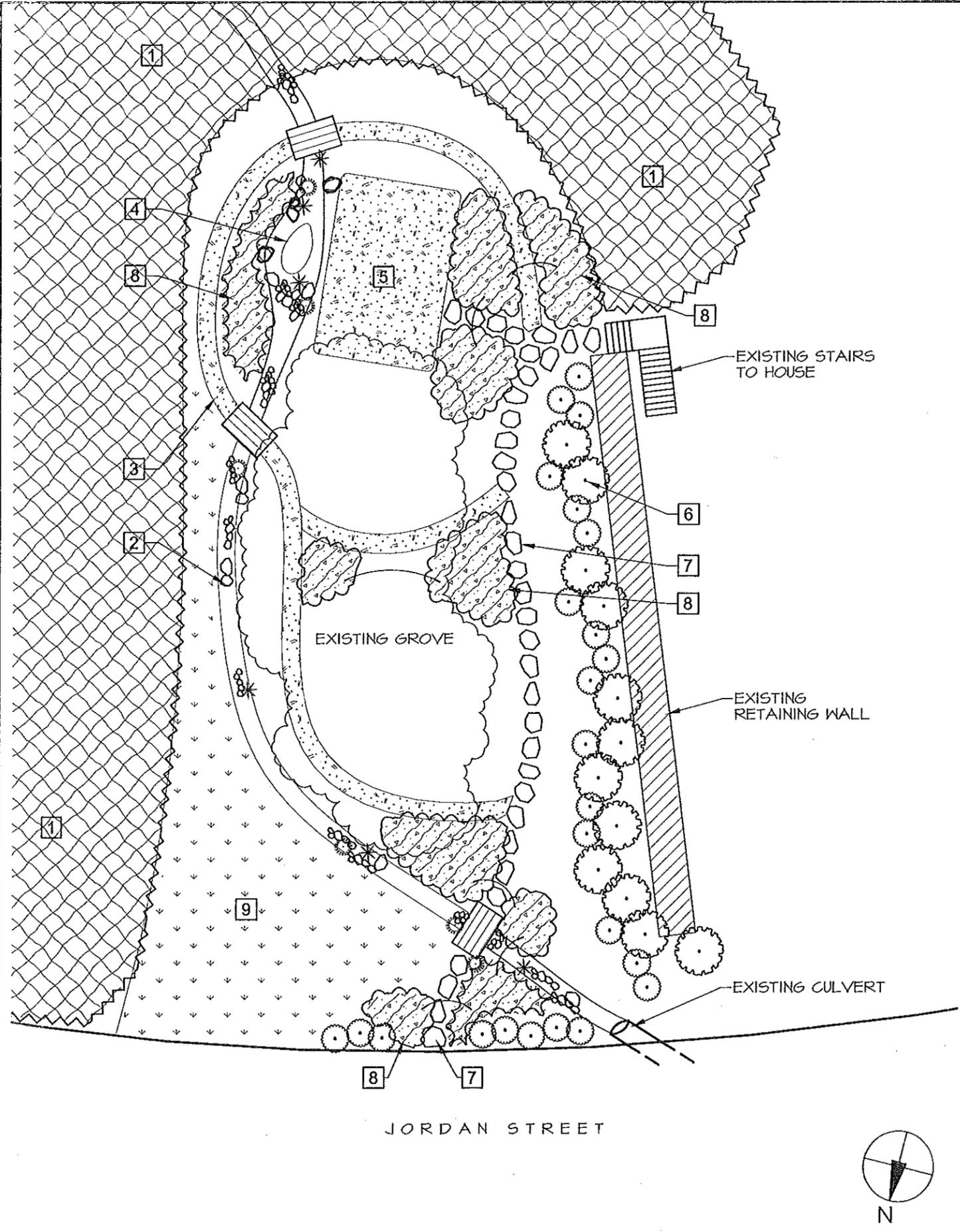
SYMBOL	DESCRIPTION
1	Armor existing swale with river cobble and boulders.
2	Armor bare soil along edge of driveway with rock.
3	Erosion control planting. See plant list #8.
4	Install retaining wall.
5	Drip line infiltration trench. See detail BMP-001.1.
6	Mulch all areas of bare soil with wood chips or gravel.
7	Replace failing retaining wall.
8	Perennials and grasses. See plant list #2.
9	Foundation planting. See plant list #11.
10	Armor soil under elevated deck with drain rock. See detail O10.0.
11	Maintain gravel pathway.
12	Direct existing downspouts to daylight in a vegetated and/or rock-lined swale or energy dissipation trenches.
13	Vegetated and/or rock-lined swale. See detail #3, vignette #3, and plant list #21.

GENERAL NOTES

1. This plan is conceptual and not intended for construction purposes.
2. Consider installing an on-coutour swale on slope above house.
3. Consider raising the heights of existing, failing retaining walls to create more level planting areas.
4. Mix a 4"-6" layer of compost into the top 12" of soil
5. Place a 2"-4" layer of wood chip mulch in all planting areas.

LEGEND

- (E) EXISTING
- ⊙ EXISTING TREE
- ◼ NEW BOULDER
- DRAIN LINE
- ODS EXISTING DOWNSPOUT
- IMPERVIOUS SURFACE FLOW



### REFERENCE NOTES SCHEDULE

SYMBOL DESCRIPTION

- 1 Continue eradicating ivy on slopes. Replace with erosion control planting. See plant list #8.
- 2 Armor existing seasonal creek with rock and plants from list #18.
- 3 Create a wood chip path around the bottom of the gulley with bridges over the creek.
- 4 Create a small pool for wildlife and kids` play in the existing creek.
- 5 Kids` play area.
- 6 Screening plants to buffer existing retaining wall.
- 7 Stepping stones pathway to connect stairway to house and street.
- 8 Perennials, grasses, and small shrubs. See plant list #2.
- 9 Native grasses. Sow seed already purchased.

### GENERAL NOTES

- 1. This plan is conceptual and not intended for construction purposes.
- 2. Leave existing leaflitter mulch in undeveloped areas.
- 3. Mulch all exposed soil with wood chips or gravel.
- 4. Mix a 4"-6" layer of compost into the top 12" of soil in planting areas.
- 5. Place a 2"-4" layer of wood chip mulch in all planting areas.

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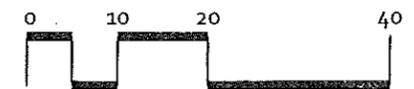
## ESMON-FALLSIDE RESIDENCE

517 Jordan Street  
Nevada City, CA

## LANDSCAPE ACTION PLAN

DATE: 10-30-10

SCALE: 1"=20'



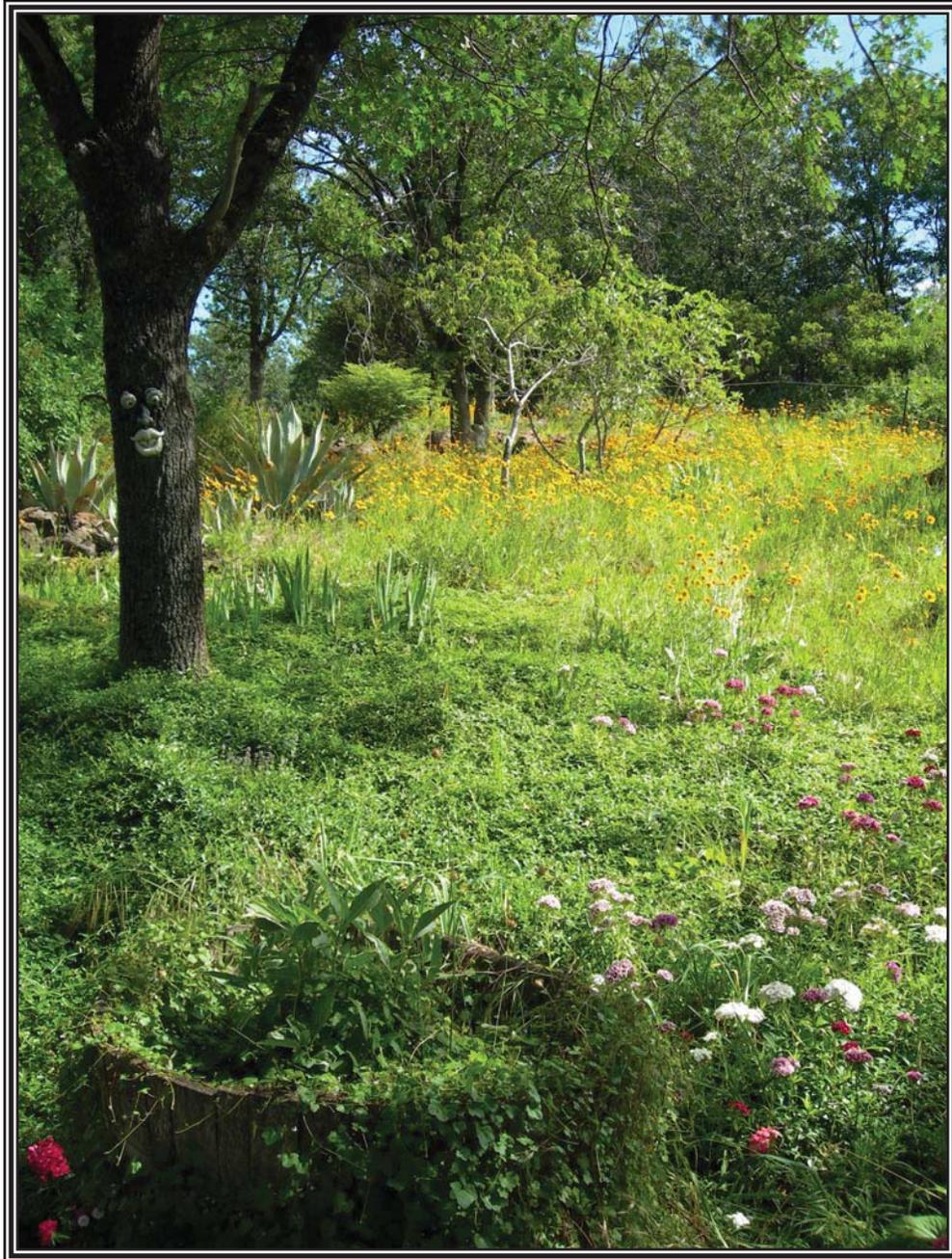
SHEET

# L-1

**Exhibit B**

**Sample Site Plan - Tehama County Resource Conservation District**

Yard and Garden Evaluation  
For  
*KEN AND ADRIAN*



Prepared By:  
Kevin Greer  
Tehama County Resource Conservation District  
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Red Bluff, CA 96080  
(530) 527- 3013 x102  
[kevin@tehamacountyrcd.org](mailto:kevin@tehamacountyrcd.org)



## *Yard and Garden Evaluation: Ken and Adrian*

Evaluation: 6-15-10

By: Kevin Greer

Thank you for participating in our Yard and Garden program. A well-designed and maintained yard helps expand living space, suits your needs and contributes to the high quality of life found in the area. It also gives back to the region by:

- Keeping water clean
- Promoting native vegetation
- Promoting the well-being of wildlife
- Maintaining the integrity of native soils.

To top it off, a well-designed and maintained yard can actually help protect human life and property as stewardship of outdoor space can reduce the risk of wildfire.

Great quality of life, giving back to the environment, and reducing risk to life and property – all of this provided by your own yard!

### **Water**

*Layout* – Small area of watered flowers and plants with impact sprinklers.  
Garden area all hand watered.

*Suggestions* – Overall water use is very minimal around the house. The garden area could use a micro system with drip emitters in order to water plants with specific amounts of water. The current practice of turning on a garden hose and walking away can lead to over watering the plants. The soil is very well drained so plants probably will not drowned, but there is an opportunity to conserve water by installing a simple drip system.

## **Fire**

*Layout* – The home is surrounded by large open area on the west side and a small dense patch on the east side. Areas around the home are well watered, low laying flowering plants.

*Suggestions* – Be sure to keep dry grass trimmed down and all dead or dry materials away from the house. Some thinning may be a good idea as the small wooded area sits very close to the house. Included in this report is more information on practices that will help increase fire protection around your home.

For more information please refer to the Sierra Nevada Yard and Garden booklet, pages 19, 55 - 57 and 145 – 147. Another great source for information can be found at the Cal fire website - <http://www.fire.ca.gov/>

## **Wildlife**

*Area* – Mountainous region with a large variety of animals present, including: wild cats, squirrels, bear, gophers, deer, turkeys and many other birds. Problems reported with rabbit populations bringing coyotes around the house.

*Suggestions* – Included in this report are several options that include, trapping, fencing and the use of repellents. For more information see the article on ‘Rabbits’ included with this report.

## **Plants**

*Layout* – Mixed flowers and small plants around the home. On the outskirts of the home are native plants and trees including: Buckbrush, Manzanita, and Oaks. Also there is a small garden and a large pasture area. The pasture area is overrun with star thistle that established itself when clover was planted. Residents are looking for information on removing star thistle and how well olives would adapt to the area.

*Suggestions* – Yellow starthistle is considered one of the most serious rangeland, grassland, and wildland weeds in the northwestern United States. It can also

infest grain fields and other agricultural areas where seeds can contaminate grain harvest and lower crop quality and value. If yellow starthistle is not controlled it may spread onto surrounding land. Included in this report is more information on methods of control. For a much more detailed resource see the web site listed below.

[www.cal-ipc.org/ip/management/pdf/YSTMgmtweb.pdf](http://www.cal-ipc.org/ip/management/pdf/YSTMgmtweb.pdf)

Olive trees can be grown up in zone 7 (foothills, and lower mountain regions) but they really don't like prolonged periods of freezing temperatures. There are several sources of information on the web at the following addresses,

<http://www.growquest.com>

<http://www.olivetreegrowers.com/varieties.php>

## **Soils**

*Type* – According to the USDA's Web Soil Survey 86% of the property is Cohasset stony loam (CmD on the map), and 14% is Forward sandy loam (FaD on the map). In the Cohasset series are gently sloping to steep, well-drained soils that formed in material weathered from such volcanic rocks as andesite and breccia. The surface soil is brown, has granular structure, is medium textured, and is slightly to medium acidic. The subsoil is reddish brown, has subangular blocky structure, is moderately fine textured, and is strongly to very strongly acidic. Depth to partly weathered rock ranges from about 3 to 6 feet. In some places these soils are stony throughout.

Cohasset stony loam soil has more uneven slopes than other Cohasset soils. Angular rock fragments that range from about 3 to 36 inches in diameter occupy as much as 5 to 25 percent of the surface. The amount of rock in the profile increases with increasing depth. Depth of fractured volcanic rock varies, but it is dominantly from 36 to 48 inches. The stones interfere with harvesting of timber and also damage the trees that are harvested.

The Forward series consists of moderately steep, well drained soils formed in rhyolitic tuff. The tuff is light colored, moderately coarse textured to coarse textured material that is partly cemented into massive rock that has seams or cracks. The soils are

sandy loam to loamy sand throughout, and range from slightly acidic in the surface layer to strongly acidic in the subsoil.

Forward sandy loam is on rounded hills in the northeastern part of the county. Depth to cemented tuff ranges from 20 to 40 inches. This soil is well drained, runoff is slow, permeability is rapid, and the available water holding capacity is low.

*Suggestions* –For soil moisture issues in the garden area, raised beds are the simplest way to alleviate this problem. By adding composted soil to a garden bed all moisture will be held in. They also will keep pathway weeds from your garden soil, prevent soil compaction, and serve as a barrier to pests such as slugs and snails. By raising the soil level, raised beds also reduce back strain when bending over to tend the bed and they can be made with relative ease.

If you have any questions about the information provided please contact me. For additional information and links be sure to check out our website at -

<http://www.tehamacountyrcd.org/>

Thank you for your participation,

Kevin Greer

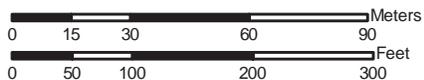
TCRCD 527-3013 x 102

kevin@tehamacountyrcd.org

Soil Map—Shasta County Area, California



Map Scale: 1:1,890 if printed on A size (8.5" x 11") sheet.



## MAP LEGEND

 Area of Interest (AOI)	 Very Stony Spot
 Soils	 Wet Spot
 Area of Interest (AOI)	 Other
 Soil Map Units	<b>Special Line Features</b>
<b>Special Point Features</b>	 Gully
 Blowout	 Short Steep Slope
 Borrow Pit	 Other
 Clay Spot	<b>Political Features</b>
 Closed Depression	 Cities
 Gravel Pit	<b>Water Features</b>
 Gravelly Spot	 Oceans
 Landfill	 Streams and Canals
 Lava Flow	<b>Transportation</b>
 Marsh or swamp	 Rails
 Mine or Quarry	 Interstate Highways
 Miscellaneous Water	 US Routes
 Perennial Water	 Major Roads
 Rock Outcrop	 Local Roads
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	
 Spoil Area	
 Stony Spot	

## MAP INFORMATION

Map Scale: 1:1,890 if printed on A size (8.5" x 11") sheet.  
 The soil surveys that comprise your AOI were mapped at 1:20,000.  
 Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: UTM Zone 10N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Shasta County Area, California  
 Survey Area Data: Version 7, Sep 26, 2008  
 Date(s) aerial images were photographed: 7/1/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Shasta County Area, California (CA607)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CmD	Cohasset stony loam, 0 to 30 percent slopes	16.5	86.2%
FaD	Forward sandy loam, 5 to 30 percent slopes	2.6	13.8%
<b>Totals for Area of Interest</b>		<b>19.2</b>	<b>100.0%</b>

## Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

## Shasta County Area, California

### CmD—Cohasset stony loam, 0 to 30 percent slopes

#### Map Unit Setting

*Elevation:* 2,000 to 5,000 feet

*Mean annual precipitation:* 50 inches

*Mean annual air temperature:* 55 degrees F

*Frost-free period:* 150 to 200 days

#### Map Unit Composition

*Cohasset and similar soils:* 85 percent

*Minor components:* 15 percent

## Description of Cohasset

### Setting

*Landform:* Mountains

*Landform position (two-dimensional):* Summit, shoulder, backslope

*Landform position (three-dimensional):* Mountainflank

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Parent material:* Residuum weathered from volcanic rock

### Properties and qualities

*Slope:* 2 to 30 percent

*Surface area covered with cobbles, stones or boulders:* 2.0 percent

*Depth to restrictive feature:* 60 to 64 inches to paralithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Moderate (about 8.2 inches)

### Interpretive groups

*Land capability (nonirrigated):* 4e

### Typical profile

*0 to 18 inches:* Stony loam

*18 to 60 inches:* Stony clay loam

*60 to 64 inches:* Weathered bedrock

## Minor Components

### Aiken

*Percent of map unit:* 6 percent

### Mccarthy

*Percent of map unit:* 4 percent

### Lyonsville

*Percent of map unit:* 3 percent

### Nanny

*Percent of map unit:* 2 percent

## Data Source Information

Soil Survey Area: Shasta County Area, California

Survey Area Data: Version 7, Sep 26, 2008

## Shasta County Area, California

### FaD—Forward sandy loam, 5 to 30 percent slopes

#### Map Unit Setting

*Elevation:* 400 to 4,500 feet

*Mean annual precipitation:* 30 to 60 inches

*Mean annual air temperature:* 48 to 55 degrees F

*Frost-free period:* 200 to 300 days

#### Map Unit Composition

*Forward and similar soils:* 85 percent

*Minor components:* 15 percent

#### Description of Forward

##### Setting

*Landform:* Mountains

*Landform position (two-dimensional):* Shoulder, backslope

*Landform position (three-dimensional):* Mountainflank

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from rhyolite

##### Properties and qualities

*Slope:* 5 to 30 percent

*Depth to restrictive feature:* 22 to 26 inches to paralithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low  
to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Very low (about 2.4 inches)

##### Interpretive groups

*Land capability (nonirrigated):* 6e

##### Typical profile

*0 to 3 inches:* Sandy loam

*3 to 11 inches:* Sandy loam

*11 to 22 inches:* Loamy sand

*22 to 26 inches:* Weathered bedrock

#### Minor Components

##### Cohasset

*Percent of map unit:* 5 percent

##### Aiken

*Percent of map unit:* 5 percent

**Nanny**

*Percent of map unit: 5 percent*

**Data Source Information**

Soil Survey Area: Shasta County Area, California  
Survey Area Data: Version 7, Sep 26, 2008

**Exhibit C**

**Sample Site Plan – El Dorado County Chapter of the California Native Plant Society**

Prepared by Rosemary Carey, Sierra Nevada Yard and Garden Program on Native Plant and Water-Wise Gardening, El Dorado Chapter of the California Native Plant Society, Sept 25, 2010

This country property is set in a clearing in mixed conifers on the ridge south of downtown Georgetown. There are also many mature black oaks (*Quercus kelloggii*) and Interior live oaks (*Quercus wislizenii*) surrounding the clearing. The Georgetown Ditch runs through this property; leakage from it provides moisture for a seasonal stream which is now overrun by invasive Himalayan and cut-leaved blackberry and Scotch broom. Although this is a large lot, this report deals only with areas surrounding the south-facing home and with the driveway, which the owners would like to landscape, and with the seasonal creek channel mentioned above. Deer can enter this property, so there is deer pressure.

According to the Soil Survey of El Dorado Area, California, this parcel is right on the border between 3 soil series, with it likely being in Boomer-Sites very rocky loams, 9-50% slopes (at the flattest end of the range). Surface runoff is rapid following storm events and consequently the erosion hazard for bare soil is high. All of the plants recommended can be planted in this soil, but it would be helpful to add compost at the rate of 50% by volume to the planting hole for larger plants and mix it in well with the native soil. This organic matter will provide nutrients to the new plants as well as increase the water holding capacity of the soil.

For further information on how to make your own compost to enrich the soil refer to *Sierra Nevada Yard and Garden: A homeowner's guide to landscaping in the Sierra Nevada* on p. 129.

Almost all the suggested plants are California natives, primarily from the oak woodland and chaparral plant communities, as they are best suited to the south-facing front yard of the home and will blend in the best with surrounding vegetation and look the most natural. But they were also selected for some ornamental or wildlife habitat attribute that they bring to your landscape. At least two alternatives are given for every situation but the same plants could easily be repeated depending on your objectives. I suggest several choices, with different flowering times, for two principal reasons: so that there would be more happening in the landscaping, and to create more varied wildlife habitat, particularly for hummingbirds, berry eating birds, butterflies, and bees. Where there's room, I recommend planting at least 3 of each perennial and/or small shrub in order to account for possible mortality and because from a design perspective, the eye splits even numbers of plants into pairs; using odd numbers prevents that and looks more natural.

For planting techniques for trees and shrubs please refer to pages 132 and 133 of the *homeowner's guide*. Water each plant thoroughly before transplanting. Also water the hole thoroughly. Water again once you've placed the plant and backfilled. This kind of solicitous care in our low-humidity environment really cuts down on transplant shock. New plants can be mulched with a 2-4" layer of wood chips directly after planting to cut down on water loss from the soil surface, or certainly in the early spring. Wood chips should not touch the root crown as this area is sensitive to crown rots caused by fungal and bacterial pathogens. Remember that organic mulch absorbs a certain amount of water before it percolates down to the soil below, so adjust your watering practices accordingly. For further information on how to install drip irrigation around new plantings turn to pages 124 and 126 of the *homeowner's guide*.

Some vendors of plants are noted for your convenience, but it's not a comprehensive list. **Cornflower Farms Nursery in Elk Grove has 2 retail days coming up: October 16th and November 13th.** More information is at [www.cornflowerfarms.com](http://www.cornflowerfarms.com): click on wholesale (user id: plant; password: natives) to see current stock availability.

Native plants, especially specific cultivars, can be hard to locate. One resource is the California Native Plant Link Exchange <http://www.cnplx.info/>. This database isn't updated very frequently so it's wise to always call the listed sources before you go.

With the exception of the very tasty California wild lilac (*Ceanothus*), mostly deer resistant plants are recommended, but deer behavior and food preferences are not 100% predictable. Moreover, even normally deer resistant plants can be delicious when they first come home from the nursery: nursery fertilizing and the optimal amount of water can make them far tastier than another individual of the same species that grew wild under less than ideal conditions. So it's often a good idea to temporarily net or cage even deer resistant plants so that they can harden off as they establish in the ground. In addition to browsing and random tasting, deer can damage any young tree (including conifers) or arborescent shrub by rubbing their antlers on the flexible trunks in late summer and early fall. Opaque tree shelters and rigid mesh tree guards are sold by Peaceful Valley Farm and Garden Supply [www.GrowOrganic.com](http://www.GrowOrganic.com); 888.784.1722

For further information on how animals use native plants and other critical habitat elements, please refer to *Sierra Nevada Yard and Garden: A homeowner's guide to landscaping in the Sierra Nevada* and materials in the local El Dorado County folder, particularly *Wildlife among the Oaks*, *Backyard Conservation: Bringing Conservation From the Countryside to Your Backyard*, and *Gardening for Wildlife with Native Plants: Cultivating Nature at Home*. Brush piles and wildlife tricklers, some as simple as an extra emitter on spaghetti line filling a shallow dish set in the ground, can really increase California quail, brown and rufous-sided towhees, Pacific treefrogs, salamanders, California newts, and Western toads, among others, who visit or reside on your property. Of course more elaborate water sources for wildlife are also available. A particularly innovative one is a solar-powered 6" fountain above a traditional bird bath. The sound of the water is very attractive to birds. These bird fountains generally have an electrical backup. The price has dropped and they are now very reasonable.

The best time to plant is at the beginning of the rainy season because then plants have months in which to establish a strong root system before the stresses of the hot, dry foothill spring and summer. All of the following plants will need water once a week to get established, so this means that if winter rains are sporadic, you will need to water them. Once they are established (usually when they are about 3x the size that they were when first planted), they can live on far less water.



### **Groundcovers for the bank southwest of the home below the garden**

If the site has a lot of annual grasses, I like to lay down woven weed fabric, anchor it with u-pins, and then cut holes in it for the plants. I put wood chips over the woven weed fabric when I've got everything planted; on steep slopes, a tackifier is needed to hold the chips on the weed cloth. This way I don't have to weed in between when the plants are small. One way to stabilize a steep slope prior to planting is to use coir (coconut husk fiber) rolls, often seen on construction sites to catch sediment. Drive 2-3' long stakes through them to anchor them in. This really helps stabilize the soil so root growth can be a lot faster. The rolls just stay in place until they deteriorate, by which time the plants have grown sufficiently to anchor the soil. John Deer Landscaping in Shingle Springs carries these as well as 12' wide weed fabric.

If you are willing to install **drip irrigation**, for example, ¼" dripperline (= spaghetti line with in-line (internal) emitters) on a 12" spacing (Dura-Flo Jr is one brand) is simple to lie out and there are no external emitters which can be dislodged. These two choices get really thick so they do a better job of protecting the soil from splashing raindrops.

1. Dwarf coyote-brush 'Pigeon Point' is a reliable plant which is a medium green year-round, grows in a beautifully even habit less than 18" tall and can get more than 6' wide. It's an ideal soil holder with deep roots, so would be perfect for this 20% slope. It has a lax, undulating habit and is very fast growing. Its flowers are inconspicuous but it's a beautiful backdrop to showier plants: one designer describes it as a member of the chorus, not the star. It's also attractive just by itself. May be sheared. This one needs drip to become established, but water can be decreased after there is good coverage. Once established, this is the most carefree choice of all. Cornflower Farms
2. 'Emerald Carpet' Manzanita (*Arctostaphylos* 'Emerald Carpet') is a tidy plant of matting to mounding symmetrical growth which forms a prostrate groundcover. The slender stems are closely lined by small, shiny, dark green leaves. Pretty white bell-shaped flowers are carried in small clusters in the early spring. It is not a drought-tolerant manzanita: it needs regular watering – drip irrigation is ideal. Likes acidic soils: alkaline soil can be treated with iron sulfate to lower the pH quickly and inexpensively. Cornflower Farms, High Ranch Nursery, Front Yard Nursery

### **Drought-tolerant groundcovers**

3. Creeping sage (*Salvia sonomensis*) is a great option if you are not regularly watering as it is extremely drought tolerant once established; regular water in the summer may cause it to rot. Plants are ground hugging and the flowering stalk rises ~ 6-9" above the foliage. Flower color ranges from lavender to lavender purple and lavender blue. Bee plant. It can be collected just east of the Cameron Park campus of Marshall Hospital on Palmer Drive (growing over the curb and onto the asphalt) and rooted for outplanting or mail order through [www.laspilitas.com](http://www.laspilitas.com)
4. Closely related to #1 is 'Bee's Bliss' sage (*Salvia* 'Bee's Bliss'), which is a hybrid of creeping sage (*Salvia sonomensis*) and black sage (*Salvia mellifera*). It is an outstanding light gray groundcover with lovely periwinkle blue flowers on 1' long stalks. This hybrid reaches 1-2' tall and spreads quickly to 8' wide. Bee plants. Cornflower Farms. Another selection is *Salvia* 'Mrs. Beard.' It has a fast spread to 6' and is ~1' in height. In later years, some branches often need to be taken off at the base. Its foliage is bright spring green, with pale blue flower spikes appearing in early spring. [www.laspilitas.com](http://www.laspilitas.com)

5. Black sage 'Terra Seca' (*Salvia mellifera* 'Terra Seca') reaches 2' in height and over 6' in width. It's an early spring blooming plant with tiny whitish flowers, its mid-green leaves appear rough and are both aromatic and shiny. Be sure to prune or pinch all upright growth regularly as the plant develops in order to keep it both prostrate and leafy. Dark green color with minimal water but not recommended if dogs or children run through here as it is a bit brittle and branches can be kicked off, so it's best used in no-go areas. Very drought tolerant when established. Cornflower Farms
6. 'John Dourley' Manzanita (*Arctostaphylos* 'John Dourley'). It has beautiful blue foliage tipped with coppery bronze on the young leaves which matures to gray-blue when the leaves harden off, with the classic red stems of manzanita. It has a long blooming season of light pink urn-shaped flowers followed by wonderful purplish red berries. It is a sturdy little shrub, spreading in habit. My 2 year old plant is 20" tall x 3' wide. There is a 25 year old one in Altadena which is almost 10' across and 4' high. Cornflower Farms
7. Snowberry (*Symphoricarpos albus* var. *laevigatus*) has an upright habit and spreads by suckering stems to form open colonies. It has pink flowers and very showy white berries, beloved by wildlife. This one also functions as a **groundcover**. Lotus Valley Natives, Cornflower Farms
8. Yarrow (*Achillea millefolium*) is a low-growing rhizomatous plant with feathery leaves which spreads so can make a nice groundcover. It sends up 2' high flowering stems in summer with clusters of small white flowers, a color that goes with everything. It needs very little water to survive. Steve Dowty. The Front Yard Nursery sells a red cultivar named 'Paprika', and the 'Island Pink' form, both of which are pretty.
9. California aster 'Smart Aster' (*Lessingia filaginifolia* var. *californica*) grows to 3' high and 3' wide in a silvery mound. It reliably produces small (1") lavender "daisy" flowers with yellow centers. Deer resistant. High Ranch Nursery
10. Santa Barbara daisy (*Erigeron karvinskianus*) is a native to Mexico. It is a trailing perennial which blooms a lot with dozens of dainty lavender daisies. **It naturalizes easily and can be invasive.**
11. Mexican evening primrose (*Oenothera berlandieri*) is also a native of Mexico **and also potentially invasive.**

### **Turf substitute**

The name of the native drought-tolerant turf substitute is clustered field sedge (*Carex praegracilis*). Native to the foothills, it can take considerable summer drought or one can give it summer water for a fresher appearance. It grows in sun or shade. It gets vibrant green with the onset of winter rains. It holds up very well with traffic and can be mowed just like any lawn.

Site preparation is required prior to planting. One must first sprout weed seeds in the soil by watering the area well and when they've germinated, spray with Roundup, and then repeat this procedure a second time. An alternative way to do it is to water the area well and then lay down heavy duty black plastic and kill the seedlings that way. This procedure also has to be repeated a second time. Wait 12 days or more after the second spraying before planting. Individual plugs are available from Steve Dowty. He is the most knowledgeable source for spacing, but generally 8" -1' on center is good for estimating purposes. Order plugs ahead of need.



Plants which can be **espaliered** are the obvious choice for along the east wall of the house behind the half barrel planter. All choices except for toyon require drip irrigation. Toyon will grow much faster with drip irrigation.

1. California wild grape (*Vitis californica*) is a deciduous **vine** with clasping tendrils which will climb up an arbor. It should be on drip irrigation as it likes moist soil – the soil should never dry out during the growing season as this is a riparian species. The small edible grapes are quite attractive to birds. Autumnal foliage is usually gold or yellow. They need protection from deer until they are above browse height. The species is available at High Ranch Nursery, Cornflower Farms, and Brian Austin Nursery. In addition to the species, the following cultivars are available. They can be searched for at the California Native Plant Link Exchange referenced on page 2.

- 'Russian River' has plum red fall foliage that persists well into winter.
- 'Walker Ridge' climbs to 15' with gray-green leaves and yellow to orange-red fall color.
- 'Roger's Red' is a vigorous hybrid between California wild grape and a wine grape (*Vitis vinifera* 'Alicante Bouschet'). Its robust vines can grow to 40' long, but is easily controlled with pruning. The verdant green summer leaves of this selection turn bright crimson in autumn.

2. Western Redbud (*Cercis occidentalis*) flowers in late April, producing magenta-colored, sweet pea-shaped flowers prior to leafing out (it is deciduous). Naturally multi-trunked,

- it may be pruned into a single trunk small tree up to 20' tall. It needs occasional deep irrigation and deer protection until above browse height. The Front Yard Nursery, Cornflower Farms, Lotus Valley Natives, Home Depot Placerville for 6' standard trees.
3. Golden currant (*Ribes aureum* var. *gracillimum*) is a broad, sprawling shrub reaching as much as 10' tall. Clusters of yellow flowers bloom in early March. Combined with the glossy green, 1-2" wide leaves, they offer bright, early season color. It is fast growing on drip irrigation. Deer protection advisable until above browse height. The species (*Ribes aureum* var. *aureum*) is available at High Ranch Nursery and would work almost as well as var. *gracillimum*.
  4. Toyon or Christmas berry (*Heteromeles arbutifolia*) is an evergreen shrub which typically grows from around 6 - 9' with an equal or greater spread. This is a very tough plant that maintains a good appearance with considerable heat, such as reflected off the surface of the house. Like other members of the rose family, it is susceptible to leaf diseases if crowded, so if more than one is planted, plants should be spaced so they barely touch when mature, generally 8' or more apart. It does respond well to tip pinching and moderate pruning for shaping, but not to heavy cuts on mature branches, which can in time lead to congestion of the shoots. The red berries are very ornamental around the holidays and will be ripe enough to be collected in late December if you beat the birds. Simply ferment off the berry pulp in a glass of water and separate the seeds for planting in a porous medium, which should be kept moist. Deer resistant. Available from The Front Yard Nursery, Cornflower Farms, and High Ranch Nursery (1 gallon, 5 gallon).
  5. Howard McMinn manzanita (*Arctostaphylos* 'Howard McMinn') is grown for its clean fine-textured evergreen foliage. It can easily reach 8' in height and spread up to 15' wide, but readily accepts pruning and shearing so it can be kept to a height of 5-6' with an equal or slightly greater spread. It tolerates partial shade. Glossy green leaves completely cover the underlying branch structure of young plants. Plants naturally open up as they age and reveal the striking, twisted branching habit associated with manzanitas. White to pale pink blossoms in the spring. Needs deer protection until above browse height. Cornflower Farms, High Ranch Nursery (1&5 gal), The Front Yard Nursery

### **For replacing the dying Wild lilac (*Ceanothus*) in the front lawn**

**Medium-sized shrubs requiring drip irrigation or regular water:** both need moderate water on this exposure or low water and afternoon shade (the latter may result in less flowering.)

1. Western mock orange (*Philadelphus lewisii*) is a large deciduous shrub reaching up to 12' tall over many years, with a pleasing fountain-like growth habit. Attractive when left unpruned, it may also be cut back hard to keep it short, or even coppiced, at roughly five year intervals. White flowers appear from late spring to early summer and have a sweet fragrance reminiscent of citrus. Protect until above browse height. High Ranch sells it in 1, 3, and 5 gallons; The Front Yard Nursery.
2. California wild lilac 'Joyce Coulter' (*Ceanothus* 'Joyce Coulter') forms a dense mound up to 6' tall and 15' wide or it may be pruned into a low hedge. It has large, medium to light blue flower clusters. Summer watering is needed for good performance. This is the most deer resistant *Ceanothus* but I still recommend protection until above browse height. Cornflower Farms, High Ranch Nursery, The Front Yard Nursery

### **Small shrub**

3. Sticky monkeyflower x azalea-flowered monkeyflower (*M. aurantiacus* x *bifidus*) has the largest flowers, almost reaching 2' across. They are deeply lobed and range from buff to apricot. Summer water prolongs the flowering period. The more water it gets, the more pruning it requires to keep it compact. Deer resistant High Ranch Nursery

### **Large shrub or small tree**

4. Wild lilac 'Ray Hartman' (*Ceanothus* 'Ray Hartman') can attain 18' in height and width in three to five years. It can be pruned to be a small tree. It tolerates summer watering (in case you want to put it on a drip circuit with other natives that you're irrigating). It has sky blue flowers in spring. Needs deer protection until above browse height. Cornflower Farms.



**Perennials for Spring – Fall color for the front bed**

### **Spring-flowering perennials for sunny areas**

1. Foothill penstemon (*Penstemon heterophyllus*) is a perennial which reaches 1-3' high in bloom and is topped in late spring and early summer by shimmering multi-hued blue, purple and pink flowers. 'Margarita BOP' is a garden tolerant (=can take more water) cultivar with an extended flowering time of several months. Both the species and the cultivar are sold by Cornflower Farms.

2. Checkerbloom (*Sidalcea malvaeflora*) ½ to 1 ½ "-wide flowers resemble small hollyhocks and range in color from silver pink to dark rose, commonly with white veins. Steve Dowty
3. Douglas iris (*Iris douglasiana*) is available in colors ranging from creamy white to blue, lavender, reddish purple, and deep purple. Occasional summer water. Steve Dowty
4. Blue-eyed grass (*Sisyrinchium bellum*) is a very dainty relative of iris. The leaf blades rise from basal fan and grow 4-12" high. The six-petaled flowers range in color from pure white to violet blue. It flowers best in full sun. Steve Dowty
5. California skullcap (*Scutellaria californica*) is a rhizomatous (slowly spreading) member of the mint family. The small white snapdragon flowers are on stems about 1' high. The foliage stays green for a long time without any supplemental water. Steve Dowty
6. California poppy (*Eschscholzia californica*) is a short-lived perennial which will bloom again if cut back and then watered. Self-sows. Steve Dowty

### **Summer-flowering for full sun**

1. Hairy gum plant (*Grindelia hirsutula*) is an upright 1-3' tall perennial with 2" wide bright yellow heads. It blooms from spring well into summer. This local native is very cheerful and completely deer resistant and drought tolerant. Steve Dowty
2. California goldenrod (*Solidago californica*) is another rhizomatous plant which flowers from summer into early fall. Can spread aggressively with irrigation. Spikes of cheerful yellow flowers attract bees, butterflies and other insects. Steve Dowty
3. Tarweed (*Madia elegans*) is an annual which flowers from late spring into early fall, adding a welcome cheerful accent at a "brown" time of year. The 1" wide yellow flowers have a red ring at the base of the rays. Local native. Verne Pershing, *The Art of Gardening for plants*; seed from Hedgerow Farms
4. California milkweed (*Asclepias californica*), narrow-leaved milkweed (*Asclepias fascicularis*) and showy milkweed (*Asclepias speciosa*) are summer flowering and serve as the host for monarch butterfly caterpillars (adult butterflies also get nectar from it). Showy milkweed sold by Lotus Valley Natives
5. Western blue flax (*Linum lewisii*) is a perennial that has large, delicate, wide-open sky blue flowers on stems 12-18" tall. It's rangy out of flower, so it should be combined with other heavily leafed plants which can cover that up. Cut back after flowering. Lotus Valley Natives
6. Indian blanket flower (*Gaillardia grandiflora*): Hybrid between Texas native *G. pulchella* and Oregon native *G. aristata*. Warm-colored flower of reddish orange petals with yellow tips. Easily reseeds. Widely available: Placerville Walmart, etc.
7. Prairie coneflower or Mexican hat (*Ratibida columnifera*) is native to northeastern New Mexico. It is easy to establish and naturalizes readily. Blooms June through September with orange petals edged with yellow. Cornflower Farms
8. Chocolate flower (*Berlandiera lyrata*) is another Southwestern native that readily reseeds itself and really does smell like chocolate. Blooms early spring and summer with a yellow daisy flower.
9. Coyote mint (*Monardella villosa*) has showy dense heads of lavender-pink to purple blossoms and a pungent, mint fragrance. This compact subshrub can get to be 2' across and reach 1-3' high in bloom in late spring and early summer. Butterfly plant. Deer resistant. Steve Dowty

### **Fall-flowering for full sun**

1. Another rhizomatous plant is common or perennial aster (*Aster chilensis*). It has narrow racemes of daisy-like flowers with lavender rays and central yellow disk flowers on stems 2-3' high. This vigorous perennial spreads via rhizomes and colonizes easily so the same warning applies here as for goldenrod. Carefree. Steve Dowty.

### **Perennials for dry shade such as the east side of the house**

1. California fuchsia (*Epilobium canum*, but often sold as *Zauschneria californica*) is a subshrub which can grow in partial shade. One may buy the species or a cultivar. Here are a few of the many cultivars available: 'Calistoga' grows ~18" tall. It has the largest leaves of any of the selections, reaching 2-3" long and an inch wide. The small red-orange flowers are never profuse. 'Sierra Salmon' has an upright growth habit 8-24" tall and equally wide. The narrow leaves are blue-gray and the flowers are salmon-colored. 'Summer Snow' features broadly triangular, pale green to gray-green leaves and large, wide-open, pure white flowers. It typically reaches 3-12" high and spreads up to 3' or more. 'Everett's Choice', a perennial, typically reaches 2-4" tall and spreads from 3-5' wide. The flared orange-red flowers appear in profusion. Cornflower Farms; 'Summer Snow' is available through High Ranch Nursery, Steve Dowty for the species
2. Island alum root (*Heuchera maxima*). A California native, its flower panicles are 1.5 -3' tall, with white or cream-colored flowers.
3. *Heuchera* 'Lillian's Pink' has bright pink flowers which attract bees and hummingbirds. Use in the foreground.
4. *Heuchera* 'Rosada' is one of the best flowering perennials for dry shade. Water deeply every two weeks. Use in the foreground.
5. Yarrow (*Achillea millefolium*) is a low-growing rhizomatous plant with feathery leaves. This one spreads so only use it if that is desired: it makes a nice groundcover. It sends up 2' high flowering stems in summer with clusters of small white flowers, a color that goes with everything. It needs very little water to survive and is very deer resistant. Steve Dowty. The Front Yard Nursery sells a red cultivar named 'Paprika' which is very eye-catching.
6. Sticky or Serpentine Columbine (*Aquilegia eximia*) is larger and showier than the western columbine (*Aquilegia formosa*). It has attractive delicate foliage in a little mound. Hummingbird attractor.
7. California skullcap (*Scutellaria californica*) is a rhizomatous but not invasive member of the mint family. The small white snapdragon flowers are on stems about 1' high. The foliage stays green for a long time without any supplemental water. Steve Dowty



**FOR USE ALONG THE DRIVEWAY IN FULL SUN\***

\* All of these species could even be used along the east end of the white picket fence near the gate where there is partial shade.

### Small trees

1. Desert willow (*Chilopsis linearis*) is a fast-growing small deciduous tree which is recommended for its summer-blooming. This slender tree may reach 12-20' in height with an equal spread. A Mohave Desert native, it loves sun and heat, so plant it out in the open; it needs only occasional deep irrigation. Its flowers may be white, pink, lavender or burgundy, so check on the tag. Attractive to hummingbirds. 7' trees were being sold at the East Bidwell Home Depot last summer. This one is now being planted in parks in El Dorado Hills such as Stephen Harris Park on El Dorado Hills Boulevard. Deer resistant.
2. Western Redbud (*Cercis occidentalis*) flowers in late April, producing magenta-colored, sweet pea-shaped flowers prior to leafing out (it is deciduous). Naturally multi-trunked, it may be pruned into a single trunk small tree up to 20' tall. It needs occasional deep irrigation and deer protection until above browse height. The Front Yard Nursery, Cornflower Farms, Lotus Valley Natives, Home Depot Placerville for 6' standard trees.
3. California (Flowering) Ash (*Fraxinus dipetala*) has creamy white blossoms which resemble lilac flowers for a brief few weeks in spring. It's a broadly upright, multi-trunked tree or shrub 7-25' tall. Native to dry slopes, it does go summer dormant where the leaves drop in midsummer. Easy to grow and requires no maintenance. Local native. Deer resistant. [www.Forestfarm.com](http://www.Forestfarm.com)
4. Blue elderberry (*Sambucus Mexicana*) is another spring flowering choice, with showy clouds of creamy white flowers at the branch tips which attract bees. In summer, the glossy berries attract an incredible number of bird species. Typically multi-trunked, it can easily be pruned into a single trunked tree. It will look more luxuriant and hold its leaves longer with periodic summer water but it does not need it. Local native. Lotus Valley Natives
5. Chitalpa (xChitalpa tashkentensis) is a summer-flowering hybrid between desert willow and the non-native common catalpa tree (*Catalpa bignonioides*). There are two clones available: 'Morning Cloud' has pure white flowers with dark purple lines in the throat, while 'Pink Dawn' has pale pink flowers with a creamy throat. Both get to be 20-30' tall trees. They flower abundantly. Fast-growing. Compared to desert willow, Chitalpa are much bigger trees, have larger, pale green leaves, and produce more flowers. Deer resistant
6. Ceanothus 'Sierra Blue' gets 10-12' high with a similar spread and is known for its violet blue flowers. It is both garden tolerant (i.e., will accept summer water) and drought tolerant, a rare combination which suits it for a wide variety of situations. Needs deer protection until above browse height.

## Large Shrubs

If planted at the beginning of the rainy season, these shrubs should be capable of becoming rain-only plants, with perhaps a supplemental bucket of water once or twice a month for its first summer and fall (evaluate the plant: if it has a fresh green appearance it isn't drought stressed). Of course, if dripperline can be laid out, all plants will grow faster and look fresher with at least one hour of irrigation/week. I recommend the latter if you can.

1. Hoary coffeeberry (*Rhamnus tomentella* but often sold as *Rhamnus californica* ssp. *tomentella*). This shrub typically grows up to 8' high and serves equally well as an informal hedge or screen or can be shaped with occasional pruning or shearing as an individual specimen. Black berries look like coffee beans but are very sought after by wildlife, so typically don't last long, but the velvety, green-gray evergreen leaves are very attractive and nice to the touch. Local native. Deer resistant. Cornflower Farms, Brian Austin Nursery, Lotus Valley Natives.
2. Toyon or Christmas berry (*Heteromeles arbutifolia*) is an evergreen shrub which typically grows from around 6 - 9' with an equal or greater spread. This is a very tough plant that maintains a good appearance with considerable heat, such as reflected off the surface of the house. Like other members of the rose family, it is susceptible to leaf diseases if crowded, so if more than one is planted, plants should be spaced so they barely touch when mature, generally 8' or more apart. It does respond well to tip pinching and moderate pruning for shaping, but not to heavy cuts on mature branches, which can in time lead to congestion of the shoots. The red berries are very ornamental around the holidays and will be ripe enough to be collected in late December if you beat the birds. Simply ferment off the berry pulp in a glass of water and separate the seeds for planting in a porous medium, which should be kept moist. Deer resistant. Available from The Front Yard Nursery, Cornflower Farms, and High Ranch Nursery (1 gallon, 5 gallon).
3. Barberry (*Berberis 'Golden Abundance'*, also sold as *Mahonia 'Golden Abundance'*) flowers in the spring. It grows up to 8' tall and 6-12' wide. It spreads by rhizomes and eventually creates a dense thicket of rigid stems. In spring, abundant clusters of yellow flowers are massed on terminal shoots; purple-blue berries follow in fall. Occasional water improves appearance. Deer resistant.
4. Deer brush (*Ceanothus integerrimus*) is an upright deciduous shrub which may reach 8' tall. It's openly branched and can get 4-15' broad. Flowers are in clusters and are commonly off-white, but may be palest blue or even pure white. It's very rugged and can withstand high summer heat, drought, cold and impoverished soils. Local native. Cornflower Farms, Lotus Valley Natives
5. Buckbrush (*Ceanothus cuneatus*) needs what your site offers: well-drained soil and a sunny site. Extremely drought tolerant. It has clusters of fragrant white flowers in early to mid-spring. Local native. Protect from deer until above browse height. Cornflower Farms
6. Coyotebrush or coyotebush (*Baccharis pilularis*) is a fast-growing pioneer species which can reach 8' in height. This is a tough and very utilitarian plant. If planted at the beginning of the rainy season, it should be a rain-only plant, with perhaps a supplemental bucket of water once a month for its first summer and fall (look at the plant and you will be able to tell if this is necessary if it doesn't have a fresh green appearance). It spreads

rapidly and quickly provides food and cover for a variety of birds, mammals, and insects. Deer resistant. High Ranch Nursery (1 gal., 3 gal.); Cornflower Farms (pots 2 ½" diameter x 10" long).

7. 'Dr. Hurd' manzanita (*Arctostaphylos manzanita* 'Dr. Hurd') is a green-leaved selection by the Saratoga Horticultural Foundation. It's stockier than the species, but still arborescent. Needs deer protection until above browse height. Cornflower Farms 1gal, 5 gal.

### Medium-sized shrubs

1. Cleveland sage (*Salvia clevelandii*) is very drought tolerant: in shade it can be a rain-only plant once it's established. This highly fragrant 3-5' tall rounded shrub is the most refined looking of the California sages. In late spring it has pale blue-purple flowers. It grows fast, so prune for compactness and to promote flowering. Bee plant. Deer resistant.
2. Cleveland sage x Purple sage (*Salvia leucophylla*) hybrids: 'Whirly Blue' and 'Poza Blue' have several large clusters of violet blossoms on each stalk. They both require a bit more summer water than Cleveland sage. Prune these rapid-growing, brittle shrubs fairly hard in early fall to create a more compact habit and to promote increased flowering. Sweet fragrance. Bee plants. Deer resistant. Cornflower Farms
3. Purple sage (*Salvia leucophylla*) is also known as gray sage, for its flower color and leaf color, respectively. It can (slowly) get up to 3-5' in both height and width. It's an important nectar source for hummingbirds. Deer resistant. Cornflower Farms (their inventory sheet lists the wrong common name – just disregard that. Their scientific name correctly identifies what they are selling.)
4. California holly grape (*Berberis pinnata* 'Ken Hartman', but often sold as *Mahonia pinnata* 'Ken Hartman') is an upright shrub 4-8' tall which spreads slowly by thick rhizomes to form clumps. It can be pruned. The leaves have three to nine leaflets which are glossy, strongly crisped and red in new growth, becoming copper. Its upright stems bear 1-2" long clusters of yellow flowers, which are later followed by dark blue autumn berries with a heavy bloom of wax. Deer resistant. Cornflower Farms, High Ranch Nursery
5. Chaparral currant (*Ribes malvaceum*) usually gets about 4-6' tall with an upright, slightly rounded to vase-shaped form. It flowers quite early, in February in a thermal belt in Cameron Park and generally by early-mid March elsewhere west of Placerville. The flowers are rose to white up to half an inch broad in a cluster and open over a period of several weeks. Local native. Summer dormant and deciduous. Needs deer protection until above browse height. Cornflower Farms
6. Chaparral mallow (*Malacothamnus fasciculatus*) has pretty cupped pink flowers each up to 1 ½" across which open over a period of several weeks. This evergreen shrub grows somewhat slowly to 3-4' and then at a faster rate up to 8-10'. Can be coppiced. Rhizomatous, especially in well-drained soils. Native to Amador County. Member of the very ornamental mallow family: checkerbloom, Hibiscus, hollyhocks. Needs deer protection until above browse height. Cornflower Farms(?)
7. Silver bush lupine (*Lupinus albifrons*) produces blue to violet flowers in early spring. May be rain-only plant or only an occasional bucket of water. If silver bush lupine gets too much water throughout the summer, the growth will be rank and it will be short-lived. It's a nitrogen fixer which improves poor soils and is very easy to grow. I have seeds. Deer resistant. Lotus Valley Natives

8. California fuchsia 'Catalina' (*Epilobium canum* 'Catalina'): is a rhizomatous (=spreading), late summer and fall flowering upright subshrub which is sometimes sold as *Zauschneria californica* 'Catalina'. This cultivar can grow 2-4' tall in a single season and 5' tall if not cut back hard annually. It has inch-long soft gray leaves and an abundance of orange – red flowers, so it's a hummingbird plant. Cornflower Farms
9. California buckwheat (*Eriogonum fasciculatum*) is a smallish flowering shrub that generally forms low, spreading mounds. It has narrow needle-like leaves similar to rosemary. The flowering period may extend from spring into fall. Bees love the cream to white flowers. Deer resistant. Cornflower Farms
10. Sticky monkeyflower (*Mimulus aurantiacus*) can be a rain-only plant. It has soft orange flowers in early spring and is a great hummingbird plant. It should be pruned after flowering to keep it compact. Deer resistant. Cornflower Farms.
11. Matillija Poppy (*Romneya coulteri*) is a rhizomatous perennial which can be an aggressive spreader. Its tall stems can reach 6-10' high, so it makes a great screen. It has 6-12" wide flowers which resemble "fried eggs," the plant's nickname. Fragrant, bee plant. Needs deer protection until above browse height. Cornflower Farms

### **Perennial bunchgrasses**

1. Deer grass (*Muhlenbergia rigens*) is a very symmetrical perennial bunchgrass all radiating out from a single point. It grows from 3-6' wide and about 2' high so it makes a real statement as a specimen, either singly or in small groups. A warm season grass, its narrow flowering stalks can reach 5' high in the summer. Use to provide visual interest with its graceful leaves that bend and spill outwards like a fountain, and its spike inflorescences that move with breezes. It is very drought tolerant in the shade, and extremely long-lived. Deer grass is a good insectary plant. Ladybird beetles may over winter there, forming dense clusters in the core of the tuft. Deer resistant. Steve Dowty, Lotus Valley Nursery, Lotus Valley Natives
2. Alkali sacaton (*Sporobolus airoides*) is the other large specimen grass. This hardy grass looks like a cloud of bluish smoke hovering a few feet off the ground when it's in flower. Deer grass is larger, at 4-5' wide; a mature alkali sacaton is 3-4' wide. Warm season grass. Deer resistant. Lotus Valley Nursery; Hedgerow Farms sells alkali sacaton plugs.

### **Large trees**

1. Incense cedar (*Calocedrus decurrens*) is an excellent local native with a classic pyramidal form. It grows slowly at first, but in favorable sites it adds 2-3' in height per year once established. Deer resistant. Claude Dennis, The Front Yard Nursery
2. Sierra redwood (*Sequoiadendron giganteum*): It grows more slowly than coast redwood and needs a lot less water. It has a beautiful conical form; its dense foliage is gray green. Claude Dennis did have some 4' trees. Native to Middle Fork American River drainage, Placer County, and populations from Calaveras County south. Claude Dennis, The Front Yard Nursery
3. Blue (*Quercus douglasii*) is the oak that is adapted to the poorest soils. Tenacious and remarkably drought tolerant. Brian Austin
4. Black (*Q. Kelloggii*), or Canyon live oak (*Q. chrysolepis*) are other choices for this lot. Add compost to the planting hole for these species, as recommended in the introduction. Brian Austin

5. Roughbark Arizona cypress (*Cupressus arizonica*) is native to the Peninsular Ranges of southern California. Compact yet bushy form, fast-growing.
6. Smooth Arizona cypress (*Cupressus glabra*): Nurseries often sell it as *C. arizonica*. Excellent for hot, dry sites, fast-growing. It has strips of silvery bark that peel naturally away to reveal a gleaming cherry- or mahogany-red colored inner bark. Arizona native

### Noxious Weeds in the seasonal stream channel

1. **Himalayan blackberry (*Rubus discolor*)** p. 4,5 of the green cover, spiral bound booklet "Selected Invasive Weeds of the Central Sierra Nevada"  
This is the worst noxious weed on your property. It is extremely fast growing and will smother everything in its path. It's in your streambed, and on the slopes above it. It's critical that you kill it if you want to have more plant diversity, like sedges, rushes, grasses, yellow eyed grass, and lilies. If you don't control it, you will end up with only Himalayan blackberry.  
**What to look for:** 5 leaflets (occasionally 3)  
leaflets on the underside are much lighter (whitish) than they are on top (the word *discolor* in the scientific name means of 2 or different colors)  
canes are strongly 5 angled and stout  
**Control methods** on p 5. Expect this one to resprout because it has a lot of root vigor. Keep attacking it and you will make progress; I know of many success stories where streams that were totally overgrown, with huge arching canes, are now open and the native vegetation has come back.
2. **Bull thistle (*Cirsium vulgare*)** p. 6,7 of green cover, spiral bound booklet "Selected Invasive Weeds of the Central Sierra Nevada"  
Sunflower family plants actually have composite flowers and are capable of producing huge quantities of seeds, so don't let this one go to seed.  
**Control methods:** Spot spray with diquat or glyphosate (Round-up).
3. **Scotch broom (*Cytissus scoparius*)** p. 48, 49 of green cover, spiral bound booklet "Selected Invasive Weeds of the Central Sierra Nevada"  
**Control methods:** The best way to kill Scotch broom in the Spring is to use a weed wrench on it, available free on loan from El Dorado Chapter, CNPS, to wrench it out of the soil. Another way to kill it is to cut it at ground level in early September – October when it is drought stressed. If it resprouts then, apply herbicide to the stump.
4. **Cut-leaved blackberry (*Rubus laciniatus*)** I'm pretty sure that I remember seeing this on the slope above the stream. It's not in "Selected Invasive Weeds of the Central Sierra Nevada" so go to [www.CalFlora.org](http://www.CalFlora.org) and enter either the common name or the scientific name and then click on the photo to enlarge it so that you can get a good look at it. Cut-leaved blackberry is nowhere near as aggressive as Himalayan blackberry, so it's a weed, but not a noxious weed. If you do kill it out, you open up that moist niche for the real California blackberry (*Rubus ursinus*) with 3 leaflets to come back in and it's even milder-mannered, that is to say, slower growing, than cut-leaved blackberry, so you can have a diversity of plants along your creek.  
**What to look for:** 5 leaflets that are deeply lobed

### **Long-term stream bank vegetation**

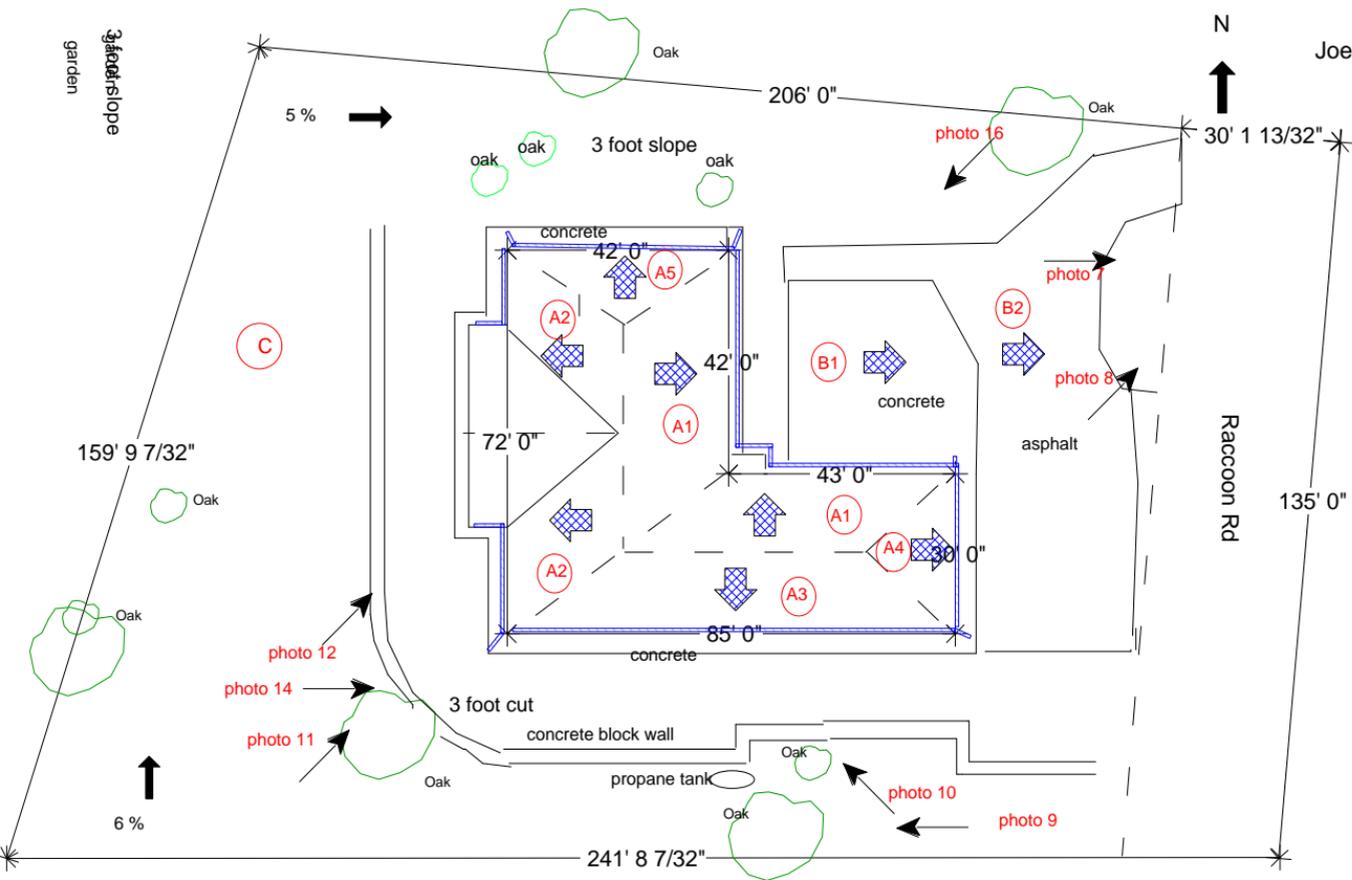
Good alternative bank covers would be snowberry, California blackberry (*Rubus ursinus*), Indian hemp (*Apocynum cannabinum*) or willow wattles (narrow-leafed willow *Salix exigua* or shining willow *Salix lucida*) on the top and thimbleberry or mugwort closer to the channel.

A second alternative would be to plant plugs of perennial grasses. The toughest species for this are Deer grass (*Muhlenbergia rigens*), California brome (*Bromus carinatus*), and blue wild rye (*Elymus glaucus*) for along the top of the slope and creeping wildrye (*Leymus triticoides*) on the lower slope just above the channel. California fescue (*Festuca californica*) and June grass (*Koeleria macrantha*) are also possibilities, especially among the tougher ones above, but they are smaller and spread slowly. Steve Dowty. If the site has a lot of annual grasses, I would spray newly germinated seedlings with Round-up in two cycles (as described in the section on native turf), wait at least 12 days, and then plant the plugs.

In the bottom of the channel, I recommend the rhizomatous Santa Barbara sedge (*Carex barbarae*). This is an excellent place for an "invasive sedge" to knit the soil together and stabilize this bank. Steve Dowty might have further ideas for you, and also ideas for what sedges and rushes to plant in the channel.

**Exhibit D**

**Sample Site Plan – Desert Mountain Resource Conservation & Development  
District**



### Joe Ciriello Site Plan

APN 486-134-19  
 3063 Raccoon  
 by Bill Wilson  
 June 2010

**Legend**

-  impervious surface
-  slope
-  gutter
-  recommendation

\* All figures and dimensions are estimates only