

DRAFT
RIPARIAN PLANTING AND MONITORING PLAN for HALE CREEK
DIAZ RESIDENCE, GRONWALL LANE, LOS ALTOS
SANTA CLARA COUNTY, CALIFORNIA
APN 336-10-038

~~March 5, 2021~~ Revised June 14, 2021

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TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	PROJECT PURPOSE AND DESCRIPTION.....	1
1.1.1	<i>Bank Erosion Mitigation</i>	1
1.1.2	<i>Riparian Planting and Tree Protection</i>	1
1.2	EXISTING CONDITIONS	5
1.2.1	<i>Watershed</i>	5
1.2.2	<i>Plant Communities and Wildlife Habitats</i>	5
2.0	RIPARIAN PLANTING GOALS	6
3.0	PLANTING DESIGN	6
3.1	CONCEPTUAL DESIGN	6
3.2	PROJECT BIOLOGIST	6
3.3	SITE PREPARATION	7
3.3.1	<i>Weed Control</i>	7
3.3.2	<i>Soil Preparation</i>	7
3.4	SEEDING.....	7
3.5	BANK PROTECTION.....	8
3.5.1	<i>Erosion Control Fabric</i>	8
3.6	CONTAINER PLANTING.....	8
3.6.1	<i>Planting Zones</i>	8
3.6.2	<i>Plant Palette</i>	9
3.6.3	<i>Plant Procurement</i>	9
3.6.4	<i>Storage and Handling of Plant Materials</i>	10
3.6.5	<i>Container Planting Techniques</i>	10
3.6.6	<i>Plant Protection</i>	10
3.6.7	<i>Temporary Irrigation</i>	10
3.7	AS-BUILT CONDITIONS.....	11
3.8	ESTABLISHMENT MAINTENANCE.....	11
4.0	MONITORING.....	13
4.1	ESTABLISHMENT MONITORING.....	13
4.2	SITE MONITORING	14
4.3	HABITAT MONITORING	14
4.4	BANK EROSION MONITORING	15
4.5	ANNUAL REPORTING	15
4.6	PERFORMANCE STANDARDS.....	15
5.0	RESPONSIBILITY AND FUNDING.....	17
	ATTACHMENT 1 – PROJECT PLANS	18

FIGURE		PAGE
	Figure 1. Project Location	3
	Figure 2. Existing Conditions.....	4

TABLE	PAGE
Table 1. Seeding Rate	8
Table 2. Container Plant Species	9
Table 3. Monitoring Schedule	12 13
Table 4. Performance Standards	15 16

ATTACHMENT	PAGE
Attachment A – Representative Photos	A-1

1.0 INTRODUCTION

Memo and Planting Plan Revisions Made in Response to Comments

The March 5, 2021, Riparian Planting and Monitoring Plan was revised as shown herein to respond to comments of Benjamin Hwang, Santa Clara County Valley Water District, contained in the April 30, 2021, letter to Patricia Diaz from Colleen Tsuchimoto, County of Santa Clara Planning Department:

7.(a) – The introduction is revised to clarify that the Valley Water provided comments rather than requirements for the Riparian Planting and Monitoring Plan, and that the Plan is responsive to those comments.

7.(b) – Sheet L-1, attached to the Plan, has been revised to show the extent of the riparian canopy in relation to the creek and proposed structure.

7.(c) – Section 3.6.3 (Plant Procurement) has been revised to state “Container stock and seeds shall be sourced from the Hale Creek watershed, or from a watershed immediately adjacent to it.”

7.(d) – Section 3.6.7 (Temporary Irrigation) and Sheet L-1 have been revised to indicate the type, duration and responsibility for the temporary irrigation system.

The Owners of the parcel located at the northeast corner of intersection of Magdalena Drive and Gronwall Lane, in Los Altos, Santa Clara County, CA (APN 336-10-038), are proposing to protect the left bank of a section of Hale Creek on their property from surface erosion, and to revegetate the left bank of the creek bank with native riparian vegetation (Figures 1 and 2).

This Riparian Planting and Monitoring Plan ~~meets the requirements of~~ responds to comments provided by the Santa Clara County Water District on an earlier set of plans.

1.1 PROJECT PURPOSE AND DESCRIPTION

1.1.1 BANK EROSION MITIGATION

The existing bank is steep as a result of high velocity discharge from the concrete box culvert and sackrete revetment that conveys Hale Creek under Magdalena Avenue immediately upstream of the project area, and from the rip-rap armoring of the opposite bank. There is no practical ability to lay the banks back (*i.e.*, to a lower gradient) without rendering the parcel unusable. Therefore, the treatment proposed consists of minimal re-contouring and backfilling of over-steepened sections using hand tools only, and covering the soil with erosion control fabric. Planting and seeding of the treated bank is described in the following section.

1.1.2 RIPARIAN PLANTING AND TREE PROTECTION

This plan describes a site-appropriate riparian plant species palette that will be planted along the bank of Hale Creek. Native riparian shrubs, trees and vines would be planted in an area of approximately 840 sf along the west bank adjacent to the proposed residence. The attached plans depict the location of the planting area, the plant species and quantities. Site preparation,

planting methods, and temporary irrigation also are addressed in this plan, as are the monitoring and maintenance requirements.

The plan also includes:

1. A schedule of monitoring and maintenance activities to be implemented for a period of three years
2. Interim and final performance criteria to assess the success of restoration
3. Adaptive management measures to be implemented if interim and final measures are not attained

In addition to the planting plan, this plan also includes measures to ensure protection and preservation of existing native riparian trees that currently anchor portions of the bank provide riparian habitat value.

Figure 2. Project Site



1.2 EXISTING CONDITIONS

The project site consists of an approximately 100 linear foot section of the west bank of Hale Creek immediately downstream of Magdalena Avenue at Gronwall Lane, including approximately 840 sf (0.019 acre) riparian planting area adjacent to the low flow channel of the creek (Figure 2 and Attachment 1). A reconnaissance survey of the site was conducted on February 12, 2021, by Wood Biological Consulting principal ecologist Chris Rogers. The entire project site was observed, including portions of Hale Creek upstream and downstream of the project area.

1.2.1 WATERSHED

The project is situated within a medium-density residential neighborhood bisected by Hale Creek, which supports the remnants of mature coast live oak-California bay riparian forest. Hale Creek originates in the foothills of the Los Altos Hills. The Hale Creek watershed, including its tributary Loyola Creek, has a drainage basin of approximately five square miles. Its source is in the Rancho San Antonio Open Space Preserve to the south of Interstate 280. Near Gronwall Lane, the creek is a series of open channel segments flowing between residential parcels and roadways, with intermittent culverts for street crossings, such as under Magdalena Avenue just upstream of the project site. Hale Creek flows for several miles through unincorporated Santa Clara County, the cities of Los Altos and Mountain View before joining Permanente Creek, which is a concrete trapezoid, vertical-sided channel, or concrete box culverts to north of Interstate 101. The lower 1.1 miles (~5,600 LF) of Hale Creek is similarly either concrete trapezoidal or vertical-sided channel or concrete box culverts under multiple road crossings.

1.2.2 PLANT COMMUNITIES AND WILDLIFE HABITATS

Coast Live Oak – California Bay Riparian Forest

Hale Creek supports an intermittent riparian tree canopy dominated by coast live oak (*Quercus agrifolia*) and California bay (*Umbellularia californica*). Other native trees and shrubs present in relatively low numbers include valley oak (*Quercus lobata*), buckeye (*Aesculus californicus*), northern California black walnut (*Juglans hindsii*), toyon (*Heteromeles arbutifolia*). Non-native trees and shrubs, including invasive and planted horticultural specimens, also include cherry plum (*Prunus cerasifera*), olive (*Olea europea*), and bamboo. The riparian understory at the project site is sparse, with California blackberry (*Rubus ursinus*) and grasses on the lower bank, and poison oak (*Toxicodendron diversilobum*) on the upper bank.

Non-Native Annual Grassland

The level terrace where the proposed house would be built supports an herbaceous plant community dominated by weedy non-native annual grasses and forbs. The site appears to receive annual mowing or weed-whacking for fire fuel reduction. Few native plants, if any are present on this part of the parcel.

Aquatic Habitat

Within the study reach, Hale Creek is a narrow and steeply incised channel with coarse gravel and silty substrate. The project reach may be perennial or nearly so, dependent on urban runoff. Hale Creek is classified as Riverine, intermittent, streambed, seasonally flooded according to the National Wetland Inventory (USFWS, 2020; Cowardin, 1979). Vegetation is present on the banks above the scour line (i.e. ordinary high water mark), but the bed is absent of vegetation.

Hale Creek is a tributary to Permanente Creek, and neither is considered to support steelhead (Leidy *et al*, 2005; Gary Stern, NMFS, pers. comm. 2020).

2.0 RIPARIAN PLANTING GOALS

The goals of the planting and monitoring plan are to:

- Meet the County guidelines for erosion control consistent with County's *User Manual: Guidelines and Standards for Land Use Near Streams* (date).
- Plant approximately 840 sf of the creek bank with native riparian plant species to mitigate erosion of the creek bank.
- Construct the project in an environmentally sensitive manner, avoiding adverse effects to the creek channel and riparian habitats upstream and downstream, and minimizing disturbance to native wildlife.
- Perform survivorship and growth monitoring for three years following planting.
- Submit monitoring reports to the County.

3.0 PLANTING DESIGN

3.1 CONCEPTUAL DESIGN

This plan describes planting of site-appropriate riparian plant species that will be planted between the top of bank and the toe of slope of the creek bank (approximately 840 sf; 0.019 ac). This section of bank is steep and supports minimal vegetation. To prevent further erosion exacerbated accelerated flows through the upstream box culvert and the rock slope protection on the opposite bank, the exposed soil would be covered with two layers of erosion control fabric and then planted with native riparian shrubs and vines. The erosion control fabric will provide a more stable and non-erosive substrate allowing the plantings to persist. Subsequently, establishment of root systems of these plants will help to minimize continued erosion the slope. No mature riparian trees will be removed as part of the project. The proposed approach will restore the creek bank to its likely historic original condition, and substantially improve riparian habitat values associated with the creek.

Planting methods and temporary irrigation also are addressed in this plan, as are the monitoring and maintenance requirements. The planting plan is included as Attachment 1.

3.2 PROJECT BIOLOGIST

Monitoring of the implementation and establishment of all installed plantings shall be performed by a qualified biologist. At a minimum, the Project Biologist shall have demonstrated expertise in restoration ecology and at least three years of experience in restoration design and implementation, including experience in wetland restoration. The Project Biologist shall have the

authority to stop work or request change orders as necessary to comply with this plan and to conform to permit conditions.

The Project Biologist also shall be responsible for the performance of site monitoring, habitat monitoring, and the preparation of annual monitoring reports, as outlined in Section 4.0, below.

3.3 SITE PREPARATION

The revegetation site requires only minimal grading (hand-work only) and vegetation clearing prior to planting. To protect the planting site, implement the following actions:

- Install orange temporary construction fence around the oak trees at the top of bank near the sackrete wall to protect existing oak trees during implementation of this plan and during construction of the house.
- Install temporary silt fence along the top of bank of the northern drainage (i.e., small tributary to Hale Creek) as a barrier against material entering the creek, and to protect existing oak trees.
- Clear poison oak vines from the top of bank at the sackrete wall to minimize exposure to workers. Plants may be grubbed from behind the sackrete wall if it does not destabilize the wall.
- Clear and grub non-native olive and plum trees from top of bank. Retain native toyon if possible.
- Prune but do not grub existing blackberry on lower slope, leaving at least one inch of stem remaining above ground to be allowed to regrow through erosion fabric.
- Using hand tools, lay back the upper-most vertical scarp to more closely match slope gradient of the mid and lower slope.

3.3.1 WEED CONTROL

Over the course of the monitoring period, the need for weed control may be noted by the Project Biologist on an annual basis and as monitored by Applicant. Highly invasive non-native plant species can inhibit the successful establishment of native riparian species, reduce the habitat values of the restoration project, and have deleterious impacts on habitat values in the riparian corridor. Species that may be problematic over the course of the monitoring period may include non-native Himalayan blackberry (*Rubus armeniacus*), periwinkle (*Vinca major*), and English ivy (*Hedera helix*). These species will be targeted for removal from the project site if they become problematic.

3.3.2 SOIL PREPARATION

Soil onsite is native to the site and the riparian environment. No topsoil amendments are necessary for planting. Mycorrhizal amendments are to be added to container plantings as described in Section 3.4.5, below.

3.4 SEEDING

An erosion control seed mix shall be applied to the 840 sf creek bank area prior to installation of erosion control fabric.

- Seed shall be sourced from as close to the project watershed as possible to meet the intent of the County's *User Manual: Guidelines and Standards for Land Use Near Streams*. Prior to purchasing seed, Contractor shall inquire with seed suppliers for local biotypes, and shall retain records of the purchased seed.
- No substitutions shall be made without approval by the Project Biologist.
- Seed shall be applied by hand at a rate not less than 44 lb/acre. Gentle raking to roughen the soil surface may be done prior to seeding, or immediately after seeding to ensure full contact between seed and soil, but must avoid excessive soil disturbance and allowing
- Seeding shall consist of a mix of native grass and legume selected for erosion control, and shall consist of the species and quantities shown in Table 1:

Table 1. Seeding Rate

SPECIES	SEEDING RATE
California Brome <i>Bromus carinatus</i>	25 lb/ac
blue wildrye <i>Elymus glaucus</i>	10 lb/ac
small fescue <i>Festuca microstachys</i>	6 lb/ac
tomcat clover <i>Trifolium wildenovii</i>	4 lb/ac
Total	44 lb/ac

3.5 BANK PROTECTION

3.5.1 EROSION CONTROL FABRIC

Following site preparation, a double layer of 100% biodegradable erosion control fabric will be installed on the creek bank as shown on Sheet L1 of planting plan, and according to the details and notes on Sheet L2. No synthetic materials are allowed, such as microfilament mesh.

3.6 CONTAINER PLANTING

3.6.1 PLANTING ZONES

Planting will occur in three zones, as depicted on planting plan Attachment 1), and described here:

- Lower Slope consists of the lower 4-5 feet of creek bank, above the toe of slope and the low-flow channel. This zone will be planted with California blackberry and creek dogwood.
- Upper slope consists of the upper 3-4 feet of the creek bank, between the lower slope and the top of bank. This zone will be planted with California rose and mugwort.
- Top of bank consists of the transition between the bank and the level terrace (building site). Toyon and buckeye will be planted along the top of bank.

3.6.2 PLANT PALETTE

Container plants will be used for trees, shrubs and vines. The species, quantities, container size and planting notes for all container plantings are summarized in Table 2. Container plants shall be installed as shown on the planting plan (Attachment 1). Species have been selected based on their natural occurrence in the Hale/Magdalenena Creek watershed, their availability in native plant nurseries, and their adaptability to site conditions.

Table 2. Container Plant Species

COMMON NAME	SCIENTIFIC NAME	QTY ¹	SIZE ²	PLANTING NOTES
California blackberry	<i>Rubus ursinus</i>	65	Supercell	3' o.c.; no browse protection.
California buckeye	<i>Aesculus californica</i>	2	5 gal	spacing as shown on plan; irrigate.
toyon	<i>Heteromeles arbutifolia</i>	2	5 gal	spacing as shown on plan; irrigate.
California wild rose	<i>Rosa californica</i>	20	D-40	5'o.c.; irrigate
creek dogwood	<i>Cornus sericea</i> ssp. sericea	5	1 gal	spacing as shown on plan
mugwort	<i>Artemisia californica</i>	24	Supercell	2-3' o.c.; irrigate.
Total Plantings		104		

Notes: ¹ The performance standard (see Section 4.6) is based on survival of these quantities.

² Minimum container sizes are listed; actual sizes will depend on availability. Supercell = 1.5" dia. X 8.25" deep; D-40 = Deepot 40 (2.5" dia x 10" deep, 40 cu. in.)

3.6.3 PLANT PROCUREMENT

Container stock and seeds shall be sourced from the Hale Creek watershed, or from a watershed immediately adjacent to it~~from local Bay Area sources only~~; exceptions are only permitted with approval of the Project Biologist. The use of Southern California seed sources is not acceptable due to the potential for the application of non-locally adapted strains and for contamination by non-desirable species. If certain species of plants cannot be obtained, alternate size containers may be proposed by the Contractor for approval by the Project Biologist.

- All plant sources shall be from parent propagules collected from the Hale Creek / Magdalena creek watershed if feasible. If not feasible plant stock shall be from Santa Clara County, or shall otherwise be approved by the Project Biologist.
- If appropriate lead time allows, all plant material shall be “clean cultured plants” to prevent infection and transmission of plant pathogens, such as *Phytophthora*. Procure plant material only from nurseries with Best Management Practices (BMPs) in place to exclude *Phytophthora* and other plant pathogens, and to detect and correct problems if they are if possible, select nurseries that implement BMPs equivalent to or more stringent than those identified by the California Oak Mortality Task Force, and nurseries which are

tested annually by USDA APHIS for *P. ramorum* infection with negative results. Inspect all purchased plant material before leaving the nursery and accept only plants that appear healthy.

3.6.4 STORAGE AND HANDLING OF PLANT MATERIALS

The extent of hardening-off shall be appropriate to the season of the year when planting occurs as needed. At the time of installation, the Applicant shall inspect deliveries for correct species and quantities, health, vigor, root growth, growth and form; all plant materials shall be visibly free from pests and diseases. Once installed, the Applicant shall be responsible for replacing any plants deemed by the Project Biologist to be inconsistent with the plans. Applicant shall not be prohibited from planting additional plants in the area as long as the proposed planting scheme is executed at a minimum.

3.6.5 CONTAINER PLANTING TECHNIQUES

- Native plantings are most successful when installed in during winter, between November 15 and January 15, when temperatures are low, solar radiation is low, and the rainy season is underway. The physiological state of the plants is optimal during the fall and winter; therefore overall restoration success is enhanced by adhering to appropriate planting schedules where possible and depending on permitting approval time.
- Container planting shall be installed into installed erosion control fabric by carefully cutting the netting and folding the edges under.
- Carefully excavate planting holes and prevent soil from entering the creek. Planting holes shall be no deeper than the container and twice as wide.
- The soil and rootballs of the container plants shall be loosened and inserted into prepared holes in the topsoil, and lightly tamped into place.
- Each tree shall receive two mycorrhizae planting packets; shrubs shall each receive one packet.
- Because of the steep slope, watering basins will only be created for toyon and buckeye planted at the top of bank.
- On the day of planting, all plants shall be thoroughly watered, regardless of soil moisture conditions. The Applicant shall inspect all container plantings for signs of water stress no more than three days after installation and provide a record to the Project Biologist.

3.6.6 PLANT PROTECTION

The project site is subject to browsing and antler rubbing by deer, therefore installation of anti-browse cages is specified for trees and shrubs, excluding California blackberry, California wild rose, mugwort and dogwood. It is the responsibility of the Applicant to replace any trees or shrubs that are damaged and not able to recover or survive due to damage.

3.6.7 TEMPORARY IRRIGATION

To ensure successful establishment of all container plantings, a temporary automatic [drip irrigation system](#) shall be installed [at grade by the Landscape Contractor](#). Irrigation shall be supplied [to all planted trees and shrubs](#) for up to three years after planting.

The irrigation system shall be installed, flushed, tested and functional prior to the installation of the plants, and shall be operational immediately following plant installation. The irrigation system shall be multi-zone, with ~~an~~ adjustable electronic timers to ensure regular watering and to vary duration and frequency according to the season, from April 1st through October 31st. Additional watering will be required if less than ½-inch of rain falls during any six-week period between December and February. As guideline, typical irrigation rates should be 1 to 2 gallons per plant, once or twice per week, but shall be adjusted according to weather conditions and the needs of plant species and individual plants. The top ½-inch of soil should be dry to avoid fungus growth. Drip irrigation shall be applied with a 2-gallon per hour emitter at each plant, except for 5-gallon and larger sized containers, which shall have two evenly-spaced emitters each. Emitters shall be placed halfway between the trunk and the edge of the planting hole to prevent fungal infection at the base of the trunk. Over-watering of oaks in late summer shall be avoided to prevent root rot and attracting gophers and other animals.

The Applicant shall be responsible for maintaining the irrigation system during the guarantee period and making certain that plants are neither under watered nor over watered. Applicant shall be responsible for guaranteeing survivorship of all installed plantings for one full year after installation and maintaining the proper function of the irrigation system.

3.7 AS-BUILT CONDITIONS

Upon completion of the planting, a post-construction “as-built” report shall be prepared and submitted to the County within 45 days of completion of work. The as-built report shall include before and after photographs of the planting area, a final planting statement showing or confirming the as-built condition, and shall provide verification by the Project Biologist or Applicant that the plan was properly implemented.

3.8 ESTABLISHMENT MAINTENANCE

Establishment maintenance of installed plantings includes irrigation, plant replacement, erosion control, maintenance of the temporary irrigation system, weeding, debris removal, pest management, plant and site protection, and remedial actions. Establishment maintenance shall be conducted by, and is the sole responsibility of the Applicant during the remainder of the monitoring period. Establishment period shall be three years, unless high mortality of plantings requires their replacement and re-initiation of the establishment period for replaced plants.

During the establishment period, the Applicant shall monitor site conditions affecting plant establishment and make periodic reports to the Project Biologist if any withering, disease or browsing damage is observed. Responsiveness and proper implementation of recommended repairs and maintenance by the Applicant shall also be noted and reported. Depending on site observations, irrigation scheduling, erosion repair, weeding, pest control, or other maintenance recommendations may be made. During the establishment period, weeds shall be removed three times each year (April, May and June) within a 3x3 ft area around the base of each planted tree and shrub. Weeds shall be pulled by hand, bagged and disposed of at an acceptable off-site location.

The Applicant shall perform a site inspection regularly and document quarterly inspection observations starting immediately after completion of installation of all plant materials. During the one-year establishment maintenance period, the Applicant shall promptly replace dead plants with the same species and size as specified in this revegetation plan. Any substitutions of species shall only be made if original species is unobtainable or not suited for the environment, and this must be documented in project record.

Growth of all plant materials shall demonstrate a trend toward healthy and successful establishment. Survivorship of all container plantings shall be 100% at the end of the one-year establishment maintenance period. If minimum survivorship is not met on the first annual inspection (4th quarterly inspection), dead plants shall be replaced at a 1:1 ratio at the Applicant's expense. Applicant shall also document most likely cause of death and remediation to prevent death in the remaining monitoring period.

4.0 MONITORING

Pending approval of this Riparian Planting and Monitoring Plan, monitoring of the revegetation effort will be conducted for a total of three years, pursuant to permit conditions. The revegetation and monitoring effort includes the following elements:

- Establishment monitoring
- Site monitoring
- Habitat monitoring
- Bank erosion monitoring
- Annual reporting

Monitoring of the revegetation effort shall be conducted by the Project Biologist. The monitoring schedule is provided in Table 3, below.

The Project Biologist will monitor the implementation and establishment maintenance of the revegetation effort, as outlined below, and prepare annual reports documenting the revegetation effort for submittal to the County (see Section 4.5, below).

Table 3. Monitoring Schedule

Task (Responsible Party)	Time Period
As-built drawings and report (Project Biologist)	To be submitted to County within 45 days after completion of planting
Establishment Monitoring (Applicant)	Periodically with final report at 365 days.
Site Monitoring (Applicant)	Early Summer, years 1–3
Habitat Monitoring (Project Biologist)	Early summer, years 1-3 starting with planting date.
Annual Reporting (Project Biologist)	To be submitted to County no later than Dec. 31, years 1-3 starting with planting date.

4.1 ESTABLISHMENT MONITORING

It will be the responsibility of the Applicant to ensure that this revegetation plan has been properly implemented, that the specified species, container sizes and quantities of plant materials have been properly installed, that all irrigation systems are functioning properly, and that all reasonable measures have been taken to ensure the successful establishment of plantings. The Applicant shall be responsible for the maintenance of the revegetation area for a period of at

least one year following the installation of all plant materials. Maintenance includes but is not limited to the control of invasive non-native plant species, removal of debris, proper functioning of irrigation systems, and replacement of dead plantings. The Applicant shall, at a minimum, conduct routine site inspections at least quarterly and document in Project Log. The Applicant will inspect the site nine months after construction, to evaluate the need for any remedial measures prior to the end of the one-year maintenance-monitoring period. At the end of the maintenance-monitoring period, the Applicant will perform a final inspection to determine if all obligations have been fulfilled.

4.2 SITE MONITORING

The objective of site monitoring is to evaluate growth of the plantings during the establishment period, identify conditions that threaten the success of the restoration effort and to identify the need for remedial measures. The Applicant will perform site monitoring annually and document findings in the Project Log. Annual site visits will be conducted during the early summer over the three-year monitoring period.

During site monitoring visits, the Applicant shall note plant mortality, vandalism, establishment of invasive species, erosion, or other issues potentially affecting the success of the revegetation plan. Photographs shall be taken periodically from established points for annual comparison. The Applicant shall prepare a summary of observations and recommendations to be included in the annual monitoring reports (see Section 4.5, below).

4.3 HABITAT MONITORING

The objective of habitat monitoring is to collect annual plant growth data for evaluating whether or not the success criteria have been met (see Section 4.6, below). Habitat monitoring of plantings in the revegetation area will be performed once annually (during early summer) for three years following planting. Habitat monitoring will consist of the collection of quantitative data on plant growth.

During the early summer site visits, all plantings will be counted, and the quantity and species of each dead plant will be noted.

Photographs showing an overall view of the revegetation area shall be taken at permanent static photo points during each visit. Additional information to be recorded may include subjective observations regarding the health and establishment of the plantings, natural recruitment of native and non-native species, areas of significant die-off, diseases, impacts from high winter stream flows, human impacts, and recommendations for remedial actions, if necessary.

This method is intended to provide sufficient data for the County to evaluate compliance, while representing a reasonable and appropriately-scaled level of field effort.

4.4 BANK EROSION MONITORING

The condition of the planted bank will be monitored for three years to assess whether additional erosion control is needed to improve planting success within the project reach toward meeting the objective of mitigating the effects of urbanization and opposite bank rip-rap on bank erosion and preventing the proposed new house from being compromised. Any surface erosion, bank slumping, undercutting, substantial changes in sinuosity, formation of knickpoints or headcuts, or excessive sediment deposition within the channel will be assessed as possible indications of need for rip-rap slope or a retaining wall. Dimensions of the channel also will be documented, including width of the low-flow channel, width of the top of bank, depth of the channel and changes in cross-sectional area, if any. Some amount of bank surface erosion is expected or natural in an incised stream with urbanized hydrology and culvert outfalls, and rip-rap encroachment on the opposite bank, etc. Photos will be taken from repeatable locations to compare bank condition between subsequent annual monitoring events. All findings and data shall be documented for annual reporting.

4.5 ANNUAL REPORTING

Site monitoring observations and the results of the habitat monitoring effort will be presented in annual reports. Reports will be prepared annually and submitted to the County and no later than December 31 of each year, for a total of three reports. The reports will describe conditions on site, present a summary of the monitoring data, identify problems, and outline any remedial measures implemented or needed. The reports will include photographs of the revegetation area and representative species. The first annual monitoring report will include a copy of the as-built report, as well as verification from Applicant that all plantings have been properly installed.

4.6 PERFORMANCE STANDARDS

The revegetation effort shall be considered successful if, at the end of the three-year establishment period, the plantings are self-sustaining (*i.e.*, able to survive without supplemental irrigation or human intervention), and plant survivorship and growth observations illustrate a positive trend. A summary of the performance standards, pursuant to permit conditions, is presented in Table 4, below.

If performance standards have been met by the end of the three-year monitoring period, the revegetation effort shall be considered successful and no further monitoring or remedial measures shall be required. If performance standards have not been met, remedial measures may be required. The County will make the final determination as to whether or not the restoration plan has been successful or what type of remedial actions may be necessary.

Table 4. Performance Standards

Performance Standard	Performance Standard Assessment	Remedial Actions
Riparian Planting Survivorship		
Native trees and shrubs shall equal at least 75% of the quantity specified in the plans at the end of year 3.	All trees and shrubs will be counted once annually. The location and species of each dead container plant will be mapped and noted. Volunteer shrubs that are native will be credited toward meeting the survival standard.	All plants that die during the one-year establishment period will be replaced. However, Applicant shall not be responsible for any plants that are destroyed by drought, city/county restrictions on plant watering, water shortage, landslides, vandalism, transfer of home ownership and project continuation by new owner, or other events reasonably uncontrollable by Applicant. If at the end of the monitoring period the performance standard is not met, sufficient trees and/or shrubs will be planted to bring the total to at least two trees and 75% of the shrubs originally planted. Temporary drip irrigation shall be restarted if needed.
Planting shall be well established enough to survive without irrigation by the end of year 3.	The temporary drip irrigation will be turned off by the end of the third growing season following planting.	If survivorship and plant vigor is poor at year 3, then irrigation will be continued until plant can survive without irrigation for additional years until objectives are met. If plants are well-established prior to end of year 3, drip irrigation shall be discontinued.
Bank Erosion Mitigation		
Channel banks within the project reach will not show signs of accelerating erosion or undercutting that would compromise the plants in the riparian planting area.	Channel condition will be documented annually during the monitoring period. Width, depth and cross section of the channel will be documented and revegetation bank areas will be monitored for damage to the plants due to erosion.	If channel banks indicate acceleration of erosion in areas that undermine the integrity of planting area, then an action plan will be developed in coordination with the responsible agencies to further mitigate erosion.

5.0 RESPONSIBILITY AND FUNDING

The responsible party for implementation, maintenance and monitoring of this riparian planting and monitoring plan is the Owner of APN 336-10-038, and will be transferred to the Owner upon sale of the property. Responsibility for execution of this plan and shall be assumed by the new owner upon the sale or transfer of the property in accordance with requirements imposed by the regulatory agencies:

Ms. Patricia Diaz

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ATTACHMENT 1 – PROJECT PLANS
