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BEFORE THE STATE WATER RESOURCES CONTROL BOARD

In the Matter of Clean Water Act Section 401 Conditional Water Quality Certification for the Faria Preserve Project in the City of San Ramon, Contra Costa County (File No. 02-07-C0805)	**Petition for Reconsideration**

INTRODUCTION

Pursuant to Title 23 of the California Code of Regulations Section 3867(c), Sierra Club petitions for reconsideration of a Clean Water Act Section 401 Conditional Water Quality Certification for the Faria Preserve Project in the City of San Ramon. The San Francisco Bay Regional Water Quality Control Board issued its final decision on July 15, 2015. As demonstrated below, the Sierra Club presented the Regional Board with an alternative site design that would avoid most of the wetlands and jurisdictional waters on the site. Neither the applicant (Faria LT Ventures, LLP) nor the Regional Board appears to have evaluated this alternative site design or explained how it is not practicable, as required under the Section 404(b)(1) Guidelines incorporated into the San Francisco Bay Basin Water Quality Control Plan. As a result, the Regional Board erred in granting the 401 Certification for the Faria Preserve Project.

1. Petitioner Information

Sierra Club
Chair, Mount Diablo Group
2410 Talavera Dr.
San Ramon, CA 94583-2226
(925) 830-1929
Attention: Jim Blickenstaff

2. Specific Action That the State Board Is Requested to Reconsider

Sierra Club seeks review of the Regional Board's July 15, 2015 issuance of a Clean Water Act Section 401 Conditional Water Quality Certification for the Faria Preserve Project in the City of San Ramon, Contra Costa County, attached hereto as Exhibit A.

3. Date of Certification Action

July 15, 2015.

4. Full and Complete Statement of Reasons Why the Certification Action Was Inappropriate and Improper

INTRODUCTION

The Regional Board cannot issue a 401 certification for a project that proposes to fill wetlands unless the applicant clearly demonstrates that the project is the "least environmentally

damaging practicable alternative" ("LEDPA"). The Faria Preserve Project—a 740-unit residential development on the largest remaining undeveloped open space in the City of San Ramon—will fill 1.11 acres of wetlands and 2,306 linear feet of waters of the United States. However, the applicant has not and cannot demonstrate that the Faria Preserve Project is the LEDPA. In fact, the Sierra Club developed a viable alternative that would significantly reduce impacts to wetlands and still allow for substantial development at the project site. The Regional Board apparently did not consider this alternative, and the project applicant failed to show that it would not be viable. Consequently, the State Board must set aside the 401 Certification for the Faria Preserve Project.

A. Project Description

Faria LT Ventures, LLC proposes to construct a large-scale residential development project on a 456-acre property located in the City of San Ramon. Exhibit A, at 2. The currently undeveloped site consists of moderately steep, southeast facing slopes and ravines. Habitats on the property are characteristic of the East Bay foothills, with large expanses of non-native annual grassland habitat and dense stands of oak and bay woodland in the ravines. Within the Project site, several smaller tributaries flow across the slopes connecting to two main drainage channels. These drainages are deeply incised and contain flowing water on a seasonal basis. They support primarily oak and bay woodland habitats with scattered occurrences of willow thickets. In addition, several springs or seeps exist along the primary drainage located in the center of the Project site. *Id.* at 2-3. According to the jurisdictional delineation, the site contains sensitive habitats including 2.99 acres of seasonal wetlands, and 3.71 acres of ephemeral drainage. *Id.* at 2. As noted by the Regional Board in 2006, "the water resources found at the Faria site provide important functions and habitats that are becoming increasingly rare locally as well as around the state." Exhibit F, at 2. The site also contains designated critical habitat for the federally threatened California red-legged frog and Alameda whipsnake. Exhibit B, at 3.

The Project would include 740 residential units in a range of housing types and prices, together with public street expansion, interior roads, utilities, other related infrastructures, water quality ponds, and community facilities including a park and house of worship. This

infrastructure would impact 141 acres. Exhibit A, at 2. Development of the eastern portion of the site at the proposed densities (approximately 8 units/acre) would require extreme quantities of earthwork—on the order of 4 million cubic yards of cut/fill in order to "flatten" the ridgeline to a buildable slope and an additional 2 million cubic-yards in corrective grading (to stabilize the local area). Exhibit C, at 9. Instead of hauling this fill off-site, Faria LT Ventures proposes to fill the central drainage channel. Exhibit A, at Figure 7.

Because this substantial amount of grading and earthwork will permanently fill or impact 1.11 acres of seasonal wetland habitat and 2,306 linear feet of ephemeral/intermittent drainage channel habitat, Faria LT Ventures sought authorization from the Regional Board for a Clean Water Act Section 401 Conditional Water Quality Certification. Exhibit A, at 1. Jurisdictional impacts will include the placement of approximately 16,620 cubic yards of fill consisting of earthen fill, rock riprap, and concrete into jurisdictional wetlands/waters in association with proposed development activities. *Id.* at 5-6.

In support of its application, Faria LT Ventures completed a U.S. Army Corps of Engineers 404(b)(1) Alternatives Analysis (Revised) for the Faria Preserve Development Project (December 2014) ("Alternatives Analysis"), attached hereto as Exhibit B. This document purports to justify the Faria LT Ventures' conclusion that the Faria Preserve Project is the LEDPA. *Id.* at 3 However, on May 15, 2015, the Sierra Club submitted an alternative site development plan to the Regional Board demonstrating the feasibility of constructing a less impactful alternative, while still allowing for significant development. Exhibits C and D.

Without providing any additional analysis or even a response to the Sierra Club's proposal,[1] the Regional Board approved a 401 Certification for the Faria Preserve Project on July 15, 2015. Exhibit A. The Regional Board rotely concluded:

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[1] Sierra Club submitted a public records act request for all records related to the Regional Board's 401 Certification for the Faria Preserve Project on July 21, 2015. *See* Exhibit J. As of August 12, 2015, Sierra Club has yet to receive responsive documents. To the extent these responsive documents and/or the Regional Board administrative record contain an analysis of the Sierra Club Alternative, Sierra Club requests the opportunity to respond to these documents prior to a decision on this Petition for Rehearing.

> The wetland fill associated with the project was evaluated in the [Alternatives Analysis]. A number of site development alternatives were considered in the [Alternatives] Analysis, and several additional site plans were considered including those with fewer wetland impacts than included in the proposed Project. The [Alternatives] Analysis concluded, and the Water Board concurs after review of these additional site plans, that there are no practicable alternatives that would have less adverse impacts to the aquatic ecosystem than the proposed Project.

Exhibit A, at 4.

B. The Faria Preserve Project Is Not the Least Environmentally Damaging Practicable Alternative.

1. Under the Section 404(b)(1) Guidelines, the Applicant Must Prove that a Less Damaging Alternative Is Not Practicable.

Strong state policy discourages projects that require filling wetlands and drainage channels. *See* Governor's Executive Order W-59-93 (establishing the California Wetlands Conservation Policy to ensure "no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage"); Senate Concurrent Resolution No. 28 ("It is the intent of the legislature to preserve, protect, restore, and enhance California's wetlands and the multiple resource which depend on them for the benefit of the people of the state.").

The Section 401 certification process requires the state to certify that any dredge and fill permit issued by the U.S. Army Corps of Engineers pursuant to Section 404 will comply with water quality standards established by the state, including Basin Plans. The San Francisco Bay Basin Plan provides that the Regional Board cannot permit the filling of wetlands or other jurisdictional waters unless the project complies with EPA's Section 404(b)(1), "Guidelines for Specification of Disposal Sites for Dredge or Fill Material." *See* San Francisco Bay Basin Water Quality Control Plan, Section 4.23; *see also* Exhibit A, at 4; Exhibit F, at 3. These Guidelines state that "no discharge of [] fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic system." 40 C.F.R. § 230.10.

In discussing the LEDPA, the Section 404(b)(1) Guidelines create two presumptions to discourage developers from requesting permits to fill wetlands. First, when an activity is not water dependent (such as a housing development), the Regional Board must presume that practicable alternatives that do not involve the filling of wetlands are available, "unless clearly

demonstrated otherwise." *Id.* § 230.10(a)(3). Second, the Regional Board must presume that all practicable alternatives that do not involve the filling of wetlands "have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise." *Id.*

Consequently, when faced with a project alternative that would reduce the filling of wetlands, the applicant bears the burden of providing "detailed, clear and convincing information *proving* that [the] alternative with less adverse impacts is impracticable." *Greater Yellowstone Coalition v. Flowers*, 359 F.3d 1257, 1269 (10th Cir. 2004). "[I]t is not sufficient [] to consider a range of alternatives to the proposed project: [the applicant] must rebut the presumption that there are practicable alternatives with less adverse environmental impact." *Id.* at 1269. This presumption is "very strong," requiring the applicant to make a "persuasive showing." *Nat'l Wildlife Fed'n v. Whistler*, 27 F.3d 1341, 1344 (8th Cir. 1994); *Utahns for Better Transp. v. U.S. Dep't of Transp.*, 305 F.3d 1152, 1163 (10th Cir. 2002). "As a practical matter, this [presumption] means that few, if any, dredge and fill permits will be granted for construction of housing." *Forest Properties, Inc. v. United States*, 177 F.3d 1360, 1363 (Fed. Cir. 1999).

The Guidelines clarify that an alternative is "practicable" if it is "available and capable of being done" considering "cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a)(2). The cost of an alternative may be considered, but the applicant's financial standing may not. U.S. EPA Region IX, "Wetlands Protection Through Impact Avoidance: A Discussion of the 404(b)(1) Alternatives Analysis", 9 WETLANDS 283, 295 (1989), attached hereto as Exhibit K. The term "overall project purposes" does not include "certain desired size requirements" from the applicant. *Id.* at 289. Nor shall the alternatives analysis be used "to provide a rationalization for the applicant's preferred result," that no practicable alternative exists. U.S. Army Corps of Engineers, *Permit Elevation, Hartz Mountain Development Corp.* (1989) at 6-7, attached hereto as Exhibit L.

2. Faria LT Ventures Did Not and Cannot "Clearly Demonstrate" that the Sierra Club Alternative Is Not the LEDPA.

The Regional Board's determination that "there are no practicable alternatives that would

have less adverse impacts to the aquatic ecosystem than the proposed Project" (Exhibit A, at 4) is not supported by the record before the Regional Board. As described below, Sierra Club presented an alternative site configuration that met this standard, which neither the Regional Board nor the applicant refuted. Consequently, the State Board must set aside the 401 Certification for the Faria Preserve Project.

In an effort to demonstrate its compliance with the Section 404(b)(1) Guidelines, Faria LT Ventures prepared its Alternatives Analysis.[2] This document evaluated two alternatives (Alternatives F and G) that would result in lesser impacts to jurisdictional waters/wetlands than the Faria Preserve Project. Exhibit B, at 48-49. Faria LT Ventures claims that these less impactful alternatives are not economically viable, and consequently, are not practicable. *Id.* at 36-42. While Sierra Club disputed Faria LT Ventures' dismissal of these "straw man" alternatives in a letter to the Regional Board (Exhibit C, at 5-8),[3] it also developed a previously unevaluated alternative to rebut the Faria LT Ventures' conclusion that the Faria Preserve Project is the LEDPA.

Working with a team of experts (Jared Ikeda, a land use planner; BAE Urban Economics; and Sherwood Design Engineers), the Sierra Club developed an alternative development plan that minimizes impacts on the site's wetland and riparian areas while ensuring that the project remains "available and capable of being done." 40 C.F.R. § 230.10(a)(2). Exhibits C, at 7-11; G; H; I. The Sierra Club Alternative proposes development of 414 total housing units, including 34 estate lots on the east side of the property. Exhibit I, at 1. Development on the site's west side would include 15 lots ranging between 5,900 and 4,480 square feet in size, 125 lots ranging

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[2] The Alternatives Analysis builds on an earlier document submitted by Faria LT Ventures in November 2013. That document, however, analyzed four on-site alternatives that all resulted in *greater* impacts to jurisdictional waters/wetlands. Exhibit B, at 27. Since such alternatives clearly do not satisfy the Section 404(b)(1) Guidelines requirement to evaluate alternatives with lesser impacts, the 2013 discussion of alternatives is irrelevant to the LEDPA determination.

[3] Alternative F eliminated all below market rate units. Alternative G required significant off-hauling of fill material. These characteristics made these alternatives easy for Faria LT Ventures to dismiss, without any critical consideration of whether an alternative with less impact could still meet the overall project purposes. Exhibit B, at 49.

from 4,464 to 3,268 square feet, 160 townhome units, and 80 apartment units. *Id.* Of the townhomes and apartments, 24 and 80 units, respectively, are assumed to be designated as below market rate affordable units.[4] *Id.* The Sierra Club Alternative includes a two-acre church site, and approximately 10.7 acres of parkland. *Id.* It also is designed to address all of the site's physical constraints (including soil instability, drainages, wetlands, and ridgelines) and avoids the need to off-haul a large amount of material. Exhibit H. As shown below, the Sierra Club Alternative maintains the Applicant's profit margin and meets the overall project purpose. Consequently, the Sierra Club Alternative constitutes the LEDPA for the Faria Preserve Project.

Crucially, *neither the applicant nor the Regional Board* appears to have considered the Sierra Club Alternative. *See, e.g.*, Exhibit A, at 4 (stating that the Regional Board reviewed Faria LT Ventures' Alternatives Analysis, and on that basis alone concurs "that there are no practicable alternatives that would have less adverse impacts to the aquatic ecosystem than the proposed Project."). Yet under the Section 404(b)(1) Guidelines, *the applicant* bears the burden of providing "detailed, clear and convincing information *proving* that an alternative with less adverse impacts is impracticable." *Greater Yellowstone Coalition*, 359 F.3d at 1269. Faria LT Ventures has provided no information, let alone "detailed, clear and convincing information," that the Sierra Club Alternative is impracticable. Without even evaluating the practicability of the Sierra Club Alternative, it is clear that the Regional Board's 401 Certification was inappropriate and improper.

As detailed below, the Sierra Club Alternative would reduce project impacts and is practicable (and therefore the LEDPA) under the Section 404(b)(1) Guidelines.

a. The Sierra Club Alternative Reduces Impacts to Jurisdictional Waters and Wetlands.

First, the Sierra Club Alternative significantly reduces impacts to jurisdictional waters and wetlands (impacts to 1.11 acres of wetlands are reduced to 0.40 acres; 2,306 linear feet of impacts to ephemeral drainage channels are reduced to 765 linear feet). Exhibit C, at 9. In

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[4] The Sierra Club Alternative therefore includes 25 percent below market rate units.

particular, it avoids impacts to the central drainage and riparian corridor and greatly reduces the amount of earthwork necessary to develop the site. Exhibit H, at 1-2. The Sierra Club Alternative accomplishes these objectives by maintaining existing grades along the eastern ridgeline to the maximum extent feasible, thereby drastically reducing cut volumes required by the Faria Preserve Project. *Id.* To facilitate preserving the east side ridgeline grades, larger estate lots (ranging from 0.6 to 1.5 acres) are proposed in lieu of Faria Preserve's denser, single-family residential lots and townhomes. *Id.* Faria Parkway and the housing in the central neighborhood are eliminated from the Sierra Club Alternative to avoid impacting the central drainage. *Id.*

Under the Section 404(1)(b) Guideline's second presumption, alternatives that reduce fill in wetlands are presumed to have lessened adverse impacts, unless an applicant "clearly demonstrates" otherwise. § 230.10(a)(3). The applicant has not provided *any* evidence asserting that impacts from the Sierra Club Alternative would not satisfy this presumption. Moreover, as the few wetlands and jurisdictional waters impacted by the Sierra Club Alternative would also be affected by the Faria Preserve Project, it is unclear how the applicant could show that the Sierra Club Alternative is not the less environmentally damaging. *Compare* Exhibit A, Figure 7 (401 Certification Jurisdictional Impact Map) *with* Exhibit G (Sierra Club Alternative Map).

While this analysis focuses on impacts to wetlands and other jurisdictional waters, the Sierra Club Alternative would have other environmental benefits. For example, it would protect an additional 2.8 acres of oak woodlands, reduce the amount of grading and cut and fill by 70 percent (and the corresponding air quality impacts), and provide an additional 64 acres of open space. Exhibit C, at 9; Exhibit H, at 1-2 (explaining that the Sierra Club Alternative was developed to ensure that it "does not result in other significant environmental consequences.").

b. The Sierra Club Alternative Would Be More Profitable Than the Faria Preserve Project.

The record before the Regional Board also demonstrates that the Sierra Club Alternative is practicable, or "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a)(2). Faria LT Ventures rejected earlier alternatives on the basis of cost and overall project purposes;

consequently, Sierra Club addresses these bases in turn.

BAE Urban Economics completed a profitability analysis of the Sierra Club Alternative. As their analysis explains, the Sierra Club Alternative would be *more* profitable than the Faria Preserve Project. *See* Exhibit I. With its reduced unit count compared to the Faria Preserve Project, the overall development costs are substantially reduced. Moreover, due primarily to its improved design which avoids the need for filling in the central canyon area and eliminates the connector road between the east and west sides of the Project, the "major infrastructure and earthwork" costs are reduced by approximately 60 percent for the Sierra Club Alternative. Exhibit H, at 3. As a result of this, and other cost savings, the overall development cost for the Sierra Club Alternative is approximately 43 percent less than the development cost for the Faria Preserve Project. *Id.* at Attachment 2. Due to the development cost savings, the Sierra Club Alternative would generate a gross development profit of $24.7 million, compared to the applicant's estimate of $7.0 million for the Faria Preserve Project. Exhibit I, at 4.

Consequently, Faria LT Ventures' claims that any reduction in unit count would "make the per-unit share of [Property development] costs prohibitive" (Exhibit B, at 22) is not supported by the record. To the contrary, Sierra Club has demonstrated that a somewhat smaller project with a corresponding reduction in infrastructure costs is not only practicable, but economically preferable. The applicant has not rebutted this analysis.

c. The Sierra Club Alternative Meets the Overall Project Purposes.

According to Faria LT Ventures, the basic project purpose is to "construct and operate a residential housing development with community facilities within the City of San Ramon, California." Exhibit B, at 19. It elaborates in its "overall project purpose" to include the intent to build a housing development within the "Urban Growth Boundary that meets the goals and objectives of the City's voter approved General Plan and adopted Certified Housing Element of 2004." *Id.* The Sierra Club Alternative was designed to meet these project purposes.

While Faria LT Ventures has not responded to the Sierra Club Alternative, it is likely to assert that the reduced number of units do not meet the goals and objectives of the General Plan and Certified Housing Element. *See, e.g.*, Exhibit B, at 20 (stating that the project would need to

"maximize[] the City's ability to meet the requirements set forth in the City's General Plan and adopted Certified Housing Element of 2004"), at 28 ("all of the project alternatives that would reduce the number of proposed units . . . would fail to meet the Project purpose."). The Faria Preserve Project would construct 740 units, of which 213 would be below market rate. The Sierra Club Alternative reduces the total number of units to 414, of which 104 would be below market rate. Exhibit C, at 9.

This justification should be rejected for two reasons. First, the Alternatives Analysis does not cite a single mandatory policy in the City's General Plan or Certified Housing Element that the alternatives would violate. The City has wide discretion in balancing competing goals and interests of the community, and has many General Plan policies recognizing the importance of protecting the wetland and ephemeral drainage habitats on the site. *See, e.g.*, Exhibit N, at 8-13 (Policy 8.3-I-2 states "Enhance San Ramon's creeks and riparian corridors by requiring preservation or replacement of riparian vegetation, as appropriate and in conformity with regulatory requirements. Creeks and riparian corridors provide visual amenity, drainage, and wetland and wildlife habitat."), *id.* at 8-19 (Policy 8.4-I-9 states "Preserve . . . [l]and with high biological and ecological value, including those that contain natural watersheds, wetlands, riparian corridors, sensitive natural communities, or occupied by special status plant and wildlife species."). There is no evidence that the City would reject a development with a smaller number of units than the Faria Preserve Project. *See* Exhibit B, at 38 (stating only that the City would be precluded from *reducing zoning* below the levels relied upon in the Housing Element unless it makes a showing that the reduction is consistent with the General Plan). Moreover, unlike Alternative F, the Sierra Club Alternative would further the housing-related goals of the General Plan in its provision of 104 units of below market rate affordable housing.

Second, even if the Sierra Club Alternative did not meet the goals and objectives of the City's General Plan and Housing Element—a contention belied by the above analysis—the Regional Board's LEDPA analysis would still be flawed. As explained by the Regional Board itself in 2006:

According to the DEIR, avoidance of such fill would be too expensive (due to off-

> haul costs), would result in eliminating housing called for in the Housing Element (Including affordable housing units), and would fail to provide many of the major public facilities called for in the General Plan. However, these stated reasons do not provide sufficient justification for failure to avoid the fill of wetlands under the [Clean Water Act]. If the rationale in the DEIR were correct, almost any wetland could be filled, as long as the housing placed over that filled wetland were determined to be necessary according to a General Plan, and/or if it could be marketed as affordable. Such a justification is clearly not consistent with the requirements of the [Clean Water Act], as it is not clear that other options with fewer impacts are not available for construction of new housing.

Exhibit F, at 3 (Letter from Kathryn Hart, San Francisco Bay RWQCB to Debbie Chamberlain, City of San Ramon, September 11, 2006). In other words, "the goals of a local plan do not supersede state and federal policy regarding fill of wetlands and streams." *Id.* at 8.

Finally, it is clear from the Alternatives Analysis that Faria LT Ventures' real concern about reducing the number of units relates to profitability, not compliance with the City's General Plan. *See id.* at 22 ("reducing the number of units by even a relatively small degree . . . would make the per-unit share of these costs prohibitive"), at 29 (screening criteria states that any "alternative design must be able to accommodate roughly equivalent number of housing units *which has been identified by the Applicant as providing an economically feasible project.*" (emphasis added)). Yet as BAE Urban Economics explained, the Sierra Club Alternative results in *greater* profitability as compared to the Faria Preserve Project because of its reduction in infrastructure costs. Consequently, Faria LT Ventures cannot use general statements in the City's General Plan to reject a practicable alternative that would reduce impacts to wetlands and jurisdictional waters.

CONCLUSION

The Sierra Club Alternative—which greatly reduces wetland impacts on the Project site—is a financially feasible residential development fulfilling the overall project purpose. The evidence before the Regional Board therefore demonstrates that the Faria Preserve Project is *not* the LEDPA. While the Sierra Club Alternative may not be the Faria LT Ventures' preferred or chosen alternative, that is not the standard under the Section 404(b)(1) Guidelines and the Regional Board's Basin Plan. Because the Sierra Club Alternative meets the basic project objective while reducing impacts to wetlands and ephemeral drainages, Faria LT Ventures has

not and cannot "clearly demonstrate" that the Project is the LEDPA and the 401 Certification must be set aside.

5. The Manner in Which Petitioner Is Aggrieved

The Sierra Club is a non-profit environmental organization whose members reside and recreate in and around the Faria Preserve Project site and will be directly impacted by its construction and operation. The Mount Diablo Group of the Sierra Club has advocated for the modification of the Faria Preserve Project to avoid or minimize impacts on streams, drainages, wetlands, and critical species. The Regional Board's approval of an alternative that is not the least environmentally damaging practicable alternative allows the harmful and unnecessary destruction of such resources.

6. The Specific State Board Action Requested By Petitioner

Sierra Club seeks an Order by the State Board to set aside the Clean Water Act Section 401 Conditional Water Quality Certification for the Faria Preserve Project in the City of San Ramon, Contra Costa County.

7. List of Persons Known to Have An Interest in the Subject Matter of the Petition

Petitioner Sierra Club believes that the following entities may have an interest in the Faria Preserve Project site:

Standard Pacific Homes

Lafferty Communities

Claremont Homes, Inc.

The Hoffman Company

8. Statement That Petitioner Has Sent Petition to Regional Board Executive Officer and the Applicant.

A true and correct copy of this petition was mailed via First Class mail on August 12, 2015 to the Regional Board Executive Officer at the following address:

Bruce H. Wolfe
Executive Officer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

A true and correct copy of this petition was mailed via First Class mail on August 12, 2015 to the Applicant at the following address:

Faria LT Ventures, LLC
5000 Executive Parkway, Suite 530
San Ramon, CA 94583

9. Copy of Request for Preparation of Regional Board Staff Record

A copy of Petitioners' letter requesting the Regional Board to prepare the administrative record in this matter is attached hereto as Exhibit M.

10. Summary of the Manner in Which and to What Extent the Petitioner Participated in the Regional Board Decision

On May 15, 2015, Sierra Club sent the U.S. Army Corps of Engineers, San Francisco District, a letter explaining that the proposed Project was not the least environmentally damaging practicable alternative and therefore violated the Clean Water Act. A copy of this letter is attached hereto as Exhibit C. A copy of this letter was sent to the Regional Board in May 2015.

On June 25, 2015, Sierra Club sent the Regional Board a letter stating that the 401 Certification request should be denied, as the proposed Project was not the least environmentally damaging practicable alternative. The letter asked that the May 15, 2015 letter be included as part of the record for the 401 Certification. Finally, the letter also requested a public hearing on the 401 Certification, but this request was denied. A copy of this letter is attached hereto as Exhibit D.

11. List of Exhibits

Exhibit A: Clean Water Act Section 401 Conditional Water Quality Certification for the Faria Preserve Project in the City of San Ramon, Contra Costa County (July 15, 2015)

Exhibit B: Olberding Environmental, Inc., U.S. Army Corps of Engineers 404(b)(1) Alternatives Analysis (Revised) for the Faria Preserve Development Project (December 2014)

Exhibit C: Letter from Shute, Mihaly & Weinberger, LLP to Holly Costa,

USACOE re: Public Notice 2005-296780S: Clean Water Act Section 404 Permit Application Submitted by Faria LT Ventures, LLC for Faria Preserve Development Project (May 15, 2015) (exhibits omitted)

Exhibit D: Letter from Shute, Mihaly & Weinberger, LLP to Kathryn Hart, San Francisco Bay RWQCB re: Faria Project 401 Water Quality Certification (June 25, 2015)

Exhibit E: BAE Urban Economics Memorandum re: Initial Review of Economic Analysis for Faria Preserve Alternatives (March 3, 2015)

Exhibit F: Letter from Kathryn Hart, San Francisco Bay RWQCB to Debbie Chamberlain, City of San Ramon re: Northwest Specific Plan/Faria Preserve Community Draft Environmental Impact Report SCH No. 2003022012 (September 11, 2006)

Exhibit G: Map of Sierra Club Alternative (April 23, 2015)

Exhibit H: Sherwood Design Engineers Memorandum re: Faria Preserve Sierra Club Alternative Land Use Plan – Civil and cost estimate comparison (May 4, 2015)

Exhibit I: BAE Urban Economics Memorandum re: Economic Viability of Proposed Faria Preserve Alternative Land Use Plan (April 24, 2015)

Exhibit J: Letter from Shute, Mihaly & Weinberger, LLP to San Francisco Bay RWQCB re: Public Records Act Request: Faria Preserve Water Quality Certification (July 21, 2015)

Exhibit K: U.S. EPA Region IX, "Wetlands Protection Through Impact Avoidance: A Discussion of the 404(b)(1) Alternatives Analysis", 9 WETLANDS 283 (1989)

Exhibit L: U.S. Army Corps of Engineers, *Permit Elevation, Hartz Mountain Development Corp.* (1989)

Exhibit M: Letter from Shute, Mihaly & Weinberger LLP to San Francisco Bay RWQCB re: Request for Preparation of the Staff Record (August 12, 2015)

Exhibit N: San Ramon General Plan 2030, Open Space and Conservation Element (2011)

If you have any questions regarding this petition, please contact Ellison Folk or Sara Clark at (415) 552-7272.

DATED: August 12, 2015

SHUTE, MIHALY & WEINBERGER LLP

By: _____

ELLISON FOLK
SARA A. CLARK

Attorneys for Sierra Club

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EXHIBIT A

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

Sent via electronic mail: No hard copy to follow

July 15, 2015
File No. 02-07-C0805
CIWQS Place ID: 784650
Regulatory Measure ID: 392870
Corps File No. 2005-296780S

Faria LT Ventures, LLC
5000 Executive Parkway, Suite 530
San Ramon, CA 94583

Attention: Pat Toohey (ptoohey@laffertycommunities.com)

Subject: Clean Water Act Section 401 Conditional Water Quality Certification for the Faria Preserve Project in the City of San Ramon, Contra Costa County

Dear Mr. Toohey:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff have reviewed the application materials submitted by Olberding Environmental, Inc. (the Applicant's authorized agent) (Olberding), on behalf of Faria LT Ventures, LLC (the Applicant), and received by the Water Board on July 3, 2012, for the fill of wetlands and other waters of the United States and the State for the construction of the Faria Preserve Residential Development Project (Project) in the City of San Ramon. The Project will result in permanent impacts to 1.11 acres of wetlands, 0.12 acres (2,306 linear feet (LF)) of waters of the U.S., and 2.39 acres of riparian habitat. You have applied to the U.S. Army Corps of Engineers (Corps), Regulatory Branch, for authorization to discharge dredge and fill materials to waters of the U.S. pursuant to Clean Water Act (CWA) section 404 under an Individual Permit. The Corps issued a Public Notice for the Project on March 27, 2015. You have applied to the Water Board for CWA section 401 Water Quality Certification (certification) that the Project will not violate State water quality standards.

Application: The application for the Project was received on July 3, 2012, and amended by submittal of additional and revised documents on July 1, 2014. A check for $16,582 was included with the application for the proposed fill and excavation discharge fee (see conditions for additional fee amount due). Additional application materials were received by the Water Board on December 11, 2014, and February 2 and March 13, 2015. The Project application was deemed complete on April 12, 2015. Additional remaining issues that required resolution prior to the issuance of certification for the Project were addressed in submissions provided to the Water Board on April 9 and 29, 2015. The Application documents include a *Biological Assessment for the Faria Preserve Residential Development Project* (Olberding, October 21, 2013, Amended July 2014), *Mitigation and Monitoring Plan* (Olberding, June 2014, Revised March 2015), *Long Term Management Plan* (Olberding, June 2014, Revised March 2015), *Section 404 (B)(1) Alternatives Analysis* (Olberding, December 11, 2014, Revised February 9, 2015), Project design and construction sheets *Faria Preserve, Subdivision 9342, Central*

Channel Storm Drain System Improvement Plans (Carlson, Barbee & Gibson, Inc., January 2015, *Stormwater Control Plan, Faria Preserve Project* (Engeo, April, 23, 2013, Revised March 12, 2015). The Application also includes a *Delineation of Waters of the United States* (Olberding, April 3, 2012, Revised February 24, 2015).

Project Location & Description: The following description is summarized from the application materials. The Project will construct a 141-acre residential development project on a 456-acre site located just north of the intersection of Bollinger Canyon Road and Crow Canyon Road, west of Interstate 680 (I-680), within the incorporated city limits of San Ramon. The Project site extends from the terminus of Purdue Road to Bollinger Canyon Road and is north of Deerwood Road and existing residential development (Figure 2: Vicinity Map; Figure 3: USGS Quadrangle Map). Las Trampas Ridge and open space land lies to the north. The Property is comprised of the following eight Assessor's Parcels: 208-240-005, -007, -008, -009, -039, and -048; 208-250-011; and 208-260-046.

The Project will include the following components: construction of 740 residential units; construction of a 1.5-acre house of worship site; a 2.6-acre educational facility site; a 12.9-acre community park; a swimming pool facility; a 0.7-acre rose garden; a public street (Faria Preserve Parkway) to provide access to the site from Bollinger Canyon Road and Purdue Road; installation of utilities and other infrastructure to serve the Project; construction of landscaping; and construction of storm drains and stormwater management facilities to provide urban runoff treatment and mitigation for the Project's hydromodification impacts. Additional features will include improvement of an existing access road off of Bollinger Canyon Road to provide an equestrian trailhead staging area and parking lot for the East Bay Regional Park District (EBRPD), and a road to provide vehicular access to two water tanks that will be constructed on the hill above the Project. A system of trails utilizing existing ranch roads will connect the various neighborhoods to open space lands that will be preserved as part of the Project.

Site Description: The Project site is located within the headwaters of San Ramon Creek, within its southern watershed in the San Francisco Bay 8-digit hydrologic unit code (HUC) #18050001. San Ramon Creek is part of the Walnut Creek watershed and eventually drains through the cities of Walnut Creek and Concord and then into Suisun Bay. Current elevations at the site range from a high of about 1,130 feet above mean sea level (msl) at a ridge-top peak near the center of the property to a low of about 550 feet above msl at the intersection of the proposed Faria Preserve Parkway and Deerwood Road. The property is generally characterized by open, rolling, grass-covered hills with ephemeral and intermittent creeks and associated riparian habitat. There are approximately 6.71 acres of jurisdictional wetlands and other waters on the site, with 2.99 acres of seasonal wetlands and 3.72 acres of waters of the U.S.

There are three primary unnamed ephemeral/intermittent creeks that originate on the site and flow generally southeast towards Bollinger Creek and San Ramon Creek. Two ephemeral creek channels (hereinafter referred to as Eastern Creek and shown as D-29 through D-36 on the *Numbered Delineation Map* (Olberding, March 12, 2015)) form the eastern drainage, which flows through the site until it reaches a culvert that conveys flows to San Ramon Creek on the eastern side of I-680. The Eastern Creek channels have moderately steep gradients and include numerous mature oaks along the slopes adjacent to the channels. The central intermittent creek channel (hereinafter referred to as Central Creek, and shown as D-11, D-27, and D-28 on the *Numbered Delineation Map*) drains to a culvert inlet located near the southern border of the site where a residential development is constructed on fill over the pre-existing creek alignment (near the intersection of Destiny Lane and Prestige Place). This culvert extends approximately

½ mile before it discharges to the open channel of San Ramon Creek. The Central Creek channel includes an ephemeral/perennial seep (extent of flow depends on the year) within the upper reach of the creek. Relative to the Eastern Creek channels, the Central Creek channel has a more moderate slope and supports willow riparian habitat along much of the reach, along with oak woodland. A third drainage channel and a wetland area are located on the western side of the site. These features, which are shown as D-39 and D-40, and W-36 and W-37 on the *Numbered Delineation Map,* drain through a wetland to an existing 12-inch culvert inlet at the edge of the property. From here, water is conveyed beneath the adjacent property via a pipe to Bollinger Creek. Several oak trees are located within the upper reach of this channel.

Grass and forb species that dominate the creek channel areas include rabbit's foot grass (*Polypogon monspeliensis*), loosestrife (*Lythrum hyssopifolia*), toad rush (*Juncus bufonius*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), curly dock (*Rumex crispus*), and bristly ox tongue (*Picris echioides*). Riparian habitat along the channels includes willows (*Salix* sp.) coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), California bay laurel (*Umbellularia californica*) California buckeye (*Aesculus californica*), snowberry (*Symphoricarpos albus*), poison oak (*toxicodendron diversilobum*), California blackberry *(Rubus ursinus*), coyote brush (*Baccharis pilularis*), and wood fern (*dryopteris arguta*).

Seasonal and seep wetland features are located in a number of locations throughout the site. Many of these features are associated with slope failure areas. The site has a history of extensive grazing, and cattle tend to congregate in areas that remain moist well past the growing season. As a result, the majority of the seasonal wetland and seep areas throughout non-native grasslands have been altered. Vegetation is dominated by such non-native wetland indicator species as perennial ryegrass with lesser amounts of Mediterranean barley (FACW), rabbits foot grass (FACW), Italian ryegrass (FAC), curly dock (FAC), bristly ox-tongue (FAC), and bitter dock (*Rumex obtusifolius*)(FAC), among others.

Project Details: Mass grading would occur over approximately 141 acres of the property in order to obtain appropriate grade elevations to support development. Approximately 10 acres would be set aside for future development not associated with the Project, and 1 acre would be utilized for the establishment of the EBRPD trailhead. An additional 60 acres will be temporarily impacted by grading activities, which will include stabilizing the hillsides. Approximately 2.34 acres of grading will occur in association with the construction of wetland and channel mitigation. All of the areas graded for geotechnical rehabilitation purposes, but not developed, will be seeded and allowed to remain as open space. Half of the area graded for geotechnical rehabilitation purposes, 29 acres, will remain as undeveloped land adjacent to open space and the remaining 29 acres will remain as open space adjacent to development. The area adjacent to the development is not expected to provide special status species habitat in the future.

The Project site would be developed in two phases. The first phase of development would include corrective grading, mass grading, and the completion of the road system over a period of approximately eight months during the dry season. The work area for Phase 1 is approximately 156.5 acres, and most impacts to wetlands and drainage channels would occur in this phase. The second phase would involve the remaining 10% of corrective grading, fine site grading, installation of utilities and other infrastructure, and asphalt paving for roads. This work will take place over a period of approximately eight months during the dry season in the year following Phase 1 mass grading. A portion of the onsite riparian mitigation planting would occur after Phase 2, following utility installation associated with irrigation water connections.

In addition to the fill of wetlands and other waters for the residential development, the Project will involve the construction of three inlet structures and two outfall structures as shown on Figure 7.

Avoidance & Minimization: Section 4.23, Wetland Protection and Management, of the San Francisco Bay Basin Water Quality Control Plan (Basin Plan) states that the Water Board will refer to the following for guidance when permitting or otherwise acting on wetland issues: (1) Governor's Executive Order W-59-93 (signed August 23, 1993, also known as the California Wetlands Conservation Policy, or the "No Net Loss" policy); (2) Senate Concurrent Resolution No. 28; and (3) Water Code Section 13142.5 (for coastal marine wetlands). The goals of the California Wetlands Conservation Policy include ensuring "no overall net loss," and achieving a "long-term net gain in the quantity, quality, and permanence of wetlands acreage and values… ." Senate Concurrent Resolution No. 28 states "[i]t is the intent of the legislature to preserve, protect, restore, and enhance California's wetlands and the multiple resources which depend on them for the benefit of the people of the state." The Water Board uses the U.S. EPA's Section 404(b)(1), Guidelines for Specification of Disposal Sites for Dredge or Fill Material, in determining the circumstances under which wetlands filling may be permitted. In general, it is preferable to avoid wetland disturbance. When this is not possible, disturbance should be minimized, and mitigation for lost wetland acreage and functions through restoration or creation should only be considered after disturbance has been minimized.

The wetland fill associated with the Project was evaluated in the *Section 404 (B)(1) Alternatives Analysis* (Olberding, December 11, 2014, Revised February 9, 2015)(*Analysis*). A number of site development alternatives were considered in the *Analysis*, and several additional site plans were considered including those with fewer wetland impacts than included in the proposed Project. The *Analysis* concluded, and the Water Board concurs after review of the additional site plans, that there are no practicable alternatives that would have less adverse impacts to the aquatic ecosystem than the proposed Project.

Avoidance and minimization of fill within creek channels on the Project site was also evaluated during review of the Project application. Alternative site development configurations were assessed to minimize and avoid creek fill to the extent feasible.

Impacts: The Project will result in permanent impacts to 1.11 acres of wetlands, 0.12 acres (2,306 LF) of waters of the U.S., and 2.39 acres of riparian habitat located along the banks of the Central Creek channel (121 trees consisting of willow, coast live oaks, and California bay laurels). The combined total for wetland and creek fill is 1.23 acres. Temporary fills, if required to dewater the construction area, will impact 0.01 acres of waters of the U.S.

Portions of four ephemeral drainage channels would be impacted by mass grading to construct the residential development and spine road (Faria Preserve Parkway). Approximately 1,380 LF of the Central Creek channel and 120 LF of the eastern drainage channel will be placed in underground culverts. Table 1 provides information on jurisdictional waters impacted by the proposed Project.

Table 1. Aquatic Resource Impacts		
Wetland/Waters (Type)	**Existing**	**Impacted**
Seasonal Wetland	3.29 acres	1.11 acres
Ephemeral/Intermittent Drainage Channel	3.71 acres 19,097 LF	0.12 acres 2,306 LF
Total	7.0 acres 19,097 LF	1.23 acres 2,306 LF

Seasonal Wetland Impacts: The proposed Project would require mass grading of the site, resulting in the redistribution of approximately 3,400 cubic yards of earthen fill within 1.11 acres of seep/seasonal wetland habitat located on the hillsides.

Drainage Channel Impacts: Approximately 13,205 cubic yards of earthen fill will be used to backfill 2,244 linear feet (0.1 acres) of existing drainage channel habitat at four locations on the Project site as described below. An additional 12 cubic yards of rock riprap and 3 cubic yards of concrete would be utilized for erosion control purposes at culvert outlets and outfalls along 62 LF of creek channel.

- Central Creek - Approximately 1,380 LF (0.055 acres) of Central Creek (D-11, D-27, and D-28 on the *Numbered Delineation Map*) will be impacted in association with the installation of an underground culvert pipe down the center of the development. Approximately 11,625 cubic yards of fill would be placed over a new 48-inch diameter storm drain pipe. The existing channel currently terminates at the edge of the Project property where it enters an inlet structure routing stormwater runoff underground through an existing culvert below residential development located south of the Project site.

  Following construction, stormwater runoff flowing in the central creek channel would be routed through the newly constructed 1,380-foot section of underground culvert below the development and discharged into the unfilled portion of the creek channel downstream. Flows would remain in the remnant above ground channel for approximately 400 feet prior to entering a proposed standpipe. The standpipe would be installed to allow temporary ponding of flows for hydromodification and flood control purposes prior to flows being routed into the existing underground culvert. This culvert flows below residential development and I-680 before being discharged into San Ramon Creek approximately ½ mile away. The entrance (RS#1) and exit (RS#3) of the proposed culvert in the central creek channel would be protected with placed rock riprap. Rock riprap would be installed approximately 10 LF upstream of the inlet headwall and 20 LF downstream of the outfall. This activity would require excavation of the existing channel bed to an approximate 2-foot depth at each location. The inlet would impact an area approximately 10 feet long by 2 feet wide (0.0005 acres), where the excavated channel bed would be filled with 3 cubic yards of ¼ to ½ ton rock riprap. The outfall would impact an area of approximately 20 feet long by 2 feet wide (0.0009 acres), where the excavated channel bed would be filled with 3 cubic yards of ¼ to ½ ton rock riprap. The inlet features of the standpipe (RS#5) at the lower end of the remnant creek channel would be constructed with concrete directly adjacent to the existing underground culvert

entrance. The concrete base would impact an area approximately 12 feet long by 6 feet wide (0.0006 acres), and would be used to support a metal standpipe structure. The excavation within the channel bed for this structure would be approximately 2 feet deep, and it would be filled with approximately 3 cubic yards of concrete.

- Eastern Creek - Approximately 120 LF of creek channel (D-29 through D-36 on the *Numbered Delineation Map)* will be impacted in association with the installation of an underground culvert pipe under the Purdue Road entrance to the development impacting 0.008 acres of jurisdictional waters. Approximately 80 cubic yards of fill would be placed over a new 30-inch diameter storm drain pipe. Similar to Central Creek, Eastern Creek currently terminates at the edge of the property where it enters an inlet structure routing stormwater runoff underground through an existing culvert below commercial development located east of the Project site. Following construction, stormwater runoff flowing in Eastern Creek would be routed through the newly constructed 120-foot section of underground culvert below the proposed development entrance location and continue below existing commercial development and I-680 before being discharged into San Ramon Creek approximately ½ mile away. The entrance of the proposed culvert (RS#2) would be protected with approximately 10 LF (20 square feet, 0.0005 acres) of placed rock riprap where the channel bed will be excavated to an approximate depth of 2 feet prior to being backfilled with 3 cubic yards of ¼ to ½ ton rock riprap.

- Western Creek - Discharge within the Western Creek (D-39 and D-40, and W-36 and W-37 on the *Numbered Delineation Map*) would total 1,400 cubic yards to backfill a 621-foot segment of existing ephemeral drainage with earthen fill. This activity would impact approximately 0.029 acres of jurisdictional waters. This channel is currently connected to Bollinger Creek by an underground segment of drain pipe which originates at the property boundary. Subdrain water collected from the fill area would be routed through the existing underground pipe and discharged into Bollinger Creek to the west.

- Southern Creek - The Southern Creek channel (D-41 on the Numbered Delineation Map) would be backfilled with 100 cubic yards of earthen fill along a 123-foot segment of channel impacting approximately 0.006 acres of jurisdictional waters. Subdrain water collected from the fill area would be discharged through a 24-inch pipe onto a rock riprap apron (RS#4) that will discharge flows into the natural creek channel located to the south of the Project property, between residential development on Deerwood Drive and Promontory Circle. This activity would require excavation of the existing channel bed to an approximate 2-foot depth along a 10-foot length of channel (20 square feet, 0.0005 acres). The excavated channel bed would be filled with 3 cubic yards of ½ to ¼ ton rock riprap.

All creek channels are expected to be dry at the time of construction. However, if flow is present in the channel during construction, a 3-foot-high (maximum) sandbag cofferdam with a visqueen or plastic liner would be constructed to dewater the channel; the dam would be placed across the channel in a 4 foot long by 15 foot wide maximum surface area resulting in 60 square feet (0.01 acres) of temporary impact and 12 cubic yards of temporary fill at each dewatering location. Water would be collected and pumped into a Baker tank for transport to the downstream stormwater basin and discharged via overland flow back into the creek.

Water Quality Standards: Beneficial uses and water quality objectives for the receiving waters for the Project are defined in the Basin Plan. The Project would impact seasonal wetlands and

ephemeral and intermittent tributaries to Bollinger Creek and San Ramon Creek, which are tributary to Walnut Creek, which drains to Suisun Bay. The Basin Plan identifies Walnut Creek as a significant surface water body with designated existing beneficial uses including cold freshwater habitat, fish migration, preservation of rare and endangered species, fish spawning, warm freshwater habitat, wildlife habitat, water contact recreation, and non-contact water recreation. The same beneficial uses apply to all tributaries of Walnut Creek.

Water quality objectives included in the Basin Plan for surface waters include the following: bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, population and community ecology, pH, radioactivity, salinity, sediment, settleable material, suspended material, sulfide, tastes and odors, temperature, toxicity, turbidity, and un-ionized ammonia.

In accordance with the conditions of this certification, the Applicant will implement measures both during and after construction to prevent the discharge of substances that would cause exceedance of water quality objectives in the receiving waters for the site. These measures will be implemented as part of the construction and post-construction stormwater management plans described below.

Permanent fill of the wetlands and creek channels will result in both direct fill impacts to wetlands and creeks, including riparian trees and shrubs, and indirect impacts due to watershed reduction and dry-season nuisance flows. Direct fill impacts will result in a loss of water storage, filtration of sediment and nutrients, biological productivity, groundwater recharge, groundwater discharge, flood-flow alteration, sediment stabilization and retention, nutrient removal and transformation, production export, and wildlife diversity and abundance. In addition to the direct loss of these filled areas and their beneficial uses, these impacts could result in impacts to the beneficial uses of the receiving waters downstream of the Project site.

Special Status Species: The Corps has consulted with the U.S. Fish & Wildlife Service (USFWS) under Section 7 of the Endangered Species Act regarding impacts of the Project on the federally threatened California red-legged frog (*Rana draytonii*) (CRLF) and the threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*). Potential impacts to the CRLF and Alameda whipsnake are addressed in the *Biological Opinion, for the Faria Preserve Residential Development Project in the City of San Ramon Contra Costa County, California* (USFWS, December 19, 2014)(*Faria Preserve Biological Opinion*), which includes incidental take statements for Alameda whipsnake and CRLF. Although critical habitat has been designated for both species, none lies within the Project area so none will be affected. However, the annual grassland and aquatic habitat present in the Project area and the Onsite Preserve (described below) provide suitable habitat for CRLF foraging, sheltering, and dispersal. The entire Project site lies within Recovery Unit 2 (South and East San Francisco Bay) for CRLF. The Project area and Onsite Preserve also contain suitable grassland habitat for the Alameda whipsnake, along with a small amount of suitable riparian woodland in areas surrounding the creek channels. The *Faria Preserve Biological Opinion* describes the Project's anticipated effects to these species, and required mitigation. A summary of effects for CRLF are included below.

Although the annual grassland and aquatic habitat present in the Project area and Onsite Preserve provide suitable habitat for CRLF foraging, sheltering, and dispersal, none of the aquatic areas are suitable as breeding habitat, because they do not contain slow-moving water for the necessary duration to allow for a full breeding cycle. The California Natural Diversity Database (CNDDB) contains two documented occurrences of CRLF from within three miles of the Project area. The closest of these occurrences was recorded in 2000, and included adults

and larvae in a pair of stock ponds located just north of the Project area. Protocol surveys of the Project area and the Onsite Preserve, along with more recent surveys of nearby properties, have not detected CRLF.

Although there are no recent documented occurrences of CRLF, the Project area and Onsite Preserve contain suitable upland and dispersal habitat and are hydrologically connected to areas of potential breeding habitat. Due to the presence of suitable habitat, the proximity to known occurrences and the biology and ecology of the species, USFWS expects that CRLF is present in the Project area and the Onsite Preserve and uses these habitats for dispersal, foraging, and sheltering.

During construction, the Project may result in direct effects to CRLF, including the potential for injury or mortality. Construction vehicles, equipment, or personnel may kill or harm individual frogs that are present in the Project area by crushing or otherwise contacting them. Vibrations from construction equipment may cause the collapse of nearby mammal burrows or other refuge that may be used by frogs. Upon completion of construction, the presence of new residential development adjacent to CRLF habitat may have several effects, including increased artificial lighting (increased risk of predation), and increased presence of various native and non-native predators.

The Project will result in impacts to approximately 201 acres of habitat that is currently available to CRLF for sheltering, dispersal and foraging. Of that total, 141 acres will be permanently lost and 29 acres will be rendered inaccessible to the species and therefore effectively lost. The remainder will be temporarily disturbed before being restored to usable habitat. In addition to the direct permanent impacts, the Project will result in a threat to CRLF in the Project area due to habitat modification, degradation, and fragmentation from roads and development, competition and predation by introduced species and/or feral animals, and mortality due to vehicle strikes.

The California Department of Fish & Wildlife (CDFW) issued a Streambed Alteration Agreement on May 22, 2015 (Notification No. 1600-2012-0335-R3), and a California Endangered Species Act Incidental Take Permit, No. 2081-2013-065-03, to address impacts to fish and wildlife resources.

Stormwater: The Project may result in construction and post-construction impacts to jurisdictional waters and beneficial uses of waters of the State from the discharge of sediment and pollutants in stormwater runoff from the site. In addition, impacts to the downstream reach of Bollinger Creek and San Ramon Creek could result from an increase in stormwater runoff flows from new impervious surfaces and the duration of these flows. Such impacts could include increased bed and bank erosion in an incised stream system.

Mitigation: To compensate for impacts to federal and State jurisdictional wetlands and other waters at the Project site, the Applicant will implement the mitigation measures described below, described in greater detail in the in the *Mitigation & Monitoring Plan, Faria Preserve* (Olberding, March 2015)*(Faria MMP*), and as modified pursuant to this certification. Mitigation for the Project's impacts will be provided with a combination of onsite and offsite mitigation areas. Onsite mitigation will take place at the Bollinger Canyon Mitigation Area, Middle Mitigation Area, and Purdue Mitigation Area. Offsite mitigation will take place at three locations in the vicinity of the Project site and one location within the lower Walnut Creek area. Within the vicinity of the Project site, the Applicant proposes to implement mitigation at the City of San Ramon Golf

Course and at two properties located approximately 5.5 miles northwest of the Project site, the Ambrose Preserve and the Roberts Ranch Preserve.

Successful implementation of the *Faria MMP* will result in the creation of seasonal wetlands at a 2:1 ratio, creation of 2,717 LF of ephemeral channel and daylighting of 2,155 LF of culverted channel to compensate for the filling of 2,306 LF of channel, and planting of 5.25 acres of riparian trees and shrubs onsite to compensate for the loss of 2.39 acres of riparian vegetation. The beneficial uses of Bollinger Creek and San Ramon Creek are not expected to be impacted by the development. The created wetlands and channels and planted riparian vegetation will compensate for the filled aquatic features, because they will have characteristics and functions similar to those that will be permanently filled and will contribute quantities of water storage, filtration of sediment and nutrients, biological productivity, groundwater recharge, groundwater discharge, flood-flow alteration, sediment stabilization and retention, nutrient removal and transformation, production export, and wildlife diversity and abundance that are similar to the quantities that will be lost.

At the combined locations, a total of 2.22 acres of wetlands and 0.12 acre (2,717 LF) of channel will be created, 2,155 LF of channel will be restored, 2.18 acres of wetlands and 28,137 LF of creek channel will be preserved, 4,676 LF of creek channel will be enhanced, and 5.25 acres of riparian vegetation will be planted.

Work onsite will include creation (2.22 acres of seasonal wetland and 2,717 LF of channel), enhancement, and preservation (2.18 acres of seasonal wetland and 12,155 linear feet of channel). Other aspects of the plan include the following: (1) setting aside the remainder of the Faria Property as an open space preserve subject to conservation easements (this area is referred to as the Onsite Preserve, which will consist of land owned by the Applicant and the Open Space Preserve (anticipated to be owned by EBRPD); (2) enhancement and preservation of a riparian and wildlife corridor along the Central Creek channel; (3) preservation of wetlands and ephemeral/intermittent streambed; (4) creation of wetland habitat along the riparian and wildlife corridor (items 2 through 4 would also be protected by a conservation easement); (5) restoration of buried creek channel segments in San Ramon; and (6) preservation of two large offsite properties and their aquatic features under conservation easements. The mitigation areas are shown in Figure 8: *Development Impact Map*, Figure 9: *Mitigation Plan Overview*, Figure 10: *Offsite Channel Enhancement Mitigation Location*, and, Figure 11: *Offsite Species Mitigation Location Map - Ambrose and Roberts Ranch.* Species-specific mitigation will include preservation of habitat both on and offsite at the locations identified above.

A portion of the Onsite Preserve is located within the incorporated City of San Ramon and a portion is located in unincorporated Contra Costa County. Much of the adjacent land to the north and west of the Onsite Preserve is preserved or proposed to be preserved in coordination with EBRPD. Land directly north of the property is identified as the Elworthy Dedication Parcel. Land directly west of the Elworthy Dedication Parcel is identified as the Chen Parcel, and land directly east of the Elworthy Dedication Parcel is EBRPD's Peters Ranch property. The Ambrose property and the Roberts Ranch property are located within unincorporated Contra Costa County and are currently undeveloped agricultural land that are designated Agricultural Lands by the Contra Costa County General Plan Land Use Element (Contra Costa County, 2013). The present use of most of the land surrounding the Ambrose and Roberts Ranch properties is public, as either part of the East Bay Municipal Utility District (EBMUD) watershed protection property or part of the Las Trampas Regional Wilderness managed by EBRPD.

The table below provides a summary of the wetland, creek, and riparian mitigation at the onsite and offsite locations:

Table 2. Summary of Wetland/Waters and Riparian Impacts and Mitigation

Habitat Impact	Mitigation Amount and Location
Wetland 1.11 acres	**Preserved wetlands onsite** • 2.18 ac onsite
	Created wetlands onsite • 0.84 ac onsite at Bollinger Canyon West • 0.35 ac onsite at Bollinger Canyon East • 0.69 ac onsite at Middle Mitigation Area • 0.34 ac onsite at Purdue Mitigation Area **Total 2.22 ac wetland creation**
Drainage Channel 0.12 acres 2,306 linear feet	**Preserved channel onsite and offsite** • 12,115 linear feet) onsite • 6,508 linear feet offsite at Ambrose • 9,514 linear feet offsite at Roberts Ranch **Total 28,137 linear feet drainage channel preservation**
	Created channel onsite • 0.04 ac (935 linear feet) onsite at Bollinger Canyon East • 0.08 ac (1,782 linear feet) onsite at Middle Mitigation Area **Total 0.12 ac (2,717 linear feet) channel creation**
	Enhanced channel onsite • 2,713 linear feet channel enhancement (fencing) • 1,963 linear feet channel enhancement (fencing and planting) **Total 4,676 linear feet channel enhancement onsite**
	Restored channel offsite • 2,155 linear feet channel restoration (daylight grading and planting) **Total 2,155 linear feet channel restoration**
Riparian 2.39 acres 2,306 linear feet 121 trees	**Enhanced Riparian Onsite** • 1.22 acres of riparian planting at Bollinger Canyon East (67 trees and 210 shrubs) • 2.87 acres riparian planting at Middle Mitigation Area (361 trees and 748 shrubs)

	• 0.69 acres riparian planting at Southern Mitigation Area (30 trees and 39 shrubs) **Total 4.78 acres riparian planting onsite (458 trees and 997 shrubs)**
	Enhanced Riparian Offsite • 0.18 acres riparian planting offsite at Tripoli (9 trees and 853 shrubs) • 0.16 acres riparian planting offsite at Olympia Fields (4 trees and 1,060 shrubs) • 0.13 acres riparian grading and planting offsite at Cherry Hill (6 trees and 1,334 shrubs) **Total 0.47 acres riparian enhancement offsite (19 trees and 3,247 shrubs)**

Onsite Mitigation: The *Faria MMP* includes the implementation of measures that are intended to successfully replace all lost functions associated with impacts to waters of the U.S. and State. The plan describes the proposed grading, structural improvements, and revegetation required to create and enhance the habitats in the onsite open space preserve areas. A separate *Long Term Resource Management Plan, Faria Preserve* (Olberding, March 2015)(*Faria Long Term RMP*) has been prepared to addresses the long-term management, monitoring, and maintenance requirement for the onsite and open space preserve areas and the offsite Ambrose and Roberts Ranch properties. The *Faria Long Term RMP* will be in effect for the Ambrose and Roberts Ranch properties beginning no later than 18 months of the effective date of CDFW Incidental Take Permit No. 2081-2013-065-03. For the Onsite Preserve and the Open Space Preserve areas, implementation of the *Faria Long Term RMP* will begin after the wetlands, channels, and riparian areas meet the final performance standards (a minimum of 5 years for wetlands and 10 years for channels and riparian vegetation). The conservation easement holder will be responsible for carrying out the long-term maintenance tasks included in the *Faria Long Term RMP* and in this certification, in perpetuity. These tasks are necessary to meet the goals specified in the *Faria MMP*. The long-term maintenance tasks shall be funded by an endowment established by the Applicant.

Faria MMP Revisions: Several aspects of the *Faria MMP* that will require revision prior to implementation include the wetland vegetation performance standards and monitoring methods and the wetland and riparian vegetation planting plans.

Performance Standards: The *Faria MMP* proposes to use reference wetlands to assess the native vegetative cover within the mitigation wetlands. However, no specific reference wetlands have been proposed. The revised Faria MMP shall include performance standards that comply with the conditions of this certification, which include a 75 percent relative cover requirement for native species, unless reference wetlands acceptable to the Executive Officer are proposed.

Wetland Planting Plan: The *Faria MMP* includes a proposed seasonal wetland seed mix that includes facultative species that tend to reflect shorter periods of ponding or soil saturation that are to be expected in created wetlands located higher in the watershed. The Applicant has agreed to provide an additional seed mix that contains a higher percentage of FACW and OBL species, for planting in the seasonal wetlands that will be within the lower elevations where longer hydroperiods may be expected.

Riparian Plantings: The *Faria MMP* has proposed to defer planting of riparian trees and shrubs in the Middle Mitigation Area until the second year of construction, when water lines would be accessible to provide irrigation. The conditions of this certification require that willow stakes be planted in accordance with the *Faria MMP* planting plan during the first year of construction, to provide early stability for the bed and banks of the preserved creek channel. Other riparian plantings in the Middle Mitigation Area may be done during the second year of construction.

Wetland Monitoring Methods: The *Faria MMP* has proposed to use the Braun Blanquet Cover Classes method to evaluate the percent cover of plant species within the mitigation wetlands. To reduce observer error during monitoring attainment of the vegetation performance standards, this certification requires that the cover classes recommended by Ralph Tiner in his book *Wetland Indicators, A Guide to Wetland Identification, Delineation, Classification, and Mapping* (CRC Press, LLC, 1999, page 106).

Onsite Mitigation Description: The Onsite Preserve and Open Space Preserve are located just north and west, respectively, of the development area on both sides of Bollinger Canyon Road.

To identify potential sites and develop plans for the proposed onsite mitigation, the following factors were considered: landscape position, soils, hydrology and watershed considerations, vegetation, practicability, and the ability to provide long-term protection. Overall, the mitigation goal is to ensure perpetual protection of existing natural resources and to provide high quality, sustainable compensatory mitigation for impacts caused by development activities associated with the Project.

Waters of the State establishment and restoration will be completed in three general locations, with one in the EBRPD open space preserve area adjacent to Bollinger Canyon Road and two within the Onsite Preserve (one off Purdue Road and the other in the middle of the Onsite Preserve). All three mitigation locations for habitat establishment and restoration are underlain entirely by clay-rich soils with low permeability. Rainfall generally runs off as sheet flow instead of infiltrating into the soil profile. Several ephemeral drainages collect the sheet flow runoff, which rapidly moves offsite into either Bollinger Creek or San Ramon Creek. The constructed wetlands throughout the mitigation areas would serve to interrupt sheet flow and allow retained water to establish and sustain wetland vegetation and soils. Direct precipitation falling on the wetlands will also contribute to the hydrology of the mitigation wetlands (See Onsite Riparian Mitigation Plan, Sheets 1-14, in Attachment A of the *Faria MMP*).

Construction of wetland and riparian complexes will require grading to establish ephemeral drainage channels. The channels will capture surface sheet flow runoff and direct it through a series of created seasonal wetland basins. A series of wetland basins connected by drainage channels will maximize the use of available rainfall through increased impedance within the basin and channel complex. Water will be controlled and regulated in the wetland and riparian complexes through a variety of water control structures, ranging from simple earthen berms to complex hardened weirs, each specifically designed to provide precise control over inlet and outlet elevations.

The Bollinger Canyon West mitigation wetlands and channel will be created on an upland area that is adjacent to a severely-eroded gully. This gully has been formed by flows from a culvert located beneath Bollinger Canyon Road that conveys flows from a tributary to Bollinger Creek. The gully will be filled and graded, and a new channel will be formed to receive the tributary flows. A complex of five seasonal wetland areas, referred to as A1 through A5 on Figure No. 1

of the *Hydrologic Analysis of Mitigation Features and Basis of Design Report, Faria Mitigation Area* (Engeo, June 27, 2014) will be formed along the created channel as it meanders downslope to discharge to Bollinger Creek. Riparian vegetation will be planted around the wetland/channel complex. Three additional seasonal wetlands, referred to as B1 though B3, will be formed along the hill slope in an open space area located to the northwest of the channel/seasonal wetland complex with mitigation wetlands A1 through A5. Two existing wetlands are located in the vicinity of the proposed features, and these areas will be fully protected during construction of B1 though B3. Nine seasonal wetland areas will be created within the Middle Mitigation Area, and one seasonal wetland will be created on the eastern side of the site near the toe of an undisturbed slope.

As described in the *Hydrologic Analysis of Mitigation Features and Basis of Design Report, Faria Mitigation Area, Faria Preserve* (Engeo, June 27, 2014), soil improvements are necessary to prolong the ability of the wetland to retain surface water. For areas where wetlands are proposed to be created, the wetland bottom (including the side slopes and the native material at the bottom of the proposed wetland) shall be over-excavated to at least 12 inches below finish grade. The limits of the over-excavation shall extend a minimum of 2 horizontal feet beyond the perimeter of the proposed wetland. The exposed surface shall be scarified 12 inches, moisture conditioned to approximately 5 percentage points over optimum moisture content, and compacted to a relative compaction of 88 to 92 percent. The over-excavated material shall then be placed as engineered fill at approximately 5 percentage points over optimum moisture content and relative compaction to 88 to 92 percent. In order to maintain moisture in the proposed wetland bottom soils and any improved embankment fill adjacent to the wetlands, the grading of the wetland bottom and embankment fill may need to occur at the beginning of the rainy season and shall be observed, tested and approved by a representative of Engeo. During grading, bottom micro topography shall be formed within the larger wetland features, and finish grading will consist of grading along the edges of the excavated area to tie into the existing topography in a natural manner. Prior to construction, the wetland mitigation sites shall be mowed close to the ground and the upper 4 to 6 inches of soil will be excavated and stockpiled at designated upland locations. This soil will subsequently be spread on the new wetlands to provide organic matter. A specific mitigation construction plan, including best management practices for construction required for mitigation implementation, is detailed in the *Faria MMP*.

Planting Plan: Planting and/or seeding activities will take place in the constructed wetland features and in adjacent upland and riparian planting areas. The bottoms and sides of the seasonal wetlands will be seeded with a wetland seed mix consisting of species and at rates as provided below. Plug and container planting will also be completed within the seasonal wetland bottoms and sides with plant species and densities as provided below, and as modified in accordance with the conditions of this certification. Areas designated to be revegetated with riparian vegetation will not be seeded but will be installed with plug, cutting, and container plantings as provided below. Upper portions of the constructed wetland and other areas of soil disturbance that are anticipated to have ecological conditions similar to onsite upland habitats (e.g., annual non-native grassland) will be seeded with a native upland seed mix consisting of species and rates as provided below.

The proposed seasonal wetland seed mix includes facultative species that tend to reflect shorter periods of ponding or soil saturation that are to be expected in created wetlands located higher in the watershed. An alternate seed mix that will reflect a higher concentration of FACW and OBL species will be included in the revised *Faria MMP* for the mitigation wetlands planned for creation in the lower watershed areas.

Mitigation for riparian impacts will take place around the wetland complex to be created at the Bollinger Canyon East site, along the Central Creek channel in the Middle Mitigation Area above the permanent fill area, and within the Southern Mitigation Area. Riparian mitigation will consist of planting vegetation, control of invasive plant species, exclusion of grazing cattle, and irrigation of riparian plantings as needed during the first three years of establishment. Riparian vegetation will be planted as indicated in Table 3 and as shown on Figures L-1 through L-5 for the Middle Mitigation Area, L-1 and L-2 for the Lower Middle Area, L-1 though L-3 for the Bollinger Canyon Mitigation Area, L-1 and L-2 for the Tripoli, Olympia Field, and Cherry Hill mitigation areas included in the *Faria MMP* during the first and second years of construction as described in this certification and as will be specified in the revised *Faria MMP*. Additional riparian mitigation will take place at the offsite location within the San Ramon Golf Course.

The propagules used for the vegetation plantings will be sourced within the local watershed or procured from established native seed suppliers that can supply local genetic ecotypes of the required plant species and in the required sizes. Supplemental irrigation will be provided to riparian plants during a three-year establishment period, or until adequately established, as determined by a monitoring restoration ecologist. Invasive plant species rated by the California Invasive Plant Council as having a 'moderate' or 'high' impact on native ecosystems shall be controlled in the riparian mitigation areas. Many of the habitat construction areas, including the upper reaches of the Central Creek channel, have yellow star thistle that will require treatment prior to grading activities. Pretreatments can include the use of a mow-vac or grubbing and removal of all grubbed material and the uppermost layer of topsoil to an appropriate disposal location.

Table 3: Seasonal Wetland Plant Palette

Scientific Name	Common Name	Wetland Indicator Status	Container Size	Plants Per Acre
Carex barbarae	Santa Barbara sedge	FAC	plugs	1,600
Eleocharis macrostachya	spikerush	OBL	1 gallon	100
Euthamia occidentalis	Western goldenrod	FACW	plugs	400
Juncus balticus	Baltic rush	FACW	plugs	800
Juncus effuses	Pacific rush	FACW	plugs	800
Juncus xiphioides	iris leaf rush	FACW	plugs	1,000
Total				4,700

Table 4: Seasonal Wetland Seed Mix

Scientific Name	Common Name	Wetland Indicator Status	Pounds Per Acre
Carex praegracilis	field sedge	FACW	2
Distichilis spicata	saltgrass	FAC	2
Elymus glaucus	blue wildrye	FACU	3
Elymus triticoides (Leymus triticoides)	creeping wildrye	FAC	2
Festuca rubra	Red fescue	FAC	4
Hordeum brachyantherum	meadow barley	FACW	3
Lasthenia californica.			1
Total			17

Table 5: Riparian Plant Palette

Scientific Name	Common Name	Container Size	Bollinger Canyon	Middle Area	Lower Middle Area
Acer negundo	box elder	treepot 4	3	39	9
Aesculus californica	California buckeye	treepot 4	5	41	8
Artemesia californicum	California sagebrush	1 gallon	0	54	0
Baccharis pilularis	coyote brush	1 gallon	22	19	10
Baccharis salicifolia	mulefat	1 gallon	0	37	0
Frangula californica	California coffeeberry	treepot 4	27	102	8
Hetermoles arbutifolia	toyon	treepot 4	5	53	5
Juglans hindsii,	black walnut	treepot 4	2	12	0
Juglans hindsii,	black walnut	15 gallon	1	5	0
Quercus agrifolia	coast live oak	treepot 4	6	35	5
Quercus agrifolia	coast live oak	15 gallon	2	12	2
Quercus lobata	valley oak	treepot 4	4	30	5
Quercus lobata	valley oak	15 gallon	2	11	1
Ribes aureum,	golden current	1 gallon	42	171	7
Rosa californica	California rose	1 gallon	63	60	9
Rubus ursinus	California blackberry	1 gallon	51	252	0
Salix laevigata, Salix lasiolepis, Populus fremontii	red willow, arroyo willow, cottonwoods	cuttings	38	139	0
	arroyo willow				
Umbellularia calfornica	California bay	treepot 4	4	37	0
Total					

After site grading is complete, the disturbed uplands will be seeded to discourage non-native establishment and to reduce erosion and consequent sedimentation in waters of the State. The upland seed mix will include the following: mugwort (*Artemesia douglasiana),* California brome (*Bromus carinatus*), California poppy (*Eschscholtzia californica*), saltgrass (*Distichilis spicata*), wildrye (*Elymus glaucus*), wheatgrass (*Elymus trachycaulus*), creeping wild rye *(Elymus triticoides (Leymus triticoides*)), gum plant (*Grindelia camporum*), meadow barley (*Hordeum brachyantherum*), small fescue (*Festuca microstachys (Vulpia microstachys)*), lupine *Lupinus nanus*), and purple needlegrass (*Stipa pulchra (Nasella pulchra)*). Onsite riparian mitigation plans are depicted in the *Faria MMP*, Attachment A, Sheets 1-14, and onsite wetland mitigation plans are depicted in Attachment B, Wetland Mitigation Plan, Sheets 1-8.

Maintenance of the riparian areas shall include dead plant replacement, irrigation, mulch replenishment, and invasive species control. Percent survival of plants shall be tracked on a per species basis. Dead riparian plantings shall be replaced in the first two years and sufficient quantity shall be replaced to bring the percent survival for each species up to 80 percent in Year 3. Ideally, dead plants shall be replaced with the same species, but species with high survival and health and vigor may be used to replace dead plants of less successful species.

Within the riparian mitigation areas, invasive plant species with a 'moderate' or higher ecosystem impact rating by the California Invasive Plant Council (Cal-IPC) shall be actively monitored and controlled in the first five years following planting. A qualified ecologist shall assess the type, distribution, and abundance of invasive plant species and recommend effective control measures. The Applicant shall be responsible for controlling plant species that could negatively affect mitigation site performance. Non-native woody species shall be prevented from establishing within the riparian mitigation areas.

Offsite Channel Daylighting Mitigation: Three offsite channel and riparian mitigation sites have been identified within the San Ramon Golf Club area and are presented in the *Faria MMP*. Mitigation actions would include the daylighting and restoration of channels that are currently located in underground culverts. It is not possible to record a deed restriction or conservation easement on these properties. The channel and riparian mitigation sites are identified as Tripoli (357 LF, with 7,752 square feet of overbank floodplain area; 0.18 acres riparian planting), Olympia Fields (849 LF, with 7,127 square feet of overbank floodplain area; 0.16 acres riparian planting), and Cherry Hills (949 LF, with 5,694 square feet of overbank floodplain area; 0.13 acres riparian planting). The Tripoli and Olympia Fields channel bottoms will be 4 feet wide, with a top-of-bank to top-of-bank width of approximately 12 feet (except in the overbank floodplain areas). The Cherry Hills channel bottom will range from 2 to 3 feet wide, with top-of-bank to top-of-bank width of approximately 8 feet, with an additional 2 feet of overbank floodplain area along the entire channel on both sides. The day-lighted channels will be planted in accordance with the planting plan included in the *Faria MMP*. Planting will include a variety of native rushes, sedges and grasses including Santa Barbara sedge, button bush (*cephalanthus occidentalis*), western redbud (*cercis occidentalis*), tall flat sedge (*cyperus eragrostis*), blue wildrye, slender wheatgrass (*elymus triticoides*), creeping wildrye, California fescue (*festuca californica*), Idaho fescue (*festuca idahoensis*), meadow barley, California barley, Baltic rush, Pacific rush, iris leafed rush, deer grass (*muhlenbergia rigens*), one sided bluegrass (*poa secunda*), carpet rose (*rosa californica*), and purple needlegrass (*stipa culpra*). Offsite mitigation plans are depicted in Attachment C, Offsite Channel Mitigation Plan, Sheets 1-17 of the *Faria MMP*.

Special Status Species Mitigation Description: To compensate for the permanent loss of 201 acres of potential Alameda whipsnake and CRLF habitat, permanent preservation and

management of 255 acres of onsite open space and 354 acres of open space at the two offsite preserves is proposed. All three species mitigation areas contain USFWS-designated critical habitat for the Alameda whipsnake and potential breeding habitat for CRLF and would expand protected open space associated with the Las Trampas Regional Wilderness area and EBMUD-protected watershed property. Preservation will be accomplished through placing a conservation easement on approximately 255 acres of the Project site, an area that will include 2.18 acres of existing wetlands, 3.6 acres of existing creek channels, and the onsite mitigation wetland, channel, and riparian habitat that will be created and/or enhanced as part of the Project. Along with the Onsite Preserve and the Open Space Preserve, the Ambrose Preserve and the Roberts Ranch Preserve will be protected under conservation easements.

The offsite 117-acre Ambrose Preserve mitigation site is located just east of Moraga on Bollinger Canyon Road and borders EBMUD property to the south. The 237-acre Roberts Ranch Preserve mitigation property is located just east of Moraga on Bollinger Canyon Road. A small portion of the southwest corner of the property borders EBMUD property and the northeast tip of the property is proximate to the Las Trampas Regional Wilderness.

The Ambrose Preserve acreage totals approximately 117 acres and contains several creek channels, a seasonal pond, oak woodlands, and chaparral and scrub plant communities. The Roberts Ranch Preserve acreage totals approximately 237 acres and contains creek channels, a large seasonal pond, oak woodland, and chaparral and scrub habitat. The total area of the preserved properties is 609 acres, and the area being used to compensate for Project impacts to CRLF and Alameda whipsnake for the Project is 544.04 acres pursuant to the *Faria Preserve Biological Opinion*. The excess of 64.96 acres of preserved land on the 117-acre Ambrose Preserve may be used as compensation for future CRLF and Alameda whipsnake impacts for other projects. The conservation easements will be held by the Wildlife Heritage Foundation, and will be accompanied by an endowment created to fund management of the properties in perpetuity.

The proposed habitat preservation, creation, and enhancement will minimize the effects of habitat loss on CRLF. The protected lands will provide habitat for breeding, feeding or sheltering commensurate with or better than habitat lost as a result of the Project. The *Faria Preserve Biological Opinion* concludes that the Project is not likely to jeopardize the continued existence of CRLF.

Management of the Onsite Preserve, the Ambrose Preserve, and the Roberts Ranch Preserve will be performed in an adaptive manner following the guidelines specified in the *Faria Long Term RMP*. Management goals will be to maintain the functioning aquatic and riparian habitat, the balance of annual grassland over non-native plant species, protecting against the spread of non-native invasive plants, and ensuring that no other disturbance, human caused or otherwise, is adversely affecting habitat in the preserves. Grazing will be allowed but will be restricted to allow riparian vegetation to reestablish and to maintain more cover for listed species. Grazing management goals will be thatch reduction, fuel management, and sustainable weed reduction.

Post Construction Mitigation Monitoring & Management & Performance Criteria: All mitigation features will be monitored for a minimum period of five years (ten years for riparian plantings and created stream features) and until performance standards included in the *Faria MMP*, as updated by information included in this certification and included in the conditions, have been met. Performance standards will be utilized during the mitigation monitoring period to determine overall mitigation success and the need for possible corrective actions. Vegetation monitoring of the created seasonal wetlands will occur in the late spring or early summer of each year, and

supplemental visits will be conducted at least three times per year (December, March and September) during years 1 and 2 to track the performance of the seasonal wetlands. Monitoring of the hydroperiod and water depth of the created seasonal wetlands will occur throughout the rainy season as described in the conditions of this certification.

The monitoring biologist and hydrologist will also conduct an annual qualitative assessment of each created wetland and the created channels to document the general condition of each site, including recruitment of desirable hydrophytic species, general health and vigor of the plantings, presence of invasive exotic plant species, evidence of sedimentation and erosion, soil development, and slope stability. Photographs will be taken at permanently established photo-documentation points to document annual conditions and succession trends. All monitoring activities will be summarized in annual reports submitted to the Water Board.

The *Faria MMP* includes performance standards that have been established to track success toward suitable riparian vegetation establishment, attainment of channel stability, establishment of wetland hydrology and wetland species establishment, and prevention of invasive species establishment. Annual monitoring results will be compared with performance standards to indicate the extent to which the mitigation area is developing suitable wetland and riparian communities. If annual monitoring results fall below performance standards, the cause of the decline shall be determined, and adaptive management recommendations (as outlined in the *Faria MMP*) will be proposed. Proposed remediation measures will only be implemented after approval from the appropriate resource agencies (Corps, CDFW, and Water Board).

Reporting Requirements: Annual mitigation monitoring reports will document the conditions within the mitigation areas on an annual basis and will document the degree to which the mitigation is meeting the performance standards. The monitoring reports will describe any deficiencies in attaining and maintaining performance standards and any remedial action proposed, approved or performed. If remedial action(s) have been completed, the monitoring report will also evaluate the effectiveness of that action. A final mitigation monitoring report summarizing the success of the mitigation work will be submitted at the end of monitoring (Year 5 for wetlands and Year 10 for riparian). The resource agencies will be invited to attend a site visit to verify that onsite conditions are consistent with information documented in the monitoring reports. These reports will provide technical findings regarding the attainment of wetland and channel creation and riparian enhancement success and/or progress toward achievement of final success.

Protection in Perpetuity: The Applicant is responsible for the implementation of all mitigation construction and monitoring of the mitigation until the performance standards are achieved, in accordance with the *Faria MMP*. Thereafter, a total of approximately 255 acres of the property that is not developed will be retained as habitat and placed under a conservation easement to preserve, manage, and maintain in perpetuity the created mitigation features, the preserved wetland and stream functions, and wildlife habitat.

Long term management will be implemented by a natural lands manager to ensure that wetland and biological resources within the Onsite Preserve, the Open Space Preserve, and the offsite Ambrose and Roberts Ranch preserves are protected and maintained in perpetuity. The conservation easements will ensure that the easement areas will be retained forever in their restored state, and prevent any use of the easement areas that would impair or interfere with the conservation values of the easement areas. The grantee of the conservation easements (also known as the Conservation Easement holder) will be the Wildlife Heritage Foundation. The resource agencies (USFWS, CDFW, and Water Board) will be third-party beneficiaries of the

conservation easements. These third-party beneficiaries all have the right of access to the conservation easement areas and the right to enforce all of the obligations of grantor and grantee. For the Open Space Preserve and the offsite Ambrose and Roberts Ranch sites, an endowment fund will be established to provide income to fund perpetual management, maintenance, monitoring, and other activities on the preserved land consistent with the *Faria Long Term RMP*. An endowment fund will also be established to provide income to fund perpetual management, maintenance, monitoring and other activities on the Onsite Preserve, unless the Applicant provides a satisfactory proposal to provide alternative funding for long-term management in accordance with the conditions of this certification. The Applicant will fund the endowment, and the Wildlife Heritage Foundation will hold and invest the endowment. The costs associated with management and monitoring activities will be identified using a Property Analysis Record (PAR) or alternative approach similar to that developed by the Center for Natural Lands Management and included in the *Faria Long Term RMP*. An Interim Management Fund will also be established to provide income to fund the first three years of management, maintenance, monitoring, and other activities on the preserved land consistent with the *Faria Long Term RMP* and Section 9.2.6 of the CDFW Incidental Take Permit. The purpose of the Interim Management Fund is to buffer the long-term endowment so as not to erode the initial investment funds. The Applicant will fund the Interim Management Fund, and the Wildlife Heritage Foundation would hold and invest the endowment as required by CDFW's Incidental Take Permit.

Long Term Management Plan: The *Faria Long Term RMP* includes measures that will be implemented to perpetually maintain the mitigation and preserved land in a manner that will continue to provide the long-term environmental benefits envisioned by the mitigation plan. Under the *Faria Long Term RMP*, management measures will be conducted to ensure that the integrity of all preserved and created wetlands and channels is maintained. This will entail annual inspections of all created and preserved wetlands and creek channels, maintenance of fencing necessary to prevent cattle intrusion into the created, enhanced and preserved wetlands and creek channels, control of invasive plants, removal of trash and debris, and communication with the Geologic Hazard Abatement District (GHAD). The *Faria Long Term RMP* includes a Grazing Management Plan (Olberding, June 2014) that will be used to manage grazing activities at the Onsite and Open Space Preserves and the offsite Ambrose and Roberts Ranch properties.

Revisions to the Faria Long Term RMP: The *Faria Long Term RMP* will need to be revised to identify allowable activities in the conservation easement areas, specify monitoring measures that will be used to evaluate conformance with the easement and management requirements, and provide an updated Grazing Management Plan to address fencing requirements to provide for protection of all creeks and wetlands in the grazing areas. The revised plan will also include detailed provisions for fire break maintenance and vegetation and fuels management with measures designed to protect sensitive wildlife habitat areas (ponds, riparian corridors, wetlands, and seeps). After the revised *Faria Long Term RMP* has been approved by the Executive Officer, it will be used to guide management of the mitigation and open space areas over the long term under the conservation easement. Other specific elements of the plan that require revision are included below:

- Section 4.3 Reporting and Administration, Element D.2 – Fences and Gates: For the second Task item, delete ". . . and as funding allows." Adequate funds shall be available in the endowment account to provide for adequate maintenance of fences and gates to control grazing animals and public access.

- Section 4.4 Reporting and Administration, Element D.2 – Annual Conservation Easement Monitoring Report. The Task Description for this item shall be expanded to include the following:

  1. A summary of all grazing activities during the previous year.
  2. A summary of all other management actions undertaken during the preceding year.
  3. A list of all persons who participated in the monitoring and preparation of the annual report.
  4. A description of any changes to the methodology for implementation of the *Faria Long Term RMP* and recommendations for any modification to the plan.
  5. Recommendations, if needed, for remedial measures for problems that need near term and/or long term attention (e.g., weed removal, fence repair, erosion control), and/or any proposed changes in the monitoring or management program.
  6. If remedial actions have been implemented, the report shall evaluate the effectiveness of those actions.
  7. A summary of fire hazard reduction measures implemented during the year.
  8. A summary of efforts made to control invasive plant species within the wetlands and creek channels, including all mechanical measures, and all application of herbicides including the amount and type of herbicide used. Any herbicide used in the created, enhanced or preserved mitigation features shall be inventoried and reported, including the type of herbicide, target species, frequency and duration of use, and the minimization measures used in applying the herbicide.

Geologic Hazard Abatement District: A GHAD for the Project will be formed under the authority of the California Public Resources Code, Division 17. In addition to the responsibility for the prevention, mitigation, and abatement of potential geological hazards, the responsibilities of the GHAD will include operation and maintenance of the stormwater management features on the Project site. The potential hazard areas that may be addressed by the GHAD will include some portions of the Onsite Preserve. The detailed responsibilities of the GHAD for hazard abatement and operation and maintenance of the stormwater management features will be described in the *Plan of Control*. GHAD responsibilities will be limited to the long-term prevention, mitigation and abatement of potential geological hazards, and operations and structural maintenance of the stormwater management features. The responsibility for long-term management of biological resources within any Onsite Preserve areas under the jurisdiction of the GHAD may be funded through the GHAD budget (in accordance with the conditions of this certification) and will be assigned to the natural land manager under the mitigation conservation easements. The *Plan of Control* will incorporate by reference the Project's mitigation and long term management plans for the Project.

Any GHAD activities that have the potential to cause impacts to water quality through modification of wetlands or the bed and/or bank of a stream channel (including the upper bank and riparian vegetation zone, and sediment removal activities) shall not be implemented without appropriate permits from the Water Board, the Corps, and CDFW.

Post-Construction Stormwater Runoff Mitigation: To mitigate impacts associated with the discharge of pollutants related to urban development, the Applicant will implement a post-construction stormwater management plan to ensure stormwater runoff from this Project will be managed in conformance with the treatment and hydromodification requirements of the San Francisco Bay Regional Water Quality Control Board Municipal Regional NPDES Stormwater Permit (MRP) (Water Board Order No. R2-2009-0074, NPDES Permit No. CAS612008), as amended by Water Board Order No. R2-2011-0083. Stormwater infrastructure at the Project site

has been designed to comply with water quality and hydromodification requirements in the MRP, which have been adopted by the Contra Costa County Clean Water Program and published in a post-construction stormwater management handbook (i.e., *C.3 Stormwater Technical Guidance, 5th Edition, February 2012*). The stormwater management Integrated Management Practices (IMPs) facilities will require periodic monitoring and maintenance to keep them free of blockages, including litter and debris removal, to maintain proper function. Maintenance will also include vegetation pruning with removal of woody vegetation, silt removal, and regular observation.

The Project has been divided into six distinct Drainage Management Areas (DMAs), which are described in the *Stormwater Control Plan, Faria Preserve* (Engeo, April 23, 2013, Revised March 12, 2015), and each area has appropriately IMPs sized to meet treatment needs. Proposed permanent stormwater design features include a series of bioretention areas that serve as IMPs that also meet hydromodification objectives. The IMPs have been designed to reduce the rate of surface water runoff, filter pollutants out of runoff, and facilitate infiltration of runoff into the ground to the maximum extent practicable. Where necessary, energy-dissipating rock inlets or outfalls at water quality features and bioretention ponds will be constructed to reduce high-velocity flows, minimize pond erosion, and protect landscaping. Grading activities for the Project have also been designed to avoid impacts on hydrologically sensitive areas, such as onsite wetlands and drainage courses, to the maximum extent practicable.

Natural Resource Conservation Service data indicate that onsite surficial soils are predominantly in the "C" hydrologic category, indicating low water infiltration rates. Based on site slopes and Project development activities, including compaction of deep fills, the onsite soils are expected to behave closer to class "D" soils, with very low surface water infiltration rates. This precludes the use of infiltration type IMPs and the bioretention areas have been designed with underdrains to route water from the IMPs to the site storm drain system. The water management features are designed as flow-through devices, which are sized at four percent of the impervious tributary area draining to the feature, based on a 0.2 inches/hour water quality rain event flowing through a five inches/hour sand media. The design for IMP 3 is the only water quality feature to include a two-stage process to allow for temporary flow control detention prior to treatment. Contra Costa County developed an IMP Sizing Calculator to determine appropriate best management practices to mitigate stormwater runoff quality, and the program was used to verify the sizing of the Project IMPs. All of the bioretention features that will be located on fill within the development will be lined with an impermeable membrane to prevent infiltration of stormwater, which will help to prevent saturated conditions in the fill. Several bioretention features, including IMPs 3 and 5, are located where infiltration of stormwater into the underlying soil is not anticipated to be a problem, so these features will not be lined. The location of the perforated subdrain within the lined features will be as shown on the detail drawing in Figure No. 3 of the *Stormwater Control Plan, Faria Preserve Project.* However, the location of the perforated subdrain and discharge point within any unlined features shall be at the surface of the Class 2 permeable material, or as high as possible within this layer, to maximize stormwater retention capacity water for hydromodification purposes. The design detail for unlined features will be included in the stormwater plan in accordance with the conditions of this certification.

The Project has been divided into the DMAs as shown on Figure 2 of the *Stormwater Control Plan, Faria Preserve* (Engeo, April 23, 2013, Revised March 12, 2015). Each neighborhood is assumed to have approximately 10 to 30 percent pervious area. The management plan includes the following IMPs:

- Drainage Management Area 1 DMA 1 – Stormwater runoff from the lots located within Neighborhoods I and II.
- Drainage Management Area DMA 2 – Central portion of Neighborhood III.
- Drainage Management Area DMA 3 – Neighborhoods III and IV along with central and eastern portion of Faria Preserve Parkway as well as 4 acres of open space northwest of Neighborhood IV.
- Drainage Management Area DMA 4 – Apartment Parcel.
- Drainage Management Area DMA 5 – Remaining western portion of Faria Preserve Parkway.
- Drainage Management Area DMA 6 – Remaining eastern portion of Purdue Road.

DMA 4 is shown conceptually in the stormwater plan to demonstrate that the Project has provided enough space in the development footprint to accommodate both water quality IMPs and enough hydromodification capacity to attenuate development of the parcel in accordance with Contra Costa County Clean Water Program requirements, and the MRP.

The existing culvert at the lower end of the central creek channel will be retrofitted to provide hydromodification controls for the majority of the development (as described in the *Impacts* section of this certification). In order to reduce impacts to the existing vegetation in the basin area, only hydromodification flows that would not significantly affect the size of the outlet riser and orifice size relative to the existing culvert outlet will be routed to this area. Treatment will be provided for all urban runoff prior to discharge to the central creek channel where the hydromodification outlet will retain flows. The basin area at the lower end of the central creek channel is also anticipated to attenuate 10-year and 100-year recurrence interval storm runoff to pre-development conditions.

Bioretention Treatment: The bioretention areas for all of the IMPs will consist of a 2-to 3-inch top layer of mulch followed by a layer of filtration media (sandy loam) with an infiltration rate of 5 inches/hour. Permeable material will be located beneath the filter media to convey treated runoff to an underdrain that conveys treated stormwater from the IMP basins to either the retention area at the lower end of the central creek channel or to the underground culvert located at the Purdue Road entrance to the site. A typical section of the bioretention cells is included in the Attachment to this certification. Bioretention treatment areas will be designed and constructed in conformance with the biotreatment soil specifications included in Appendix L of the MRP, Provision C.3.c.i.(1)(b)(vi) Specifications of Soils for Biotreatment or Bioretention Facilities.

Hydromodification Management: Structural hydromodification management measures were sized for flow duration control that detains and meters the outflow for storm flows ranging from 10 percent of the 2-year storm up to the 10-year storm, to reduce increases in flow rates that could cause erosion in Bollinger Creek and/or San Ramon Creek. Hydromodification controls for the Project were designed using the Bay Area Hydrology Model (BAHM) software to provide analysis of the existing and developed watershed, to determine facility sizing for structural hydromodification measures, and to size orifice outlet controls that adequately mimic the pre-development runoff flows. The BAHM program was developed for use in Alameda, San Mateo, and Santa Clara counties and updated as a compliance tool to demonstrate hydromodification standard compliance with 2009 MRP standards. Given that Contra Costa County is required to adhere to the same MRP hydromodification requirements as Alameda, San Mateo, and Santa Clara counties, it is being used to demonstrate compliance for this Project. For DMAs 1 and 2, hydromodification will be provided within the in-line detention basin at the outfall of the central

creek channel. For this area, BAHM modeling shows that the Project will reduce post-project flows and durations below pre-development levels in accordance with Contra Costa County standards through implementation of a modified riser within the existing basin. Discharges to the easterly Project outfall through the culvert installed in the Eastern Creek channel will be below pre-project levels based on changes to post-project watersheds onsite due to development.

DMA 5 will drain to IMP 5 along the southwestern boundary of the Project. IMP 3, IMP 4, IMP 5, and IMP 6 were designed with both stormwater quality and hydromodification components using the Contra Costa County C.3 Guidebook IMP calculator. These IMPs do not drain to the main hydromodification basin located at the lower end of the central creek channel. IMP 3 has been designed with both a flow volume hydromodification IMP with both a flow control and water quality component.

Table 6: Summary of Project Water Quality Treatment and Hydromodification Locations

Drainage Management Area	Water Quality Treatment IMP	Hydromodification IMP
1	IMP 1	Project Hydromodification Basin
2	IMP 2	Project Hydromodification Basin
3	IMP 3	IMP 3
4	IMP 4	IMP 4
5	IMP 5	IMP 5
6	IMP 6	IMP 6

Stormwater Control Plan Revisions: There are several areas of the proposed development that are referred to as 'self-treating' on Figure 2 of the *Stormwater Control Plan, Faria Preserve*. According to Figure 5, *Conceptual Site Plan, Faria Preserve*, a neighborhood park, rose garden, parking lots, tennis courts, and educational facility and community pool and parking area will be located within these proposed 'self-treating' areas. The Applicant has not provided documentation that these areas qualify as 'self-treating' or 'self-retaining' under the definitions provided in the Contra Costa County C.3 Guidebook. To comply with the MRP and the Contra Costa County Clean Water Program, the Applicant will need to provide documentation that adequate pervious area is included in the design to receive stormwater runoff from all impervious surfaces (including synthetic turf play fields), to qualify as self-retaining, or that adequate landscape based bioretention treatment and hydromodication controls will be included in the design. The conditions of this certification require the Applicant to submit such documentation or a plan for providing treatment and hydromodification controls for these Project features.

According to the conditions of this certification, the Applicant is also required to provide the following in a revised stormwater control plan:

- Documentation of the percentage of pervious areas within the DMAs, and verification that the sizing calculations are based on real estimates of pervious areas rather than the 10 to 30 percent range currently referenced by the stormwater plan;
- Documentation that all common trash enclosures for multi-family units will be designed with roofs, secondary containment, and a drainage inlet connected to a sanitary sewer

lateral for the area (this includes the apartments and any other areas of the Project site where common trash enclosures will be constructed);

- Documentation that at least one parking space in both the townhome and apartment areas will be designated as a common car wash area, with a drainage inlet connected to the sanitary sewer; and
- A design detail, including cross sections, for the unlined bioretention features to specify location of the perforated subdrain pipe and discharge point at the surface of the permeable material layer, or as high as possible within this layer to maximize the stormwater retention capacity for hydromodification purposes.

Operation and Maintenance of IMPs: The IMPs will be operated and maintained by the City of San Ramon in accordance with Contra Costa County Clean Water Program and MRP requirements. IMP maintenance activities will include the following elements:

- Annual Drainage Inspections—Drainage system inspections would be performed after a major storm event or annually, and more frequently, as needed, to identify any needed maintenance and record long-term changes in the drainage system;
- Erosion Monitoring and Maintenance—Pond side slopes would be monitored for erosion and/or slumping during drainage inspections. Should erosion be observed, maintenance including the use of erosion control fabric or planting of additional vegetation may be performed;
- Debris Control—Debris, including litter and woody vegetation, would be routinely removed from the drainage system to prevent flooding;
- Silt Removal—Minor silt accumulation, especially around rock aprons, would be removed periodically if the discharge capacity is altered or clogs the drainage system; and
- Water quality source controls, including education of property owners and reduced irrigation through the use of drought-tolerant plants will be implemented as part of the stormwater management plan for the Project.

O & M Plan Revisions: An Operations and Maintenance Plan (O & M Plan) was included in the *Stormwater Control Plan, Faria Preserve*. However, this draft document will need to be revised to include detailed plans for each IMP, and monitoring of the lower portion of the Central Creek channel for dry season nuisance flows discharging from the storm drain system, and planning for remedial measures to address excessive landscape irrigation within the development that are contributing to the dry season flows.

Construction Stormwater Management: To mitigate impacts associated with the discharge of construction-related stormwater pollutants, including sediment that is exposed during grading of the site, the Applicant shall obtain appropriate permits for the discharge of stormwater associated with construction activity as specified below in the Conditions. The Applicant is responsible for preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) for the Project that specifically states which best management practices will be used onsite to prevent the discharge of sediment into waters of the State. The SWPPP will provide plans and specifications for erosion and sediment best management practices (BMPs), means of waste disposal, methods for implementation of approved local plans, post-construction sediment and

erosion control BMPs and maintenance responsibilities, non-stormwater management BMPs, and BMP performance inspection requirements.

EcoAtlas: It has been determined through regional, State, and national studies that tracking of mitigation/restoration projects must be improved to better assess the performance of these projects, following monitoring periods that last several years. In addition, to effectively carry out the State's Wetlands Conservation Policy of no net loss to wetlands, the State needs to closely track both wetland losses and mitigation/restoration project success. Therefore, we require that the applicant use the California Wetlands Form to provide Project information related to impacts and mitigation/restoration measures (see Condition 78 of this certification). An electronic copy of the form and instructions can be downloaded at: www.waterboards.ca.gov/sanfranciscobay/certs.shtml. Project information concerning impacts and mitigation/restoration will be made available at the web link: ecoatlas.org.

CEQA Compliance: Pursuant to the provisions of the California Environmental Quality Act (CEQA), the City of San Ramon prepared the *Northwest Specific Plan/Faria Preserve Community Plan Environmental Impact Report* (EIR) in 2006 (State Clearinghouse Number 2003022102), the *Addendum to the Northwest Specific Plan/Faria Preserve Community EIR* in June 2008, and a *Draft Initial Study/Mitigated Negative Declaration, Faria Preserve Community Project* (*Draft Initial Study/MND*) in December 2013 (State Clearinghouse Number 2013122009).

The *Draft Initial Study* analyzed changes to the site plan resulting from comments by the Corps, Water Board, and CDFW requesting reductions in wetland impacts. In response to public comments received on the *Draft Initial Study/MND*, the City of San Ramon required that the site plan be revised to move the proposed primary eastern site access from Deerwood Road back to Purdue Road as originally planned. The City analyzed this change in a Memorandum, San Ramon Faria Community Preserve IS/MND Changes Summary (AE COM, March 13, 2014). The City of San Ramon Planning Commission unanimously approved the Project on May 6, 2014. A Notice of Determination was filed on May 8, 2014.

The Water Board, as a responsible agency under CEQA, has considered the Final EIR and finds that all significant impacts identified therein have been mitigated to less than significant levels. This includes all of the fill impacts to seasonal wetlands on the Project site, including the features identified on the site since the *Northwest Specific Plan/Faria Preserve Community Plan Environmental Impact Report* in 2006 was prepared. The Water Board filed a Notice of Determination with the State Clearinghouse on July 15, 2015.

Certification: I hereby issue an order certifying that any discharge from the referenced project will comply with the applicable provisions of sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act, and with other applicable requirements of State law. This discharge is also regulated under State Water Resources Control Board Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification," which requires compliance with all conditions of this certification. The following conditions are associated with this certification:

CONDITIONS

1. No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction related materials or wastes, oil or petroleum products or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the State. Any of these materials placed within or where they may enter waters of the State by the Applicant or any party working under contract, or with the permission of the Applicant shall be removed immediately. When construction is completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be washed into waters of the State. During construction, the contractor shall not dump any litter or construction debris within the riparian/stream zone, seasonal wetlands, seeps and ephemeral swales on or adjacent to the Project site that are not permitted for fill by this certification. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site;

2. The Applicant shall adhere to the conditions of the CWA section 404 Individual Permit issued by the Corps (File No. 2005-296780S);

3. The Applicant shall adhere to the conditions imposed by CDFW in the May 22, 2015, Streambed and Lake Alteration Agreement (Notification No. 1600-2012-0335-R3), and CDFW Incidental Take Permit No. 2081-2013-065-03;

4. The Applicant shall adhere to the Terms and Conditions and the Reasonable and Prudent Measures and Reporting Requirements in the *Biological Opinion for the Faria Preserve Residential Development Project in the City of San Ramon Contra Costa County, California* (USFWS, December 19, 2014) (Reference No. 08ESMF00-2014-F-0190);

Erosion and Sediment Control and Construction Conditions

5. The Applicant shall implement an effective combination of erosion and sediment control measures during all periods of construction at the site. Adequate erosion and sediment control measures shall be constructed and maintained to prevent the discharge of earthen materials to waters of the State, including all ephemeral drainages, seasonal swales and wetlands, seeps, and storm drain systems from disturbed areas during all periods of site grading and construction. The Applicant is responsible for obtaining coverage and complying with appropriate permits for the discharge of stormwater associated with construction activity. This includes complying with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity as prescribed in the State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ, and as may be subsequently reissued (hereinafter Construction General Permit);

6. The Applicant shall notify the Water Board (water quality certification contact for projects within Contra Costa County, via email and hard copy) at the following stages during Project implementation: (1) when Project construction begins, to include the initial site preparation; (2) when construction of the mitigation areas begins; (3) when construction of the mitigation areas is complete, including seeding and planting; and, (4) when construction of Project structures begins and ends;

7. In addition to complying with all reporting requirements included in the Construction General Permit, the Applicant is required to notify the Water Board (water quality certification contact for projects within Contra Costa County, via email and hard copy) within 7 days each time a Rain Event Action Plan is prepared and implemented, and Visual Monitoring (Inspection) pre and post each Qualifying Rain Event[1] and Storm Water, Non-Storm Water or Non-Visible Pollutant Sampling and Analysis of the Qualifying Rain Event is conducted. The Applicant is required to submit Numeric Action Level exceedance reports to the Water Board (water quality contact for projects within Contra Costa County, via email) no later than 10 days after the conclusion of the rain event;

8. Prior to the start of the rainy season, the Applicant shall ensure that disturbed areas of waters of the State and disturbed areas that drain to waters of the State are protected with correctly installed erosion control measures (e.g., jute, straw, coconut fiber erosion control fabric, coir logs), and/or revegetated with propagules (seeds, cuttings, divisions) of locally-collected native plants;

9. Erosion control textiles that include plastic monofilament netting are prohibited from use at the Project site or within the mitigation sites. Tightly woven fiber netting, hydroseeding, or similar material shall be used for erosion control or other purposes at the site to ensure that aquatic and other wildlife species do not get trapped;

10. Where areas of bare soil are exposed during the rainy season, silt control measures shall be used where silt and/or earthen fill threaten to enter waters of the State. Silt control structures shall be monitored for effectiveness and shall be repaired or replaced as needed. Buildup of soil behind silt fences shall be removed promptly and any breaches or undermined areas repaired at once;

11. Groundwater or accumulated stormwater removed during dewatering of excavations shall not be discharged directly to waters of the State without meeting the following conditions: any groundwater or accumulated stormwater released to waters of the State shall not exceed 110 percent of the ambient turbidity of the receiving waters, if receiving water turbidity is greater than 50 NTU, or 5 NTU above ambient turbidity if the ambient turbidity is less than or equal to 50 NTU. Any groundwater discharged to waters of the State shall have a pH in the range of 6.5 to 8.5;

12. Project grading will occur during the dry season, so flow diversions are not anticipated to be necessary within site stream channels. However, if it is determined to be necessary, flow diversion shall be implemented in a manner that prevents pollution and/or siltation in waters of the State and maintains natural flows downstream of the diversion facility. Coffer dams used as part of any flow diversion system needed during Project implementation may be constructed with clean river gravel or sand bags, piping or other non-erodible materials. All of these materials shall be completely removed from the stream channel upon Project completion;

[1] producing precipitation of ½ inch or more at the time of discharge (see Construction General Permit)

13. Concrete used in the Project shall be allowed to completely cure (a minimum of 28 days) or be treated with a sealant that is non-toxic to aquatic life before it comes into contact with flowing water (Note: Demonstration of non-toxicity to aquatic life may be evaluated by measuring survival of test organisms in a 96-hour bioassay. The bioassay shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, 5th Edition (EPA-821-R-02-012), including sample collection, handling, and preservation in accordance with U.S. EPA protocols). Only sealants that have been tested and found non-toxic to freshwater aquatic life, including benthic macro-invertebrates, may be used on concrete surfaces that may come into contact with flowing water. Concrete will be considered to be cured when water poured over the surface of concrete consistently has a pH of less than 8.5;

14. Construction in waters of the State (with the exception of riparian mitigation or erosion control seeding and/or planting) is restricted to the dry season. All Project work that occurs within stream channels or wetlands shall be completed prior to October 15, unless otherwise authorized by CDFW and the Water Board. After October 15, work will only be authorized in 10-day increments, based on weather forecasts predicting a less than 20 percent chance of measureable precipitation;

15. No equipment shall be operated in areas of flowing or standing water; no fueling, cleaning, or maintenance of vehicles or equipment shall take place within areas where an accidental discharge to waters of the State may occur; construction materials and heavy equipment must be stored above of the ordinary high water mark;

Faria Preserve Residential Project

16. The Applicant shall submit, acceptable to the Executive Officer, an analysis documenting the basis for the proposed culvert plan, or an alternative plan for modification of the culvert inlet and outlet within the Central Creek channel. The alternative inlet design shall be modified, if possible, to minimize and avoid creation of a depositional environment for sediment. The proposed plan shall provide the basis for the design (for example, could inclusion of wing walls help to direct flows into the culvert to avoid ponding along the length of the headwall), and discussion of design parameters that will facilitate effective direction of flows into the culvert under both low and high flow conditions. If proposed, an outlet design modification may consider alternative options for dissipation of energy for the creek flows and the stormwater runoff from the developed site. Options to consider may include the use of a rock step pool system, with vegetation incorporated into the rock along the sides of the channel, instead of the proposed concrete box structures. The analysis documenting the basis for the proposed plan or the alternative modifications shall be submitted no later than 30 days prior to any placement of fill within the Central Creek channel, but no later than August 31, 2015. After the design has been accepted by the Executive Officer, the revised plans shall be incorporated into the construction documents. Earthen fill shall not be placed into the Central Creek channel until the Executive Officer has accepted the revised design for the culvert inlet and outlet;

17. The Project shall be constructed in conformance with the Project description in the body of this certification and in conformance with the figures included in the Attachment to this certification, as modified by any changes required in this certification. Impacts to waters of the State shall not exceed 1.11 acres for seasonal wetlands, 0.12 acres (2,306 LF) for

creek channel, and 2.39 acres of riparian trees and shrubs. Any changes to these plans that may impact waters of the State shall be submitted to the Executive Officer for review and approval prior to implementation;

18. The culvert constructed to convey flows of the Central Creek channel beneath the residential development shall be constructed as shown on the plans reviewed and accepted by the Executive Officer in accordance with Condition 16;

19. Within 30 days of completing all Project elements with impacts to waters of the State (site grading, outfalls, etc.) that are authorized by this certification, the Applicant shall provide the Executive Officer with a Final Project Completion Report that includes: (a) the Project name; (b) the Place ID listed at the top of this certification; and, (c) the date Project impacts to waters of the State at the Project site were completed;

Seasonal Wetland & Stream Mitigation

20. The Applicant shall prepare a final mitigation and monitoring plan, acceptable to the Executive Officer, which incorporates any corrections and changes that have been made and approved since submittal of the March 15, 2015, document, including those described below. The final *Faria MMP* shall include both the onsite and offsite mitigation described in this certification, with the possible exception of the San Ramon Golf Course mitigation described in Condition 22, and shall be submitted for review and acceptance by the Executive Officer no later than August 21, 2015, or within 30 days following issuance of the Corps' Individual Permit, whichever is later. If the Executive Officer determines that the revised *Faria MMP* is acceptable, site grading and construction may then begin, or continue if it has already been initiated. For the San Ramon Golf Course portion of the offsite mitigation (or alternative proposal described in Condition 22), the Applicant shall submit the conceptual Golf Course mitigation proposal to the Executive Officer for review and approval within 90 days of issuance of the Corps' Individual Permit. A detailed mitigation plan for the San Ramon Golf Course (or alternative mitigation site) shall be submitted to the Executive Officer within 90 days of the Executive Officer's approval of the conceptual mitigation proposal for the Golf Course (or alternative mitigation site). However, if the Executive Officer determines that the revised *Faria MMP*, or the offsite Golf Course or alternative mitigation is not acceptable, then all grading and construction on the Project site shall cease until an acceptable revised plan has been submitted.

    The *Faria MMP* shall include modifications to the following elements:

    i. Vegetation Performance Standards: The absolute cover of hydrophytes (OBL/FACW) shall be ≥ 50 percent, and the relative cover of native species shall be ≥ 75 percent. The mitigation plan may proposed specific reference sites for review and approval by the Executive Officer, to use as guides for assessment of native cover in place of the above described standard. Specific reference sites with detailed quantitative descriptions of vegetative cover, including plant species and cover percentages based on evaluation during the early spring when hydrophytic vegetation would be most prominent shall be provided if reference sites are to be used to evaluate attainment of performance standards;

    ii. Vegetation monitoring methods shall utilize a minimum of two permanent plots within each created wetland feature. Reference sites will not be used unless they are approved by the Executive Officer;

iii. The Braun Blanquet Cover Classes method proposed in the mitigation plan shall not be used to determine the percent cover of each species. A method that includes a range of cover of 40% to 60% shall be used (for example, the suggested cover classes presented by Ralph Tiner in *Wetland Indicators, A Guide to Wetland Identification, Delineation, Classification, and Mapping* (CRC Press, LLC, 1999, page 106);

iv. Riparian Vegetation: A minimum of 90 percent of the plants will be alive, healthy, and growing at the end of year one, a minimum of 85 % of the plants will be alive, healthy and growing at the end of year 8, and a minimum of 80 % of the plants will be alive, healthy and growing at the end of year 10;

v. Total absolute cover of non-native invasive plant species within each individual created wetland, or within the riparian planting areas (species with "High" impact rankings by Cal-IPC) shall be no more than 5 percent; and

vi. The time schedule for implementation of the mitigation shall be modified to specify that all seasonal wetlands and channels will be constructed during the same year that impacts to wetlands and channels occurs. In addition, willow stakes shall be planted along the central creek channel and at designated head cut locations during the same year that impacts occur. The remaining riparian plantings may be done during the second year of construction to allow for access to irrigation water from the development;

21. No later than 60 days following issuance of this certification, the Applicant shall provide the Executive Officer with confirmation that funding in the amount of $100,000 has been provided to the Contra Costa County Flood Control District (or entity acceptable to the District). This funding shall be dedicated to the lower Walnut Creek historical ecology study and other work necessary for the development of environmental review and design documents for implementation of restoration work that will include the creation of tidal marsh and other enhanced aquatic features. This submittal shall include a letter from the Contra Costa County Flood Control District that acknowledges receipt of the funds and includes a plan for submittal of status reports every six months until the funds are expended. The status reports shall specify funding amounts dedicated to historical ecology and funding amounts dedicated to other necessary support work for the lower Walnut Creek restoration planning process;

22. The Applicant shall implement the mitigation measures included in the Executive Officer-approved final *Faria MMP*, including, but not limited to, site preparation, planting, fence installation, maintenance, monitoring, and reporting. Implementation of the mitigation plan shall be consistent with the description of the mitigation activities described in this certification and in the figures included in the Attachment to this certification. A minimum of 2.34 acres of new aquatic habitat shall be created onsite (approximately 2.22 acres of new seasonal wetland, and 0.12 acres (2,717 LF) of ephemeral channel), and a minimum of 2,155 linear feet of culvert shall be daylighted at the offsite San Ramon Golf Club (unless an equivalent alternative to this element of the mitigation package is accepted by the Executive Officer). The required mitigation areas shall be constructed and planted with native vegetation within the same year that the Project impacts occur, with the exception of a subset of the riparian plantings as approved by the Executive Officer in the final *Faria MMP*. Any changes to the approved plan must be submitted to the Executive Officer for review and approval prior to implementation of the changes;

23. During construction of the mitigation wetlands, measures necessary to optimize the success of the wetland creation shall be implemented, including the use of appropriate topsoil (imported as needed to augment surface soils salvaged from impacted wetlands), and creation of micro topography within each feature;

24. All creek channels and existing wetlands throughout the site that are not designated for impacts under this certification shall be fully protected from impacts during construction of the residential development and the mitigation features. Orange construction fencing or a similar visible barrier will be installed to define the limits of sensitive wetland and creek areas prior to construction;

25. Pre-construction and post-construction photographs shall be taken at all locations where existing wetlands are located adjacent to, or within 200 feet of, proposed mitigation wetland areas. Prior to construction, the existing wetlands shall be identified and shown on drawings that will be provided to the Water Board in the as-built report required in Condition 29;

26. For riparian plantings within the mitigation area, propagules for container stock and willow cuttings shall be obtained from populations originating within the local watershed area. Plant propagules shall be derived from as close to the mitigation site as feasible in sites with similar soils and elevations. If adequate propagules are unavailable from the local watershed, then they may be obtained from a neighboring watershed from areas that exhibit similar environmental conditions to those found at the mitigation site. Propagule sources shall be documented in the as-built report(s) for the mitigation planting;

27. A qualified wetland biologist or restoration ecologist shall monitor the installation of the mitigation wetlands, streams, and riparian plantings with sufficient frequency to document that the features are being constructed in accordance with the *Faria MMP*. Grading for wetland creation shall be done in a manner that allows for development of berms and land contours that are natural in appearance;

28. Photo-documentation of all mitigation work done for the Project shall be conducted from permanent locations at each mitigation feature. At least 40 photo-documentation points shall be established within the wetland, channel and riparian mitigation areas, with several panoramic views, at least one view of each created wetland feature, eight of the meandering channel/wetland/riparian complex at the Bollinger mitigation site, and one at each outfall location and culvert inlets and outlets. The photo-documentation points shall be selected to show representative views of the created wetlands and stream features, including each seasonal wetland diversion weir, and the health and vigor of the vegetation. The Applicant shall determine the location of these photo-documentation points and shall note these locations on a map to be submitted to the Water Board with the as-built drawings and each mitigation monitoring report;

29. Within 90 days of the completion of construction for the mitigation features during the first year of construction, including all created channels and the riparian and upland planting, the Applicant shall submit, satisfactory to the Executive Officer, an as-built report that includes documentation of construction. As-built drawings of the mitigation features shall be prepared using GPS data points collected around the edges of the seasonal wetlands, overlaid on the original grading plans. The as-built drawings shall

indicate the areal extent of each created wetland (square feet and acres of each feature) and the created channels in plan view, the extent of the riparian planting zones in plan view, the location of photo-documentation points, seeded, areas, and other pertinent features. A longitudinal profile of the created channel in the Bollinger Canyon East mitigation area shall be included, along with a minimum of three representative channel cross sections. The as-built report shall also include a description of construction activities, including any adjustments to the approved design plans, and photo-documentation of pre-construction and post-construction conditions within the mitigation area from the permanent photo-documentation points;

30. Within 90 days of completion of the remaining riparian plantings during the second year of construction, the Applicant shall submit, satisfactory to the Executive Officer, an as-built report that includes all of the information required in the previous condition;

31. Any open space areas disturbed by construction will be planted with a seed mix consisting of naturalized and native grasses and forbs to prevent soil erosion and exotic weed invasion, and to provide habitat enhancement. Erosion control seeding activities will take place in the fall so that sown seeds can benefit from winter rains;

32. During the first five years after plant installation, mulch around each riparian planting will be replenished, as needed, to ensure that a 3-inch deep by 3-foot diameter layer of mulch is present around each riparian planting;

33. No later than ten days prior to the placement of fill in wetland or creek channels on the Project, site, the Applicant shall submit, acceptable to the Executive Officer, proof of financial assurance(s) adequate to ensure the construction and success of the proposed mitigation. Such assurance(s) shall demonstrate that adequate funding, based on an estimate acceptable to the Executive Officer, will be available for the construction, establishment, monitoring, and success of the proposed mitigation features. Security for the construction, establishment, monitoring, and success of the proposed wetland and channel mitigation shall be in an instrument acceptable to the Executive Officer (e.g., certificate of deposit, letter of credit, or other appropriate instrument callable by the Water Board and/or Executive Officer). The security will be released by the Executive Officer when it has been demonstrated, acceptable to the Executive Officer, that the mitigation has successfully achieved the performance criteria. The security may be released in steps, as appropriate, acceptable to the Executive Officer, when the seasonal wetlands have achieved the performance criteria, and when the channel and riparian areas have achieved the performance criteria;

Mitigation Monitoring & Performance Standards

34. Created wetlands and channels shall be monitored and maintained for a minimum period of 5 years. The channels, including the three day-lighted channels at the San Ramon Golf Course, and all planted riparian vegetation shall be monitored for a minimum of 10 years (annually during the first 5 years, then during Year 7 and Year 9, and Year 10). Monitoring shall continue beyond the minimum period noted above as needed until mitigation sites attain the performance standards included in the *Faria MMP,* and as summarized below in the Conditions. Monitoring shall include assessment of channel stability and function, riparian planting survival and growth, and wetland hydrology and vegetation establishment with special attention paid to areas lacking vegetation, mortality of planted shrubs and trees, plant species composition, irrigation and

maintenance of planted trees and shrubs, invasion of the mitigation site by invasive non-native weeds, and erosion that could threaten the mitigation success;

35. Monitoring data shall be collected and compared to the performance standards included in the *Faria MMP* and this certification, to evaluate the success of the mitigation features. A qualified restoration ecologist shall conduct all mitigation monitoring evaluations;

36. The performance standards for channels and riparian vegetation shall apply to all of the created channel features, including the day-lighted channels at the San Ramon Golf Course.

37. A qualified fluvial geomorphologist[2] shall visually assess created stream channel stability within the mitigation areas during each monitoring year at the end of the rainy season. This visual assessment shall determine whether or not the channels are experiencing any erosion with the potential to compromise attainment of the final performance standards for these features. These assessments, including photo-documentation of any location where signs of significant erosion or sedimentation are observed, shall be included in the mitigation monitoring reports submitted annually for the Project, and corrective actions shall be implemented if channels display any of the following potential indicators of channel instability: noticeable head cutting or incision; substantial bank erosion; bank slumping; movement of berms or weirs used to form the adjacent seasonal wetlands; lateral channel migration; or, excessive sedimentation or aggradation. Such corrective actions shall be implemented within six months of noting evidence of channel instability. Signs of significant erosion shall, at a minimum, consist of piping, scarps, scour, or down cutting that threatens to flank or undermine the weirs or the channel banks. Signs of significant sedimentation shall, at a minimum, consist of aggradation or sediment deposition that threatens to block or destabilize the creek channel;

38. The longitudinal profile of the created channel in the Bollinger Canyon East mitigation area shall be quantitatively monitored (surveyed) during the mitigation monitoring period after any storm greater or equal to the 10-year rainfall event as defined by the Contra Costa County Flood Control and Water Conservation District criteria for the San Ramon area. The longitudinal profile shall be included in the annual mitigation monitoring report for that year;

39. During the initial 5 year monitoring period (years 1 through 5), which will only end when the seasonal wetland performance standards are attained, the site shall be monitored to assess the success of weed control, the need for trash removal, and the presence of any evidence of vandalism;

40. In addition to quantitative evaluations, the monitoring will include an annual qualitative assessment of each created wetland and channel to document the general condition of each site, including recruitment of desirable species, general health and vigor of vegetation, presence of invasive exotic plant species, evidence of sedimentation and erosion, soil development, and channel stability;

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[2] The "qualified fluvial geomorphologist" shall be a fluvial geomorphologist experienced with the design, construction, and monitoring of restored or created creek channels.

Wetlands Performance Standards:

41. **Vegetation**. The overall vegetation performance goal is to establish new wetlands, with dominant cover by two or more native hydrophytes. By monitoring Year 5, a minimum of 51 percent absolute cover of OBL, FACW and FAC species shall be attained, and the relative cover by native species shall be 75 percent, or similar to the cover by native species within reference wetlands if reference wetlands are approved by the Executive Officer. If reference wetlands are approved, then at the end of Year 5, the mitigation wetlands shall attain a minimum of 90 percent of the native cover within the reference wetlands. Any areas of ponded water within the sample locations will be quantified but will not be averaged into the vegetation percentages. There shall be a minimum of three different native species.

42. Vegetation monitoring shall be done with permanent quadrats randomly selected prior to the start of construction of the wetlands, or quadrats randomly selected on an annual basis, or sufficient number and size to provide vegetation assessment within a minimum of 1/10 of the mitigation wetland acreage. The annual mitigation monitoring reports shall provide a detailed description of the vegetation monitoring method and a map showing the locations of all quadrats used for monitoring;

43. *Invasive Exotic Plant Species:* (those species classified as List A species by the California Invasive Plant Council (Cal IPC 1999)). Absolute cover by invasive exotic plants in each created wetland shall not cover greater than 5% of the wetland area. Control of invasive weeks may consist of a combination of mechanical removal (e.g., mowing, hand-pulling) and herbicide treatment;

44. **Hydrology**. The depths of ponding and hydroperiods in created seasonal wetlands shall be sufficient to support the growth and sustenance of hydrophytic vegetation. The wetlands shall seasonally flood, pond and/or saturate for long (>14 days) to very long (>30 days) continuous durations during the growing season each year. At least half of the seasonal wetland mitigation acreage shall be inundated or have saturated soil conditions for a minimum period of 21 days during 3 years of the 5-year monitoring period. The remaining half of the seasonal wetland acreage shall be inundated or have saturated soil conditions for a minimum period of 14 days. Documentation that this hydrology criterion is being achieved shall be provided in the Year 2 monitoring report, and monitoring shall continue through Year 5 to demonstrate continued success. Hydrology monitoring shall include site assessment by the biological monitor at a frequency adequate to determine if saturated soil or inundation is present for a minimum period of 14 to 21 consecutive days. At a minimum, site visits and monitoring for soil saturation and inundation shall be performed after the first storm event with ½ inch or greater of rain, with subsequent site visits continuing at a frequency of once per week to evaluate wetland hydrology conditions to verify the duration of saturation or inundation. If saturation or inundation does not persist for a minimum period of 14 to 21 days, then the monitoring cycle shall begin again after the next storm event with ½ inch or greater of rain until a minimum period of 14 to 21 days of saturation or inundation has been achieved. The methods used for assessing soil saturation shall be provided in each annual mitigation monitoring report. This criterion shall be achieved during at least 3 years of a 5-year monitoring period;

45. If drought conditions are present during the 5-year mitigation monitoring period for the seasonal wetlands, then wetland monitoring and evaluation shall continue until the

above described hydrology requirement has been met during at least 3 years of a 5-year monitoring period;

46. If the mitigation wetland hydrology is not developing in a manner that will support wetland vegetation, then remedial measures shall be proposed and implemented at least four months prior to the initiation of the subsequent year's monitoring evaluation. If vegetation is replaced in any mitigation feature, or if the created wetland or stream channel designs are modified to improve hydrology conditions, then the monitoring period shall be extended from the time of implementation of remedial measures to provide for the required 5-year (wetlands) and 10-year (channels and riparian vegetation) monitoring periods;

47. *Channel Performance Standards*: The bed and banks of the created channels shall be stable with no observed excessive erosion or deposition of sediment or signs of instability at the diversion weirs for the seasonal wetlands;

48. *Jurisdictional Area*. By the end of monitoring Year 5, a minimum of 2.34 acres of new aquatic habitat shall be created (approximately 2.22 acres of new seasonal wetland, and 0.12 acres (2,717 LF) of ephemeral channel) within the mitigation areas. The wetland delineation shall be conducted with a sufficient number of paired sampling points to differentiate the boundary between upland and wetland. The channels shall continue to be monitored for five additional years to ensure stability and conveyance of flows;

49. *Riparian Vegetation Performance Criteria*: At no time during the monitoring period shall the number of riparian plant species remaining from the original planting be lower than 75 percent survival (thriving and growing). If fewer than 75 percent of the original plantings are thriving and growing at any time during the monitoring period, replanting shall be conducted so that the original plantings are replaced. Percent survival shall be evaluated individually for all planted species. If these performance criteria are not achieved, dead plants must be replaced in kind, unless the Applicant demonstrates that the site is not conducive to the survival of a plant species, in which case alternative species may be used, with the concurrence of the Executive Officer. Replacement plantings must be made within one year of the survival rates failing to meet the performance criteria, and these new plants shall be monitored for a minimum period of five years for wetland plants and shrubs and riparian shrubs, and for ten years for replacement of riparian trees. Replacement plantings are subject to the same performance criteria as the original plantings. Replacement plants may be irrigated during the first three years after planting. Only shrubs and trees that have survived for at least two years without irrigation may be used to meet the final percent survival performance criteria;

50. The riparian mitigation, including the grassland within the riparian sites, shall not be dominated by non-native invasive vegetation. Evidence of non-native invasive species invasion or establishment will be determined from direct observation and photo documentation. The total absolute cover of non-native invasive plant species (species with "High" or "Moderate" impact rankings by Cal-IPC) shall be no more than 10 percent;

51. Mitigation monitoring reports (both a hard copy and an electronic copy) shall be submitted to the Water Board by January 31 following each year of monitoring for a minimum of 10 years (years 1 through 5, and 7, 9, and 10). The mitigation monitoring

reports shall include all data generated through implementation of the monitoring as specified in the *Faria MMP* and as described in this certification. The first mitigation monitoring report shall be prepared to document the first full year of post-construction mitigation plant growth and hydrological conditions. These reports shall summarize each year's monitoring results, compare data to previous years, and detail progress towards meeting final performance standards. Mitigation monitoring reports prepared during the first five years shall contain information on both wetland and riparian mitigation features, including the created channels. If wetland performance standards are achieved by the end of Year 5, then the reports prepared in Years 7, 9, and 10 will only include information on riparian mitigation and the created channels;

52. Mitigation monitoring reports shall include the Site Number, CIWQS Place ID Number, and the CIWQS Regulatory Measure ID Number included on the first page of this Certification;

53. Mitigation monitoring reports shall include documentation of any pesticide (i.e., herbicide, pesticide, fungicide, rodenticide) use during the previous year, for control or eradication of invasive species. This inventory shall include the type of herbicide, target species, frequency and duration of use, minimization measures used in applying the pesticide, and the methods used to avoid introducing pesticides into the wetlands or channels;

54. The mitigation monitoring reports shall comply with the requirements described in Corps Regulatory Guidance Letter 08-03, *Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Restoration, Establishment, and/or Enhancement of Aquatic Resources*;

55. Mitigation monitoring reports shall include hydrology data from each wetland during the rainy season, vegetation monitoring data, and maps showing the locations of the photo-documentation points, monitoring quadrats/transects, sampling data points, and any other pertinent features. Overall site maps that show the location of the mitigation wetlands, channels and riparian areas shall be included, along with the performance standards. Vegetation monitoring methods shall be described in detail in each annual mitigation monitoring report. If quadrats are used to evaluate vegetative cover, an adequate number of quadrats shall be utilized throughout the mitigation wetlands to provide data that is representative of the vegetation conditions throughout the wetlands. The method used to determine the locations of the monitoring locations shall be provided. In addition to the specific data collection within designated areas, the vegetative cover evaluation shall include a general overall assessment of cover, with documentation provided through representative photographs;

56. Mitigation monitoring reports shall include an evaluation of channel stability for the created channels. If the channels are not geomorphically stable at the end of year 10, the Applicant shall work with Water Board staff to prepare analysis of the cause of the instability. If deemed necessary by the Executive Officer, remedial actions shall be implemented by the Applicant;

57. Mitigation monitoring reports shall indicate if modifications to the mitigation and monitoring plan are needed, as well as point out appropriate steps to correct any deficiencies in the mitigation or the plan. Analysis of the cause of any site failures shall

be made and remedial actions shall be implemented to correct the problem if progress towards meeting the final performance standards is not being achieved during the monitoring period. The need for implementation of any remedial actions shall be discussed, including re-planting or irrigation of riparian vegetation, and modification of created wetlands to improve hydrology. A time schedule for implementation of any remedial measures shall be included;

58. Alternative mitigation site and/or remedial measure planning shall begin if it becomes apparent that long-term performance criteria for the mitigation site(s) will not be achieved in the five-year and/or ten-year mitigation monitoring period. If alternative mitigation sites are to be considered to replace the approved mitigation work, then the Applicant shall work with the Corps, CDFW, and the Water Board to prepare a plan and time schedule for implementation of an Executive Officer-approved alternative mitigation plan;

59. The final mitigation monitoring report summarizing the mitigation project and evaluating the overall performance shall be prepared and submitted at the end of monitoring (Year 5 for wetlands and Year 10 for the channel and riparian enhancement, if performance standards are attained). The final mitigation monitoring report shall include the normal content in addition to a formal wetland delineation prepared in accordance with the routine delineation methodology as described in the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987, as updated), to confirm that wetlands have been created in accordance with the *Faria MMP.* If the created wetland and/or riparian plantings do not meet the performance standards, then adaptive management activities, monitoring, and submittal of mitigation monitoring reports shall continue until the performance standards are met;

60. The Applicant is responsible for providing additional compensatory mitigation in the event that any of the mandatory mitigation features in the *Faria MMP* and this certification either (1) are not constructed within 12 months of the Project's first impacts to waters of the State; (2) fail to attain their performance standards; or (3) fail to have a Conservation Easement recorded over any of the mitigation sites within the time schedules required by conditions 62 and 63 of this certification unless an extension is otherwise approved by the Executive Officer. For any of the mitigation features that fail to attain performance standards, or fail to have executed a Conservation Easement recorded, the Applicant shall provide mitigation equivalent to the originally required mitigation, plus an additional 10 percent increase in the area of the mitigation for each year between the initial discharge to waters of the State and the implementation of additional mitigation. Any necessary plans for additional mitigation must receive written approval from the Executive Officer before they are implemented. However, any mitigation required by this condition must be provided within 12 months of either a failure to meet final performance standards, or a failure to record a Conservation Easement in the time required by the conditions of this certification;

61. **Conservation Easements**: The Applicant shall provide for long-term protection of the mitigation areas by placing a conservation easement over the preserved open space and mitigation areas. The conservation easements shall provide in perpetuity for the protection of the mitigation areas, including the open space and preserved wetlands, seeps, and stream channels for the purposes of retaining the land in its natural, open-space condition that supports the created wetlands and stream, and other enhanced and

preserved water habitat. Uses allowed within this area shall be consistent with those purposes as well as maintaining existing habitat resources;

62. The Applicant shall submit, satisfactory to the Executive Officer, no later than August 21, 2015, a status report on acquisition of the offsite Ambrose and Roberts Ranch sites and planning for implementation of long-term management activities and preservation measures for the sites. This report shall include a proposed time schedule obtaining review and approval of the conservation easements, long-term funding endowment amounts, and the *Faria Long Term RMP* by the resource agencies in preparation for recording the conservation easements and funding the endowments. This report shall also include the following: (1) a proposed time schedule for implementation of mitigation measures on the Ambrose and Roberts Ranch sites, including fencing of all channels and wetlands to provide protection from grazing stock, and providing a water source or sources for grazing stock; and, (2) a proposed plan for accessing the site to install fencing and measures that will be implemented to protect sensitive aquatic areas during the installation work;

63. No later than August 21, 2015, draft conservation easements shall be submitted for review and approval by the Executive Officer. The easements shall be developed pursuant to Civil Code Sections 815-816, and shall follow the CDFW and/or USFWS templates for conservation easements. Within 18 months following issuance of the CDFW Incidental Take Permit, the Applicant shall record conservation easements over the Onsite Preserve, the Open Space Preserve, the Ambrose Preserve, and the Roberts Ranch Preserve in the Contra Costa County Official Records. The terms of the conservation easements shall be incorporated into any legal instrument that would transfer any interest in the preserved mitigation and/or open space lands. The Water Board shall be a third-party beneficiary of the conservation easements, which shall give the Water Board the right of access to the conservation areas and the right to enforce all of the obligations of the Grantor and the Grantee.

    The Grantee of the conservation easements (also known as the conservation easement holder) shall be the Wildlife Heritage Foundation (WHF).[3] The responsibilities of the Grantee shall be described in the conservation easements and include preserving and protecting the conservation values of the mitigation and open space areas, preventing any activity that is inconsistent with the purposes of the conservation easement, performing annual compliance monitoring inspections, and preparing reports on the results of the compliance monitoring inspections and providing these reports to the resource agencies, including the Water Board, on an annual basis. Any change of the Grantee must be approved by the Executive Officer before the identity of the Grantee may be changed. The Applicant shall establish an endowment fund to provide income to fund perpetual management, maintenance, monitoring and other activities within the conservation areas. Concurrently with the recording the conservation easement, the Applicant shall transfer the endowment money to the Endowment Fund holder. The WHF, or a subsequent Grantee that has been approved by the Executive Officer, shall hold and invest the endowments. Prior to recording the conservation easements, the easement language shall be approved by the Executive Officer, and the Executive

[3] Wildlife Heritage Foundation, 563 Second Street, Suite 120, Lincoln, CA 95648, Contact: Pat Shea, Executive Director, (916) 434-2759 or pshea@wildlifeheritage.org

Officer shall determine that the *Faria Long Term RMP* is acceptable as described in the following conditions;

64. **Long-Term Management Plan**: The Applicant shall submit, no later than November August 21, 2015, acceptable to the Executive Officer, a revised *Faria Long Term RMP* for mitigation and preserved open space areas. This plan shall incorporate any changes made as a result of comments provided by USFWS, the Corps, CDFW, and/or Water Board staff, including those in this certification. The plan shall provide a comprehensive approach to preserving, maintaining, and monitoring habitat in the conservation easement areas. Under the plan, long-term management will be conducted to maintain the integrity of all preserved and created wetlands and channels. The plan shall identify allowable activities in the conservation easement areas, and include provisions for fire break maintenance, vegetation and fuels management, protection of sensitive wildlife habitat areas (riparian corridors, wetlands, and seeps), and fence maintenance. A grazing management plan that specifies that livestock grazing shall be restricted to the levels necessary for fuel and habitat management shall be included. The grazing management plan shall include measures necessary to ensure that grazing animals will be managed in a manner that is protective of the vegetation and hydrology of the mitigation features, and that maximizes habitat and water quality functions. The *Grazing Management Plan* shall include a mechanism to provide a water supply for the grazing animals that is separate from the mitigation features, and fencing of all ephemeral, intermittent and perennial creek channels, plus an appropriate buffer of not less than 50 feet from each side of the centerline of each channel and the edge of each wetland located within the proposed livestock grazing areas. In addition to providing for all of the above described elements, the revised plan shall include the following:

    - Element A.1 – Waters of the U.S., including Wetlands. Objective: Monitor, conserve and maintain waters of the U.S., including wetlands. Prevent (instead of Limit, page 13) any impacts to waters of the U.S. from vehicular travel or other adverse impacts.
    - Element A.3 – Non-native Invasive Plant Species. Task: Control of invasive plants will (instead of may, page 15) occur at least once per every two years (instead of five years, page 15), and may include the use of specific herbicides. In addition to this change, the task shall include recording herbicide use during each year, for control or eradication of invasive species. The type of herbicide used, target species and frequency and duration of use, minimization measures used in applying the herbicide, and the methods used to avoid introducing herbicides into wetlands or channels shall be recorded for later reporting.
    - A revised PAR Analysis that includes more frequent control of non-native invasive plant species, and additional fence maintenance for fenced creeks and wetlands.
    - A revised *Grazing Management Plan* that provides more-specific guidance for each grazing site, both onsite and offsite. All grazing activities, including those on land controlled by EBRPD, shall be governed by the *Grazing Management Plan* after review and approval by the Executive Officer. Among other details that will need to be included are water sources for the cattle and more-detailed information on how stocking rates will be determined from year to year within each preserve area and the various habitat types within each preserve, with the stocking rates depending on the forage available in favorable years and unfavorable years, and grazing objectives maximizing the use of the land for habitat and water quality taking precedence over maximizing grazing based on

forage availability. Carrying capacity by duration and animal type in an average year shall be provided.

65. Within 30 days of issuance of the Corps permit, the Applicant shall submit, satisfactory to the Executive Officer, a revised analysis of the anticipated annual costs associated with implementation of the *Faria Long Term RMP*. This cost assessment shall determine the amount of an endowment to fund the management, monitoring, and security of the conservation easement area in perpetuity. The principal in the endowment shall generate sufficient revenue to cover the costs described in the *Faria Long Term RMP,* including funding for any extended monitoring and maintenance activities, as well as contingency measures, that the Executive Officer may determine are necessary to meet the mitigation requirements for the Project;

66. The Applicant may submit, for review and approval by the Executive Officer, a proposed alternative funding mechanism for the implementation of the *Faria Long Term RMP* on the Onsite Preserve. To be considered as a viable alternative to funding through an endowment held by a natural lands management entity, this proposal shall include full documentation of how a consistent level of funding would be available on an annual basis, to be dedicated to the natural lands management entity solely for management and maintenance of the mitigation areas and open space land that is to be preserved in its natural condition under the conservation easement. The submittal shall satisfactorily demonstrate that use of the funds cannot be used for other GHAD purposes. This submittal shall also satisfactorily demonstrate that the funding for mitigation and open space land preservation will not be compromised by other needs of the GHAD, such as correcting problems for homes and infrastructure threatened by earth movement. A hybrid approach for funding the management of the Onsite Preserve area may also be considered, with an endowment covering the majority of the conservation area costs, and a smaller funding amount provided by the GHAD. Any alternative funding proposal shall be submitted for review and approval by the Executive Officer no later than six months prior to recording of the conservation easements;

67. No later than 30 days after the conservation easements have been recorded, the Applicant shall submit verification of the recording, copies of the final conservation easements, and documentation that an endowment has been established to fund the long-term monitoring and maintenance activities described in the Executive Officer approved *Faria Long Term RMP*. The endowment shall be held by the conservation easement holder (anticipated to be WHF), which will allow the land manager to access and expend funds to implement the *Faria Long Term RMP* for the mitigation and open space areas. The Applicant shall provide the Executive Officer with documentation that: (1) funds for the perpetual management of the mitigation areas have been transferred to the easement holder; (2) the easement holder has accepted the funds and considers them adequate; and (3) these funds have been deposited in an endowment that will provide adequate financing for the monitoring and perpetual management and maintenance of the mitigation areas. If the Executive Officer has approved an alternative long term funding approach such as assessments by the GHAD for the Onsite Preserve, then verification that the funding mechanism has been successfully established, satisfactory to the Executive Officer, shall be included in this submittal;

68. Implementation of the *Faria Long Term RMP* shall commence for the Onsite Preserve and the Open Space Preserve not later than once the performance criteria for the

mitigation wetlands have been achieved. Within 60 days of documentation that performance criteria have been achieved for the created wetlands, the Applicant shall notify the designated natural lands manager and the holder of the conservation easement that the mitigation monitoring period for the wetlands has ended, and the long term management measures shall begin implementation. Documentation that this communication has occurred shall be provided to the Water Board within 60 days of completion;

69. Implementation of the *Faria Long Term RMP* for the riparian planting areas and the created channels shall commence not later than once the performance criteria for these features have been achieved. Within 60 days of documentation that performance criteria have been achieved for the riparian areas and the channels, the Applicant shall notify the designated natural lands manager and the holder of the conservation easements that the mitigation monitoring period for the riparian areas and channels has ended, and the long term management measures for these features shall begin implementation. Documentation that this communication has occurred shall be provided to the Water Board within 60 days of completion;

70. Implementation of the *Faria Long Term RMP* shall commence on the Ambrose and Roberts Ranch preservation sites prior to, or no later than, the date of recording the conservation easements. During the interim period between acquisition of the land and the recording of the conservation easements, the Applicant shall monitor the conditions of the offsite preserve areas to ensure that activities prohibited as described below in this certification do not occur;

71. Livestock (e.g., cattle, sheep, goat) grazing shall be prohibited unless the preserved and created ephemeral/intermittent creek channels and preserved and created wetlands and seeps are provided with fencing to prevent livestock intrusion into these features. Livestock grazing that takes place within the open space and mitigation area lands shall be restricted to the levels necessary for fuel and habitat management consistent with the *Faria Long Term RMP*;

72. Future creek stabilization work that is considered for implementation within any of the creek channels on the Project site or within the Onsite Preserve, Open Space Preserve, the Ambrose Preserve, or the Roberts Ranch Preserve, such as knick point repair, bank stabilization, or gully repair work, shall be done only after the necessary permits have been obtained from the Water Board and other resource agencies. Stabilization designs shall utilize vegetative revetments and soil bioengineering methods to achieve stability;

73. Unless allowed in the *Faria MMP* or the approved *Faria Long Term RMP* for the conservation easement areas, or future revisions thereof that have been approved in advance in writing by the Executive Officer, the following activities are prohibited within the conservation easement areas:

    i. Unseasonal watering, use of fertilizers, pesticides, biocides, herbicides, or other agricultural chemicals;
    ii. Depositing or allowing the uncontained accumulation of trash, ashes, garbage, waste, or any similar other material;
    iii. Removing, destroying, or cutting of native trees, native shrubs, or other native vegetation, except as required for the prevention or treatment of disease, abatement of weeds or invasive plants, and implementation of the *Faria Long Term RMP*;

iv. Removal, destruction, cutting of native trees, or other native vegetation for fire prevention purposes, without written approval by the Executive Officer, except for removal of dry or dead debris and mowing or grazing of dry grasses;
v. Introduction of non-native, exotic, or invasive species;
vi. Use of vehicles off designated roadways unless necessary to implement the *Faria Long Term RMP* or for emergency fire management or personal safety;
vii. Paving or otherwise covering of the ground surface with concrete, asphalt, or any other impervious paving material;
viii. Filling, dumping, excavating, draining, dredging, mining, or drilling;
ix. Removing or exploring for or extraction of minerals, loam, sands, gravel, or other material on or below the surface; and
x. Altering the surface or general topography, including building of roads, or construction of temporary or permanent structures, except as necessary for maintenance or restoration of the improvements described in the *Faria Long Term RMP* or otherwise authorized by this certification;

74. By the following January 31 of each year following recordation of the conservation easements over the Roberts Ranch Preserve and the Ambrose Preserve, an annual monitoring report shall be submitted to the Water Board summarizing the results of all monitoring activities during the previous calendar year. This report shall detail the methods used to collect and analyze the data, including comparisons to appropriate performance standards, the results of the data analysis, a discussion of the results, and conclusions regarding the present condition of the site. The annual report shall include any recommended changes to the management plan or monitoring regime as part of an adaptive management plan, any remedial actions that are necessary or that were taken, and an analysis of relationships between monitoring results and success criteria. Representative photographs from the photo-documentation points shall be included, along with maps indicating the locations of the photo-documentation points, and a qualitative assessment of the extent of, or trends in the extent of, yellow star-thistle or other invasive plants, and management recommendations and remediation needs;

75. Under the terms of the *Faria Long Term RMP*, annual reports shall be submitted no later than January 31 of each year of the long term maintenance period. Each report shall summarize the results of monitoring activities during the previous calendar year, including an accounting of the expenditure of funds, an assessment of maintenance activities, and reporting on grazing activities that occurred during the year, including stocking rates, duration of grazing, and grazing areas. This report shall detail the methods used to collect and analyze the data. The annual report shall include any recommended changes to the management plan or monitoring regime as part of an adaptive management plan, and any remedial actions that are necessary or that were taken. The annual reports shall also provide documentation of any pesticide (i.e., pesticide, herbicide, fungicide, rodenticide) use during the previous year, for control or eradication of invasive species. This inventory shall include the type of pesticide, target species, frequency and duration of use, minimization measures used in applying the pesticide, and the methods used to avoid introducing pesticides into the wetlands or channels;

76. In order to ensure that the GHAD activities within the open space and mitigation areas do not conflict with the goals and objectives of the *Faria MMP*, the approved *Faria Long Term RMP*, and the conservation easement measures, all of these documents shall be

incorporated into the Plan of Control for the GHAD. The draft Plan of Control shall be acceptable to the Executive Officer and shall be submitted for review and approval by the Executive Officer no later than August 31, 2015;

77. **Required Submittals:** All required submittals described in the conditions shall be submitted to the Water Board in both hard copy and electronic form. Electronic documents shall be submitted to the water quality certification Water Board staff responsible for projects in Contra Costa County;

78. **California EcoAtlas:** The Applicant is required to use the California Wetlands form to provide Project information describing impacts and restoration measures within 14 days from the date of this Certification. An electronic copy of the form can be downloaded at www.waterboards.ca.gov/sanfranciscobay/certs.shtml. The completed form shall be submitted electronically to habitatdata@waterboards.ca.gov or shall be submitted as a hard copy to both 1) the address on the letterhead (or to the Water Board), to the attention of EcoAtlas and, 2) to the San Francisco Estuary Institute, 4911 Central Avenue, Richmond, CA 94804, to the attention of EcoAtlas;

Stormwater Runoff Mitigation

79. The Applicant shall submit, no later than August 21, 2015, a proposed plan to provide treatment and hydromodification measures for all impervious surface and any proposed artificial turf within the several areas of the proposed development that are referred to as 'self-treating' on Figure 2 of the plan as described in the *Stormwater Plan Revisions* section of this certification. According to Figure 5, *Conceptual Site Plan, Faria Preserve*, a neighborhood park, rose garden, parking lots, tennis courts, and educational facility and community pool and parking area will be located within these proposed 'self-treating' areas. To comply with the MRP, stormwater runoff from these areas will need to be provided with treatment and hydromodification controls. A proposed plan that provides an estimate of the overall impervious surface area for these parts of the development, and treatment and hydromodification controls shall be provided;

80. The Applicant shall submit, no later than August 21, 2015, documentation of the percentage of pervious areas within the DMAs, and verification that the sizing calculations are based on real estimates of pervious areas rather than the 10 to 30 percent range currently referenced by the stormwater plan;

81. The Project's stormwater management features shall be designed to function as full trash capture equivalents, by the definition in C.10 of the MRP. Trash capture may be provided for the high flow bypass/overflow at each bioretention feature, or alternatively, at the riser and outfall locations where flows are discharged from the Project site;

82. The Applicant is responsible for constructing all of the stormwater management features included in the *Stormwater Control Plan, Faria Preserve* (Engeo, April 23, 2013, Revised March 12, 2015), as revised to include the Executive Officer approved measures submitted in accordance with the previous conditions, and as described in this certification. The soil mixtures and plants used in the stormwater features shall be consistent with the specifications provided in the Contra Costa County C.3 Guidebook, as may be subsequently amended, and as described below. The water quality IMPs shall be constructed prior to the completion of construction at the site. However, final landscaping for the Project shall be in place prior to the discharge of stormwater to the

completed and planted IMPs, in order to prevent the unnecessary deposition of sediment on the surface of the IMPs;

83. Any changes to the approved stormwater management feature designs for the Project must be submitted to the Executive Officer for review and receive Executive Officer approval before they are implemented;

84. The soil used in the bioretention stormwater management features shall be in conformance with the requirements included in the MRP, Provision C.3.c.i.(1)(b)(vi), *Specification of soils for Biotreatment or Bioretention Facilities*. The soil shall achieve a long-term, in-place infiltration rate of at least five inches per hour, support vigorous plant growth, and consist of the following mixture of fine sand and compost, measured on a volume basis: 60%-70% Sand, and 30%-40% Compost—or other mixtures approved by the Water Board pursuant to the MRP;

85. Vegetation to be planted within the water quality IMPs shall have the ability to withstand periods of inundation consistent with the anticipated stormwater flows for the Project;

86. The Applicant shall ensure that these stormwater treatment and management features provide CWA maximum extent practicable treatment for stormwater runoff consistent with the water quality treatment and hydromodification control requirements in Provision C.3 of the MRP as referenced in this certification;

87. The O & M Plan shall be revised to include plans and cross sections of the stormwater IMPs, including soil mixture and vegetation requirements. This revised plan shall also include monitoring of the lower portion of the Central Creek channel for presence of flows and/or standing water during the dry season that would indicate application of excess irrigation water within the development, and a plan for the development of remedial measures to address excessive landscape irrigation within the development that are contributing to the dry season flows. The revised O & M Plan shall be submitted, acceptable to the Executive Officer, no later than November 1, 2015;

88. The GHAD for the Project shall be responsible for routine and non-routine maintenance of the stormwater management features under the requirements established in the Plan of Control for the GHAD. Routine and non-routine maintenance shall include the removal of litter and coarse debris, pruning or removal of vegetation obstructing inlets and outlets, examination of vegetation to ensure that it is healthy and dense enough to provide filtering and to protect soils from erosion, replenishment of mulch as needed, confirmation that irrigation is adequate, but not excessive, replacement of dead plants, and removal of noxious and invasive vegetation. Routine maintenance shall also include an evaluation of water surface drawdown and sediment deposition. Non-routine maintenance may include emergency outlet maintenance and structural repairs for the water quality IMPs, and addressing any decrease in infiltration rates noted during routine inspections. Soils and mulch shall be replaced as needed in order to maintain appropriate infiltration rates. Detailed provisions for managing and maintaining the water quality IMPs to provide the required treatment and hydromodification controls, as well provisions for the funding mechanism for managing and maintaining these features, will be incorporated into the *Plan of Control* for the GHAD. Detailed provisions for managing and maintaining the vegetation within the IMPs and the basins shall also be incorporated

into the Plan of Control for the GHAD. The Plan of Control shall not be finalized until the Executive Officer has approved the revised stormwater management O & M Plan;

Standard Conditions

89. In accordance with California Water Code (CWC) section 13260, the Applicant shall file with the Water Board a report of any proposed change in the ownership or any material change in character, location, or quantity of this waste discharge. Any proposed material change requires approval by the Executive Officer in advance of the proposed implementation of any change. Material change includes, but is not limited to, all significant new soil disturbances, all proposed expansions of development, or any change in drainage characteristics at the Project site. For the purpose of this certification action, this includes any proposed change in the boundaries of the area of wetlands or other waters of the State to be filled and mitigated;

90. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 and ection 3867 of the CWC and Title 23 of the California Code of Regulations (23 CCR);

91. Certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR, subsection 3855(b), and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought; and

92. Certification is conditioned upon full payment of the required fee as set forth in 23 CCR section 3833. The total fee for the Project is $31,131. Water Board staff received payment of $16,582 on July 3, 2012, for the fill and excavation discharge fee. The remaining $14,549 is due within 10 days of receiving this certification. An annual discharge fee shall be paid to the Water Board until all of the impacts to waters of the State at the Project site that are authorized by this certification have been implemented (See Condition 19) (Note: the Annual Active Discharge Fee may be changed by the State Board; at the time of certification it was $600 per year). After all impacts to waters of the State at the Project site have been implemented, an Annual Post Discharge Monitoring Fee shall be paid to the Water Board until the monitoring reports required pursuant to the conditions have all been submitted to the Water Board, and all performance standards for the mitigation wetlands, channels, and riparian vegetation have been achieved (Note: the Annual Post Discharge Monitoring Fee may be changed by the State Board; at the time of certification it was $300 per year).

This certification applies to the Project as described in the application materials and designs referenced above in this certification. Be advised that failure to implement the Project as certified is a violation of this certification. Also, any violation of water quality certification conditions is a violation of State law and subject to administrative civil liability pursuant to CWC section 13350. Failure to respond, inadequate response, late response, or failure to meet any condition of a certification may subject the Applicant to civil liability imposed by the Water Board to a maximum of $5,000 per day of violation or $10 for each gallon of waste discharged in violation of this action. Any requirement for a report made as a condition to this action is a formal requirement pursuant to CWC section 13267, and failure or refusal to provide, or falsification of such requirement report is subject to civil liability as described in CWC section 13268.

Should new information come to our attention that indicates a water quality problem with this Project, the Water Board may issue individual Waste Discharge Requirements pursuant to 23 CCR section 3857. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to CWC section 13330 and 23 CCR section 3867.

If you have any questions, please contact Katie Hart at (510) 622-2356 or via email to khart@waterboards.ca.gov.

Sincerely,

Bruce H. Wolfe
Executive Officer

Attachment: Location Map & Project Drawings for the Faria Preserve Project

cc:

Bill Orme, SWRCB-DWQ, Stateboard401@waterboards.ca.gov
Holly Costa, Corps, San Francisco District, holly.n.costa@usace.army.mil
Jane Hicks, Corps, San Francisco District Jane.M.Hicks@usace.army.mil
Katerina Galacatos, Corps, San Francisco District, Katerina.galacatos@usace.army.mil
Jason Brush, U.S. EPA Region 9, WTR-8, R9-WTR8-Mailbox@epa.gov
Robert Stanley, California Department of Fish & Wildlife, robert.stanley@wildlife.ca.gov
Jeff Olberding, Olberding Environmental, jeff@olberdingenv.com
Uri Eliahu, Engeo, ueliahu@engeo.com
Jonathan Buck, Engeo, jbuck@engeo.com
Victor Aelion, Water Board, victor.aelion@waterboards.ca.gov
California Ecoatlas, habitatdata@waterboards.ca.gov

ATTACHMENT

401 Water Quality Certification

Lafferty LT Ventures, LLC

Faria Preserve Project

City of San Ramon

Contra Costa County

June 2015

FIGURE 2
VICINITY MAP
THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

DATE: JUNE 22, 2012

NOT TO SCALE

cbg
Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS
6111 BOLLINGER CANYON ROAD, SUITE 100
SAN RAMON, CALIFORNIA 94583
(925) 866-0322
FAX (925) 866-8575

G:\1378\ACAD\EXHIBITS\AGENCY PERMITS\FIGURE 2 - VICINITY MAP.DWG

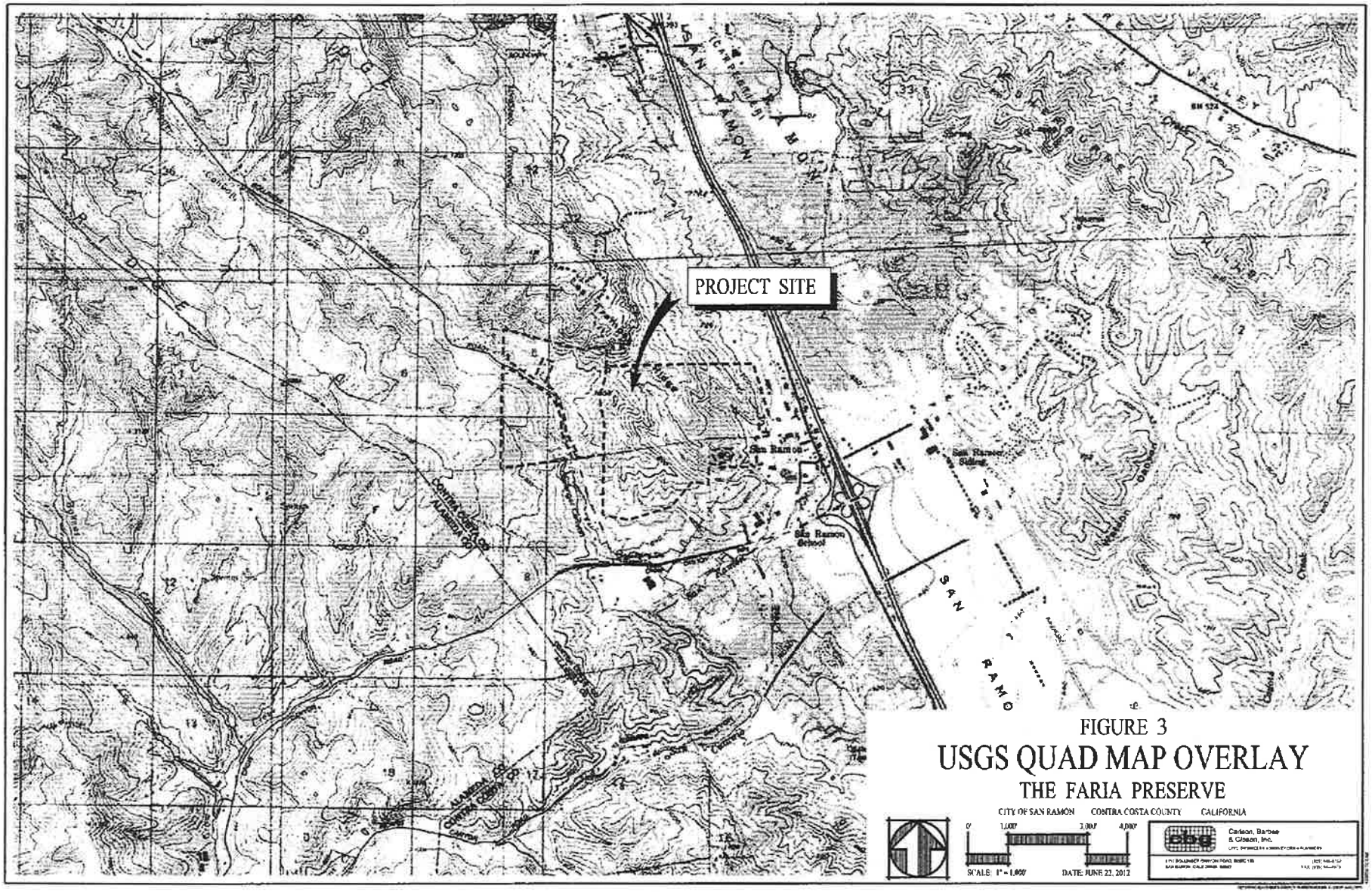


FIGURE 3

USGS QUAD MAP OVERLAY

THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 1,000' 3,000' 4,000'

SCALE: 1" = 1,000' DATE: JUNE 22, 2012

Carlson, Barbee & Gibson, Inc.

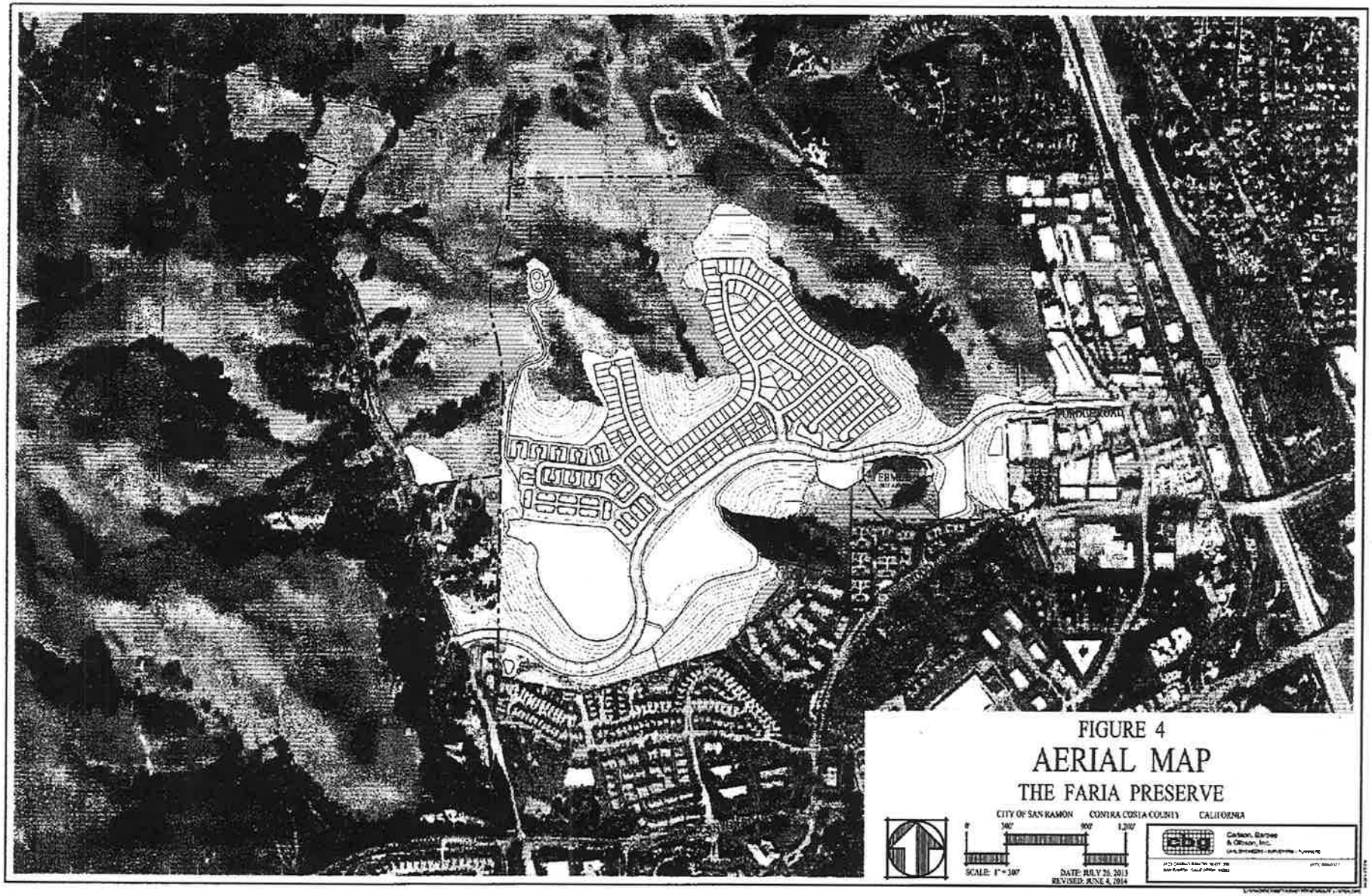


FIGURE 4

AERIAL MAP

THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 300' 900' 1,200'

SCALE: 1" = 300'

DATE: JULY 20, 2013
REVISED: JUNE 4, 2014

Carlson, Barbee & Gibson, Inc.

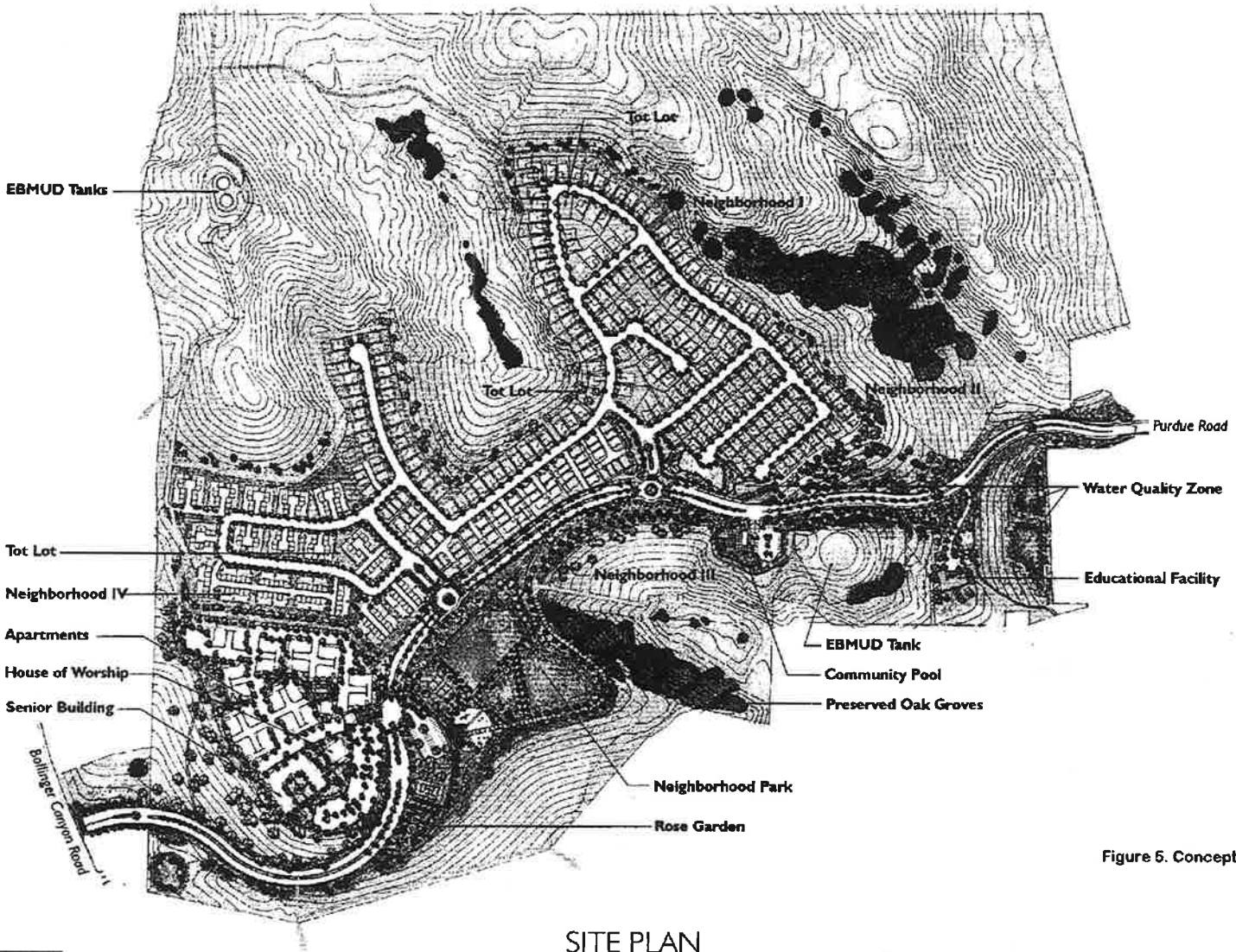


Figure 5. Conceptual Site Plan

LAFFERTY COMMUNITIES

Handcrafted. Just for you.

SITE PLAN

FARIA PRESERVE

SAN RAMON, CALIFORNIA

0 100 200 400ft

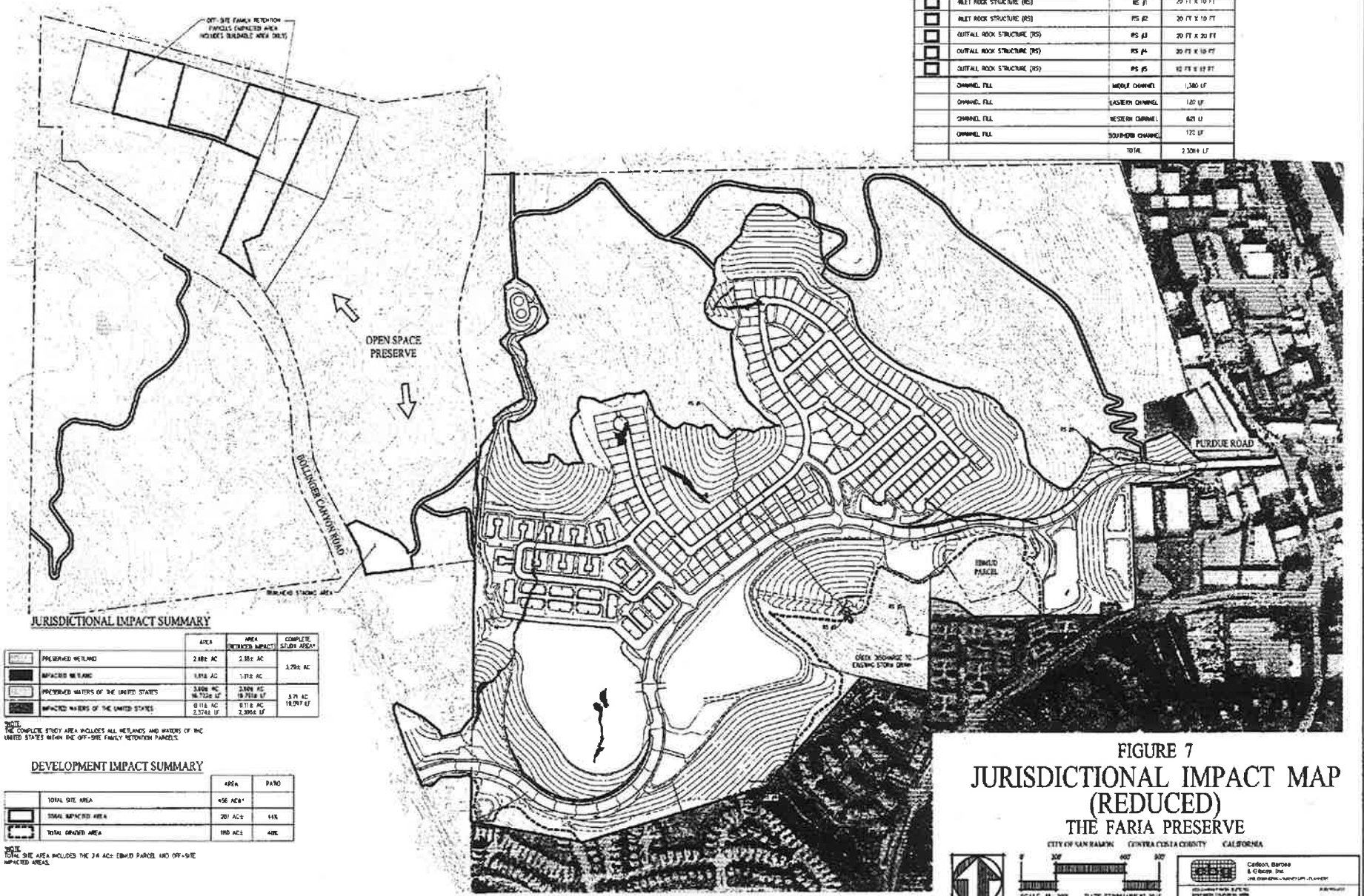
MARCH 2014

GATES +ASSOCIATES


SAN RAMON VALLEY BOULEVARD
BOLLINGER CANYON ROAD
CROW CANYON ROAD
DEERWOOD ROAD
LEGEND
DESCRIPTION
DELINEATION MAP
THE FARIA PRESERVE
CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA
SCALE: 1" = 800'
DATE: FEBRUARY 25, 2015

ROCK OUTFALL/INLET IMPACT SUMMARY WITHIN JURISDICTIONAL WATERS

	DESCRIPTION	RS No.	IMPACTED AREA
	INLET ROCK STRUCTURE (RS)	RS #1	20 FT X 10 FT
	INLET ROCK STRUCTURE (RS)	RS #2	20 FT X 10 FT
	OUTFALL ROCK STRUCTURE (RS)	RS #3	20 FT X 20 FT
	OUTFALL ROCK STRUCTURE (RS)	RS #4	20 FT X 10 FT
	OUTFALL ROCK STRUCTURE (RS)	RS #5	10 FT X 10 FT
	CHANNEL FILL	MIDDLE CHANNEL	1,380 LF
	CHANNEL FILL	EASTERN CHANNEL	120 LF
	CHANNEL FILL	WESTERN CHANNEL	621 LF
	CHANNEL FILL	SOUTHERN CHANNEL	172 LF
		TOTAL	2,3084 LF



JURISDICTIONAL IMPACT SUMMARY

		AREA	AREA IMPACTED IMPACT	COMPLETE STUDY AREA*
	PRESERVED WETLAND	2.88± AC	2.88± AC	3.29± AC
	IMPACTED WETLAND	1.91± AC	1.17± AC	
	PRESERVED WATERS OF THE UNITED STATES	3.606± AC 98,772± LF	3.606± AC 98,772± LF	5.71 AC 98,097 LF
	IMPACTED WATERS OF THE UNITED STATES	0.11± AC 2,374± LF	0.11± AC 2,306± LF	

NOTE:
THE COMPLETE STUDY AREA INCLUDES ALL WETLANDS AND WATERS OF THE UNITED STATES WITHIN THE OFF-SITE FAMILY RETENTION PARCELS.

DEVELOPMENT IMPACT SUMMARY

		AREA	RATIO
	TOTAL SITE AREA	456 ACS*	
	TOTAL IMPACTED AREA	201 AC±	44%
	TOTAL GRADED AREA	190 AC±	42%

NOTE:
TOTAL SITE AREA INCLUDES THE 3.4 AC± EBMUD PARCEL AND OFF-SITE IMPACTED AREAS.

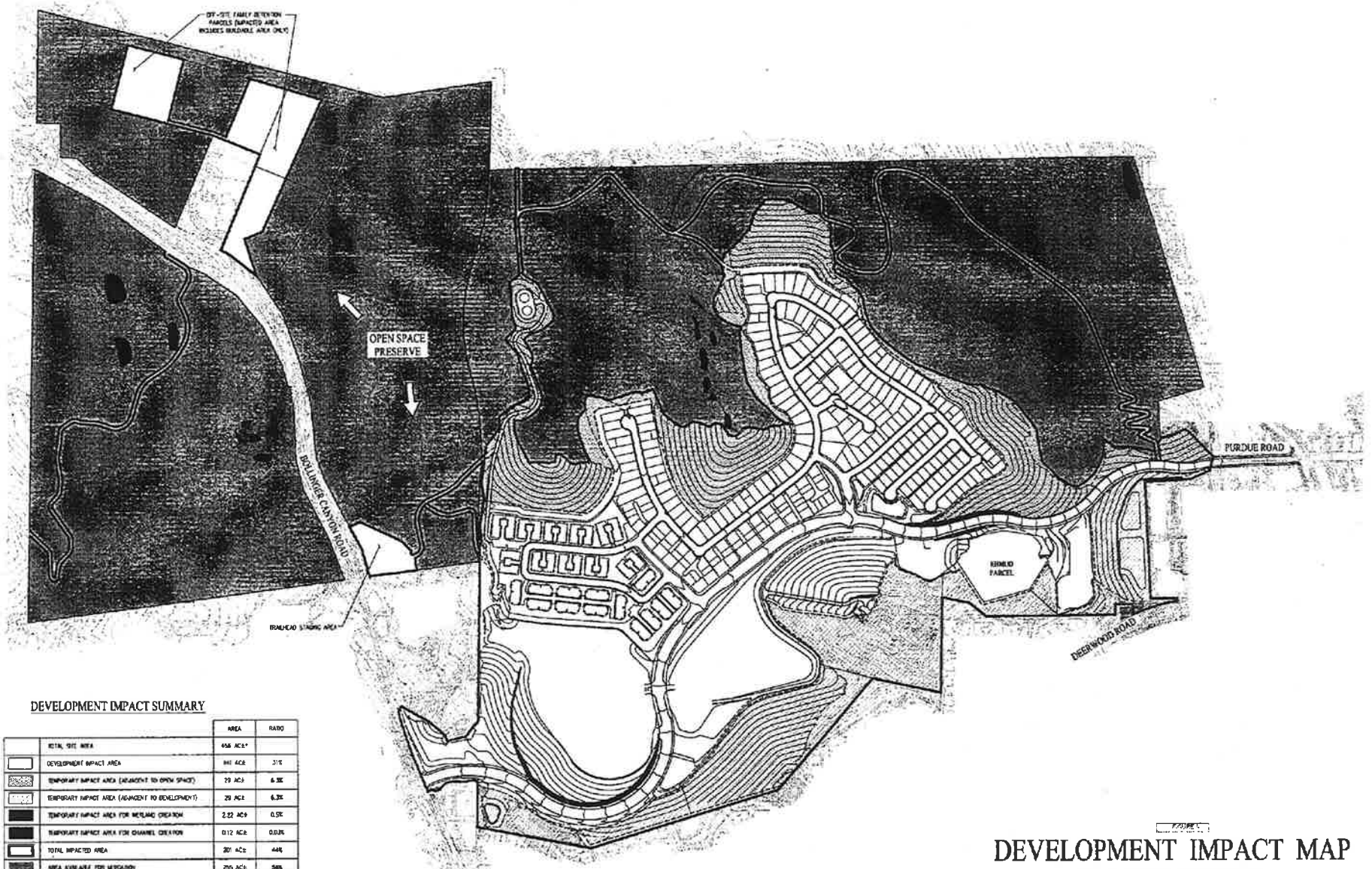
FIGURE 7
JURISDICTIONAL IMPACT MAP (REDUCED)
THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0 300 600 900

SCALE: 1" = 300' DATE: FEBRUARY 27, 2015

Carlson, Barbee & Gibson, Inc.



DEVELOPMENT IMPACT SUMMARY

		AREA	RATIO
	TOTAL SITE AREA	456 ACS*	
	DEVELOPMENT IMPACT AREA	141 ACS	31%
	TEMPORARY IMPACT AREA (ADJACENT TO OPEN SPACE)	29 ACS	6.3%
	TEMPORARY IMPACT AREA (ADJACENT TO DEVELOPMENT)	29 ACS	6.3%
	TEMPORARY IMPACT AREA FOR WETLAND CREATION	2.22 ACS	0.5%
	TEMPORARY IMPACT AREA FOR CHANNEL CREATION	0.12 ACS	0.03%
	TOTAL IMPACTED AREA	201 ACS	44%
	AREA AVAILABLE FOR MITIGATION	255 ACS	56%

*NOTE:
TOTAL SITE AREA INCLUDES THE 3.8 ACS RIEMLID PARCEL AND OFF-SITE IMPACTED AREAS

FIGURE C

DEVELOPMENT IMPACT MAP

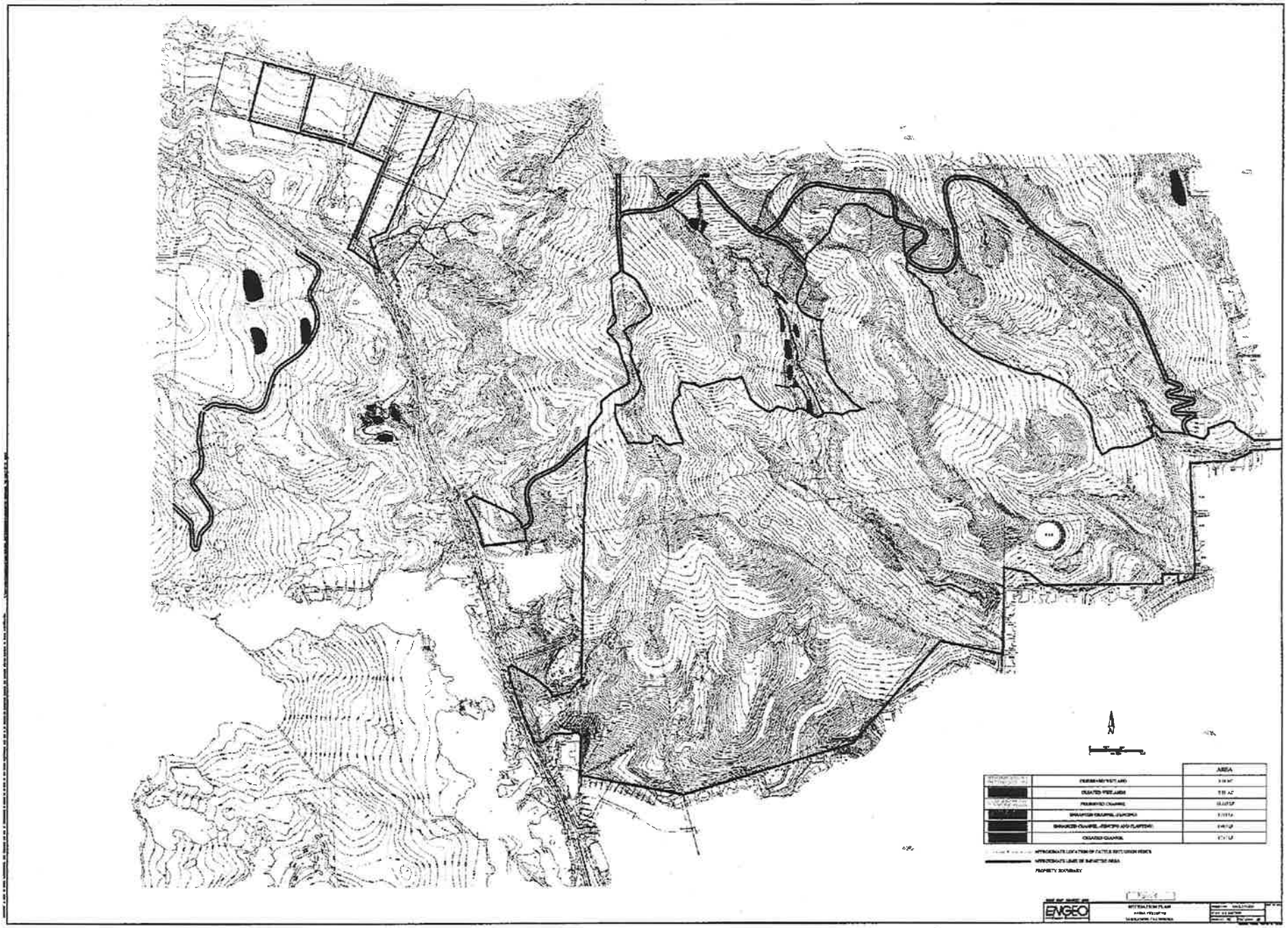
THE FARIA PRESERVE

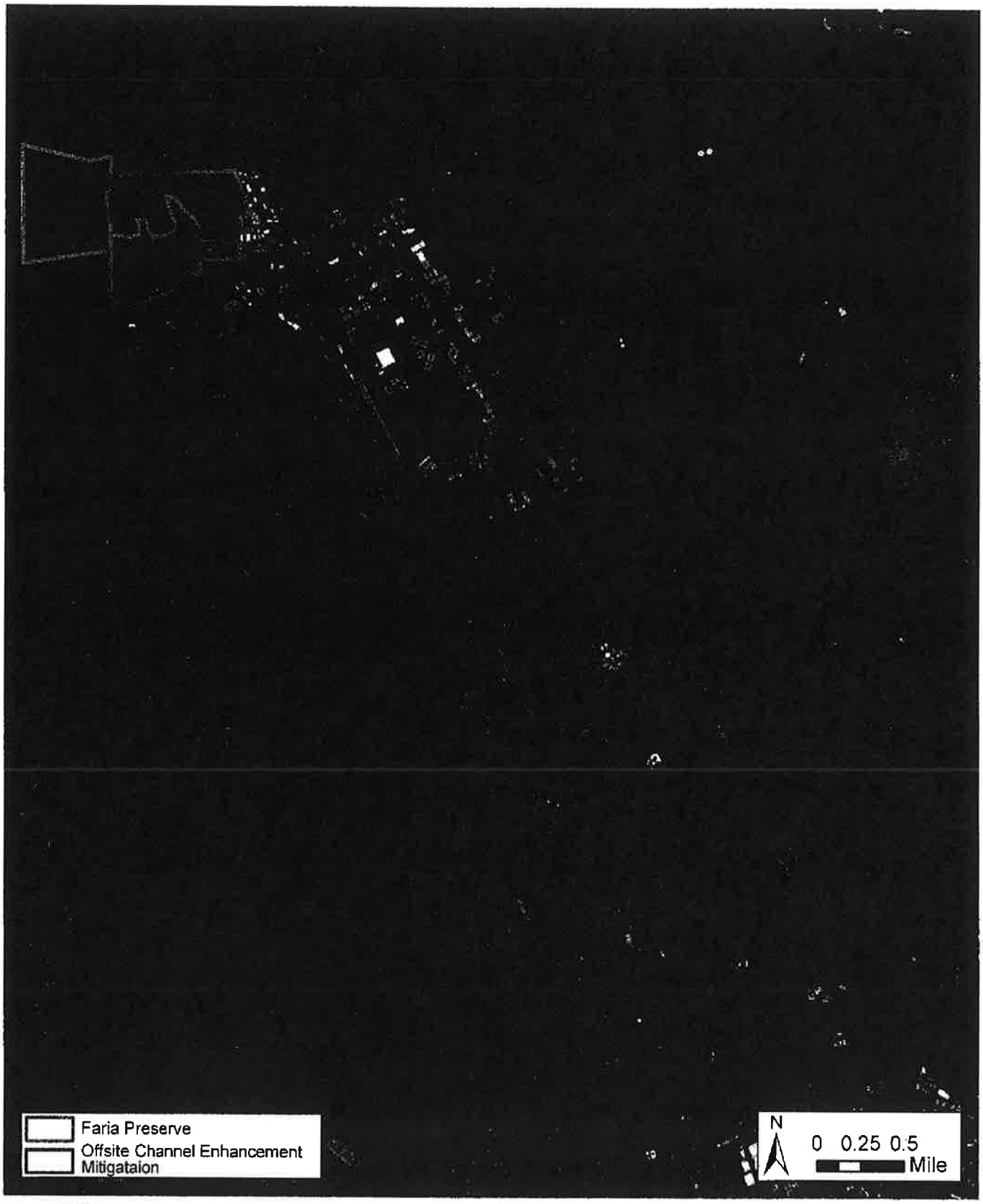
CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0 300 600 900

SCALE: 1" = 300' DATE: FEBRUARY 27, 2015

Carlson, Barbee & Gibson, Inc

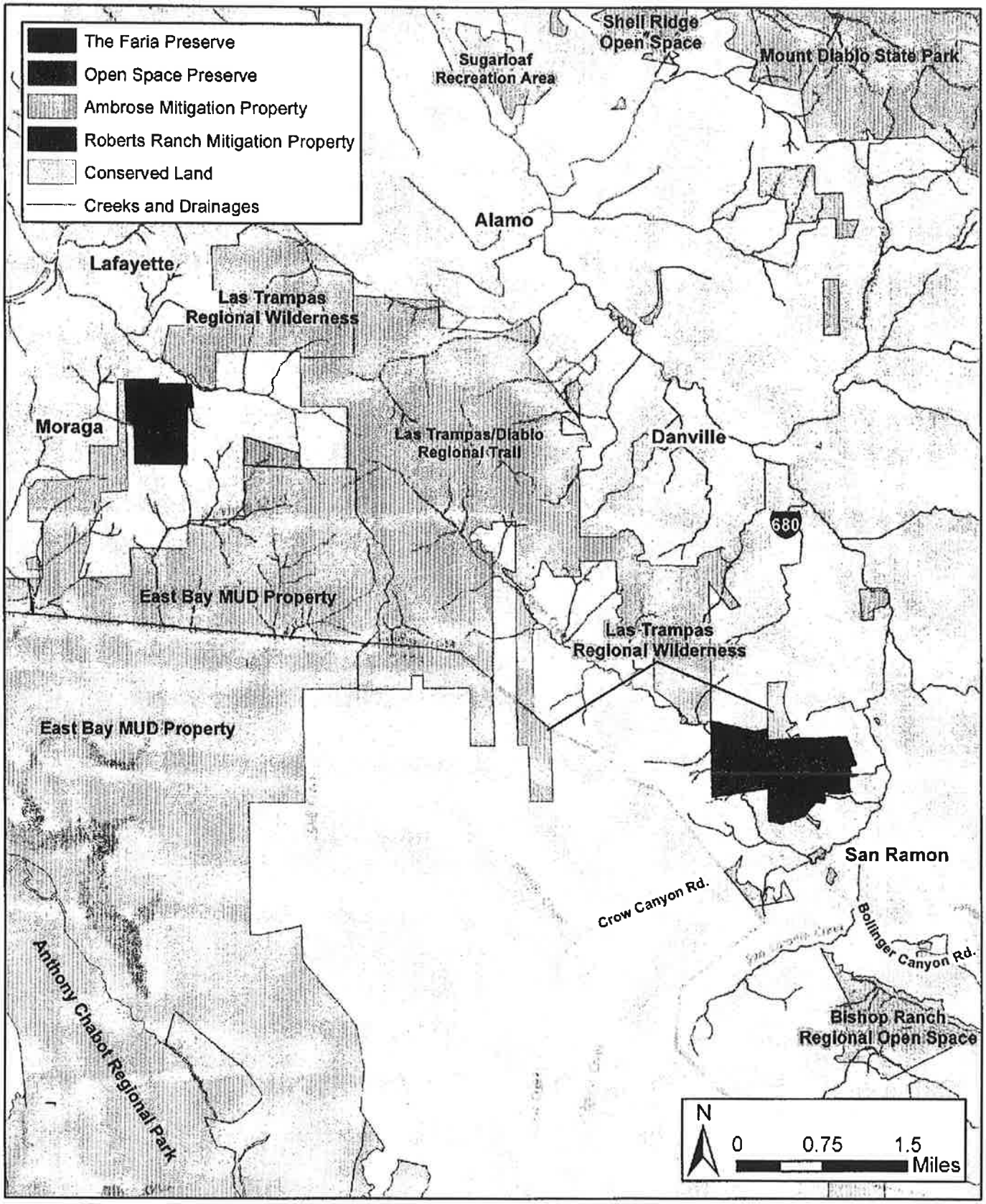

N
AREA
PROPERTY BOUNDARY
ENGEO



193 Blue Ravine Rd., Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Figure 10: Offsite Channel Enhancement Mitigation Location The Faria Preserve

Aerial Source and Date: ESRI/DigitalGlobe; 11/02/2010



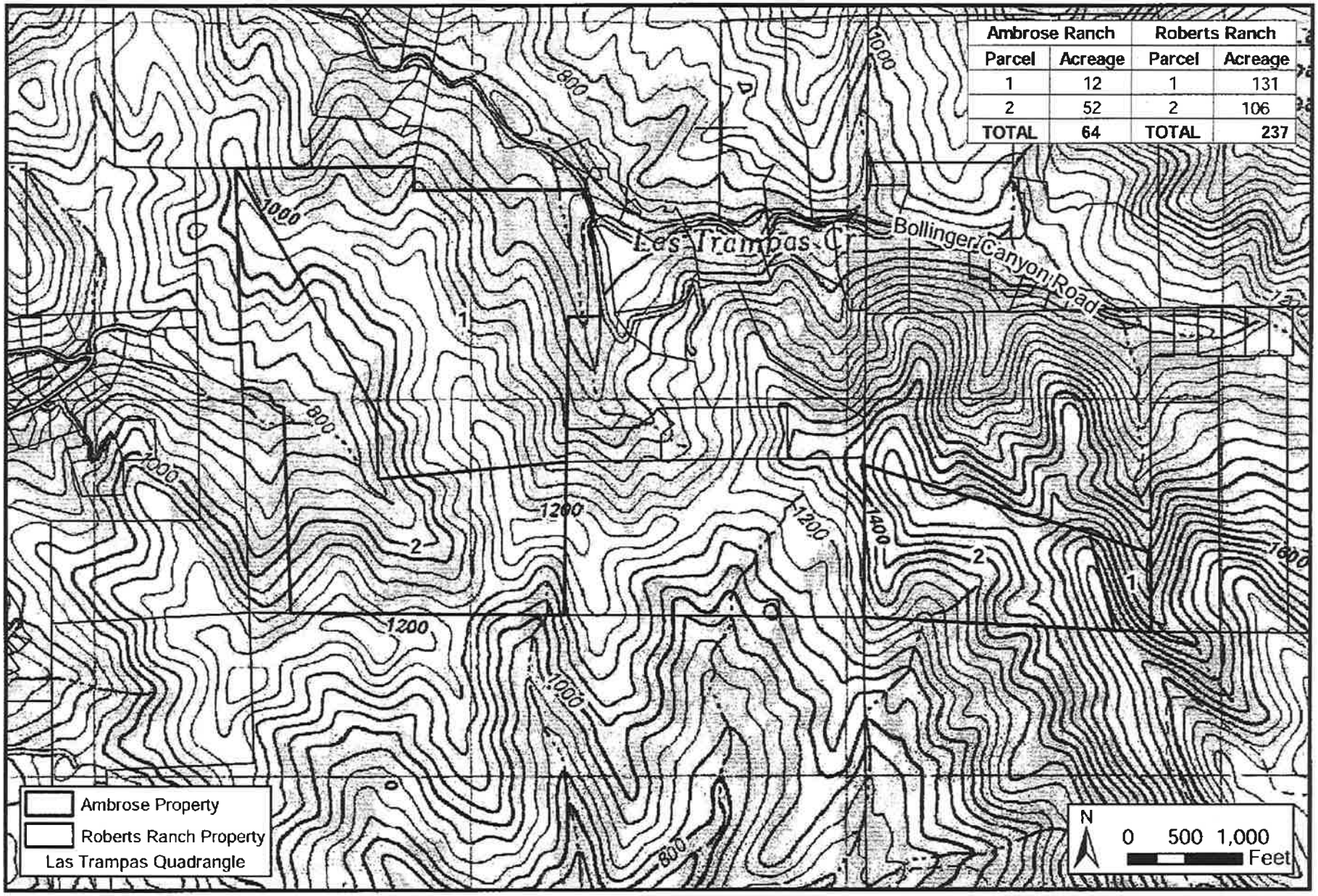
193 Blue Ravine Rd., Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Figure 11: Offsite Species Mitigation Location Map - Ambrose and Roberts Ranch

193 Blue Ravine Rd., Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

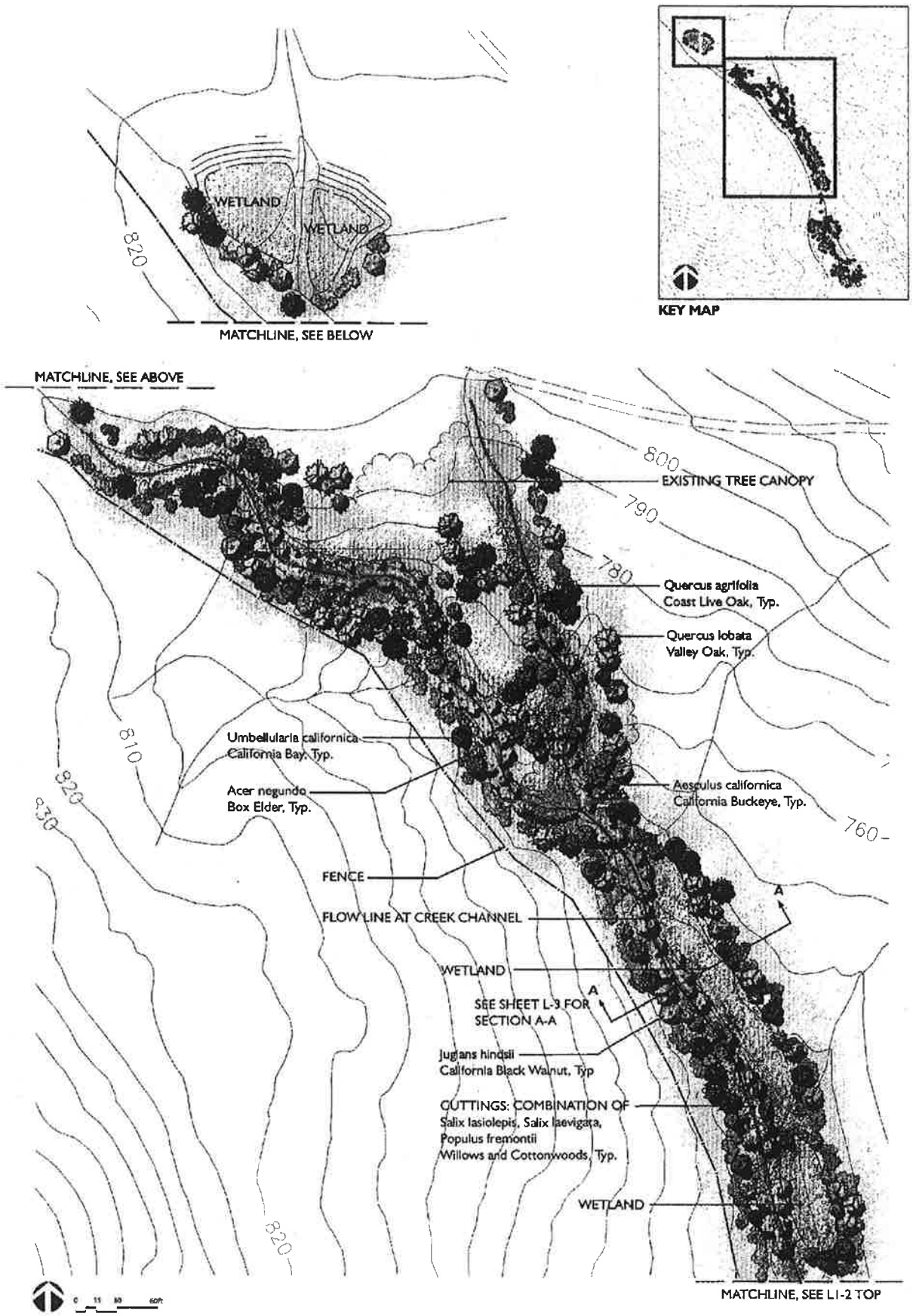
Figure 12: Alameda Whipsnake Critical Habitat Map Ambrose and Roberts Ranch Mitigation Properties The Faria Preserve

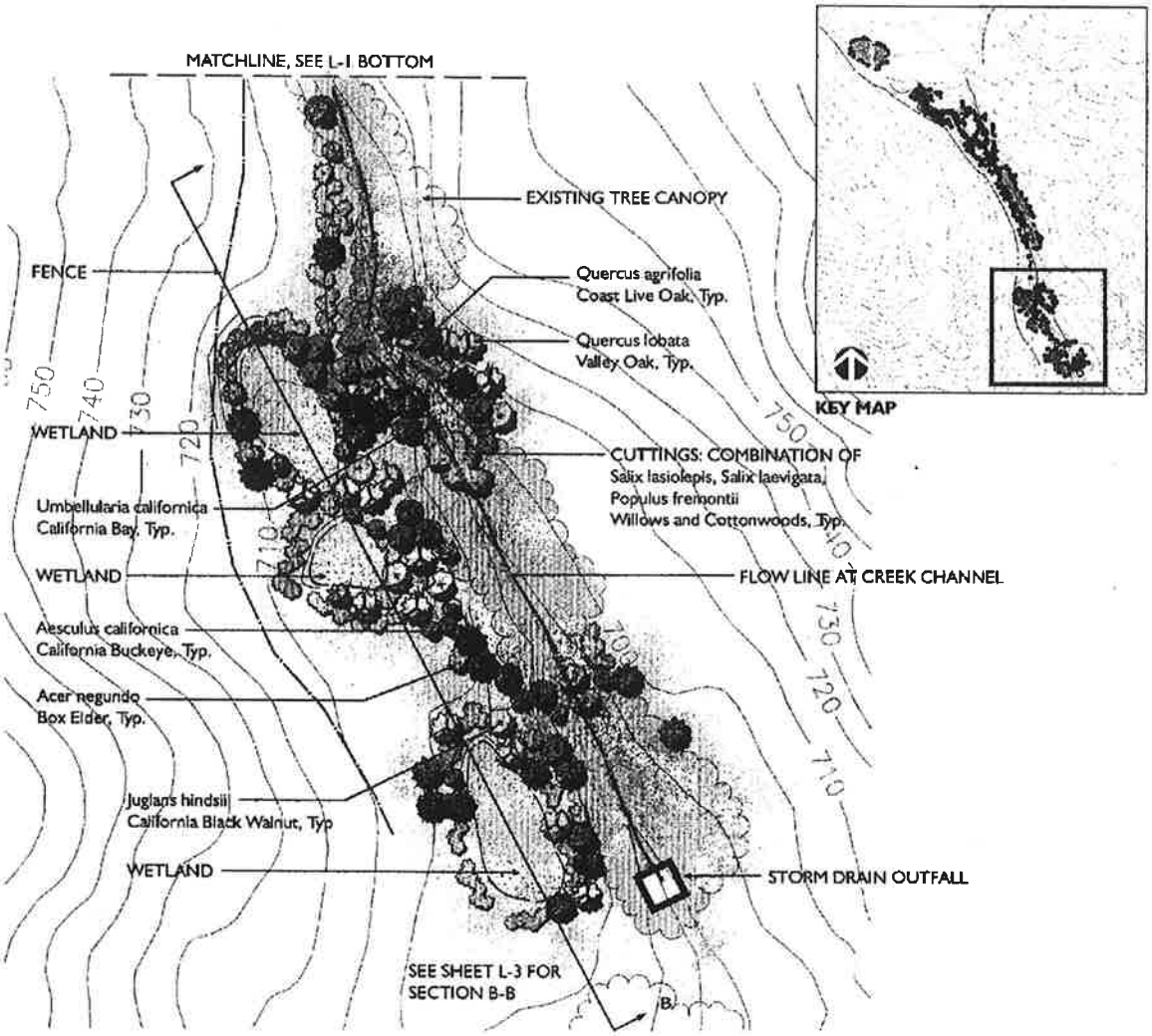
Aerial Imagery Source and Date: Bing/Microsoft; 11/02/2010



193 Blue Ravine Rd., Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Figure 13: USGS Quadrangle Map
Ambrose and Roberts Ranch
Mitigation Properties
Faria Preserve

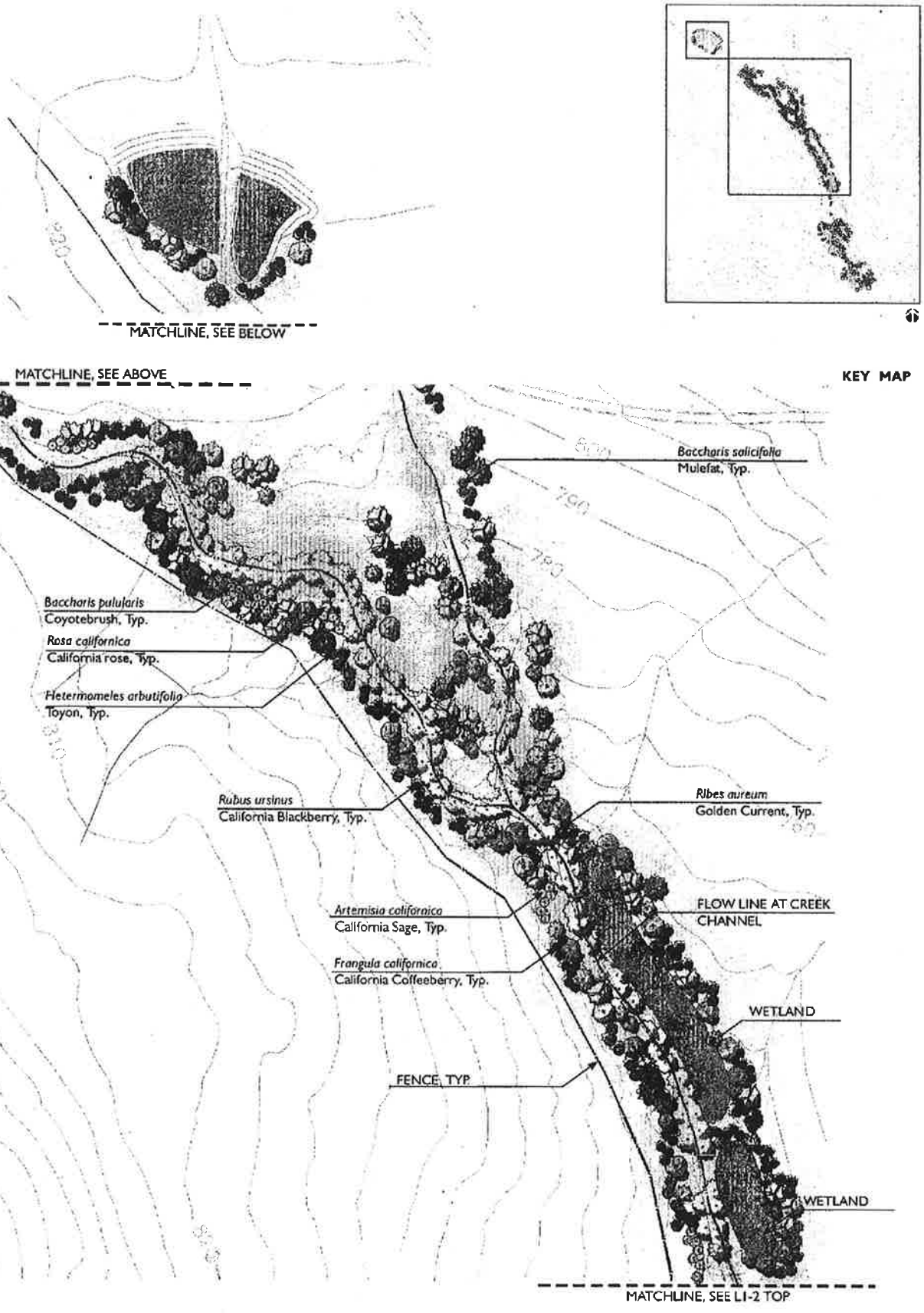

WETLAND
WETLAND
820
MATCHLINE, SEE BELOW
KEY MAP
MATCHLINE, SEE ABOVE
800
790
780
810
920
930
760
820
EXISTING TREE CANOPY
Quercus agrifolia
Coast Live Oak, Typ.
Quercus lobata
Valley Oak, Typ.
Umbellularia californica
California Bay, Typ.
Acer negundo
Box Elder, Typ.
Aesculus californica
California Buckeye, Typ.
FENCE
FLOW LINE AT CREEK CHANNEL
A
WETLAND
A
SEE SHEET L-3 FOR
SECTION A-A
Juglans hindsii
California Black Walnut, Typ
CUTTINGS: COMBINATION OF
Salix lasiolepis, Salix laevigata,
Populus fremontii
Willows and Cottonwoods, Typ.
WETLAND
MATCHLINE, SEE L1-2 TOP



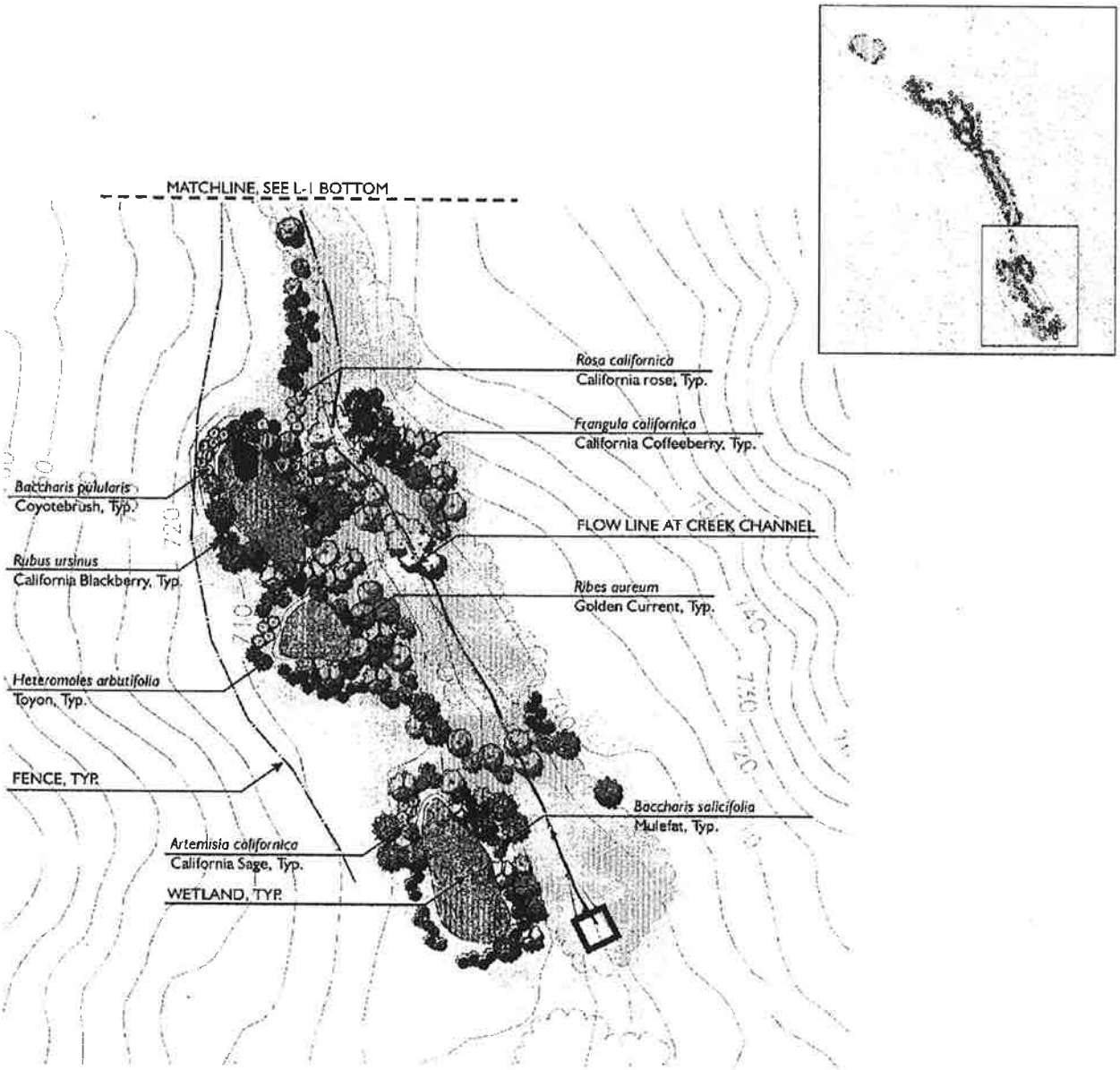
TREE LEGEND

SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY
	Acer negundo	Box Elder	treepot 4	39
	Aesculus californica	California Buckeye	treepot 4	41
	Juglans hindsii	California Black Walnut	15-gal, treepot 4	17
	Quercus agrifolia	Coast Live Oak	15-gal, treepot 4	47
	Quercus lobata	Valley Oak	15-gal, treepot 4	41
	Cuttings: Combination of *Salix lasiolepis, Salix laevigata, Populus fremontii*	Willow and Cottonwood	cuttings	139
	Umbellularia californica	California Bay	treepot 4	37
			TOTAL QUANTITY:	**361**

NOTE:
1. Construction schedule: June 15 to October 31.
2. Field adjust planting per biologist's direction.
3. Cuttings for willows and cottonwood are 3-5 per each symbol indicated.



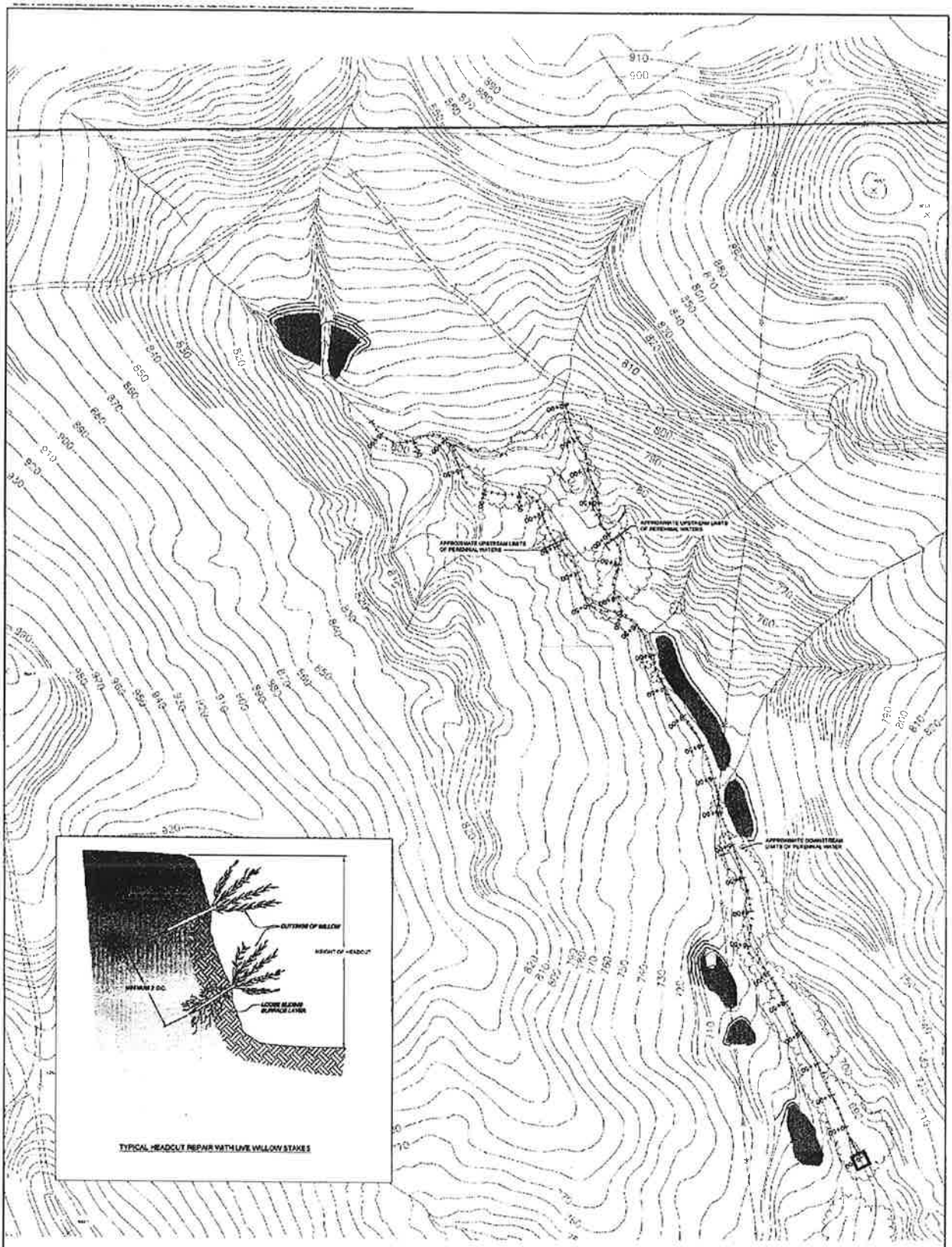
SEE L-4 FOR SHRUB LEGEND AND NOTES



SHRUB LEGEND

SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY	PLANTING NOTES
②	*Artemesia californicum*	California Sage	1 gallon	54	Individuals and clumps of 3 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
⑧	*Baccharis pilularis*	Coyote Brush	1 gallon	19	Individuals (6' O.C.)
●	*Baccharis salicifolia*	Mule Fat	1 gallon	37	Individuals (6' O.C.)
●	*Frangula californica*	California Coffeeberry	treepot 4	102	Individuals and clumps of 3 (3' OC) Note: Each symbol stands for (3) 1-gallon plants.
●	*Heteromoles arbutifolia*	Toyon	treepot 4	53	Individuals (8' OC)
●	*Ribes aureum*	Golden Currant	1 gallon	171	Close to channel. Individals and clumps of 3 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
⑥	*Rosa californica*	California Rose	1 gallon	60	Individuals and clumps of 3 to 5 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
●	*Rubus ursinus*	California blackberry	1 gallon	252	Individuals and clumps of 3 to 5 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.

TOTAL QUANTITY: 748



TYPICAL HEADCUT REPAIR WITH LIVE WILLOW STAKES

EXPLANATION

PRESERVED WETLAND

CREATED WETLANDS

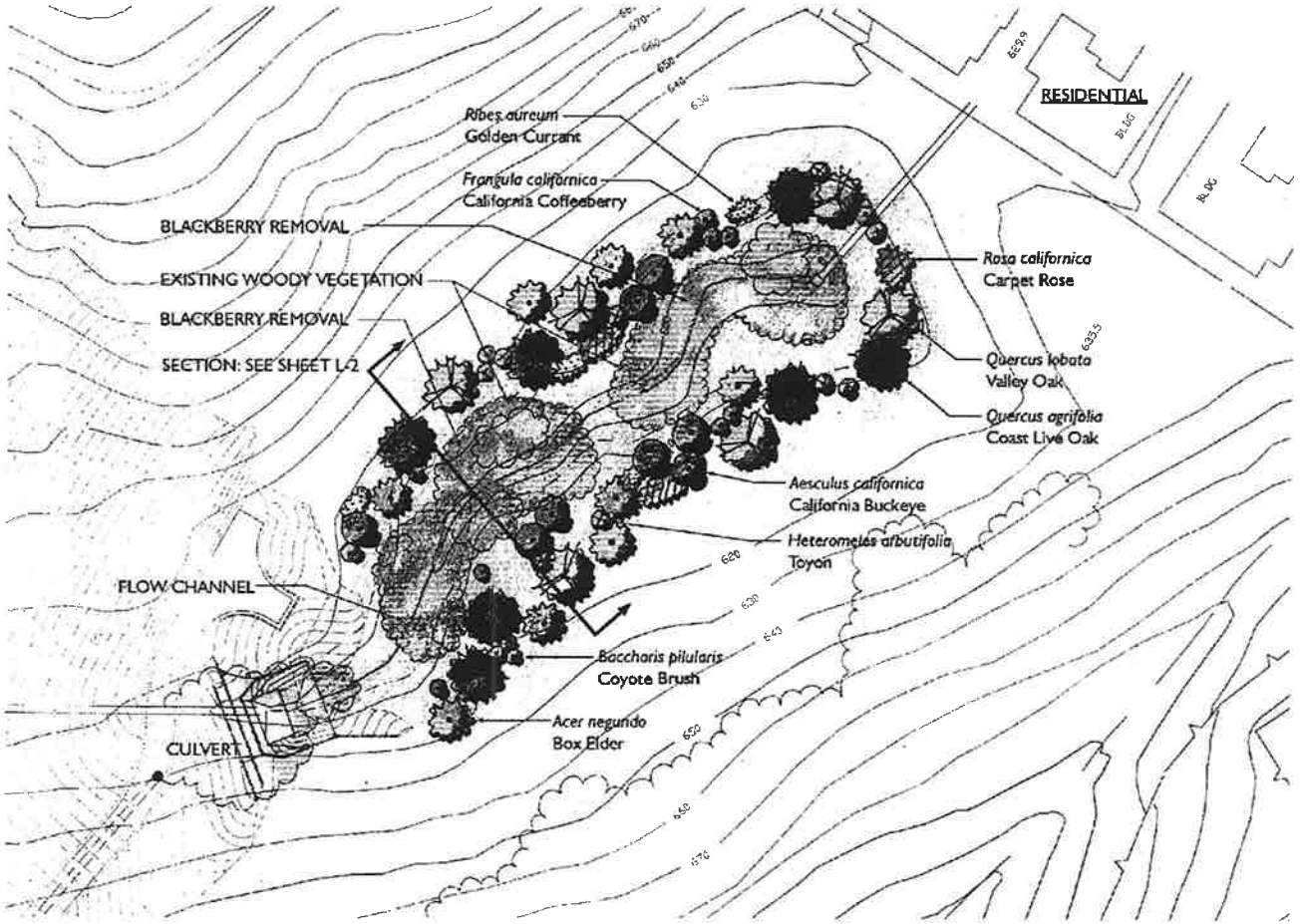
RESTORED CHANNEL (EXISTING AND PLANTED)

HEADCUT STABILIZATION SCHEDULE

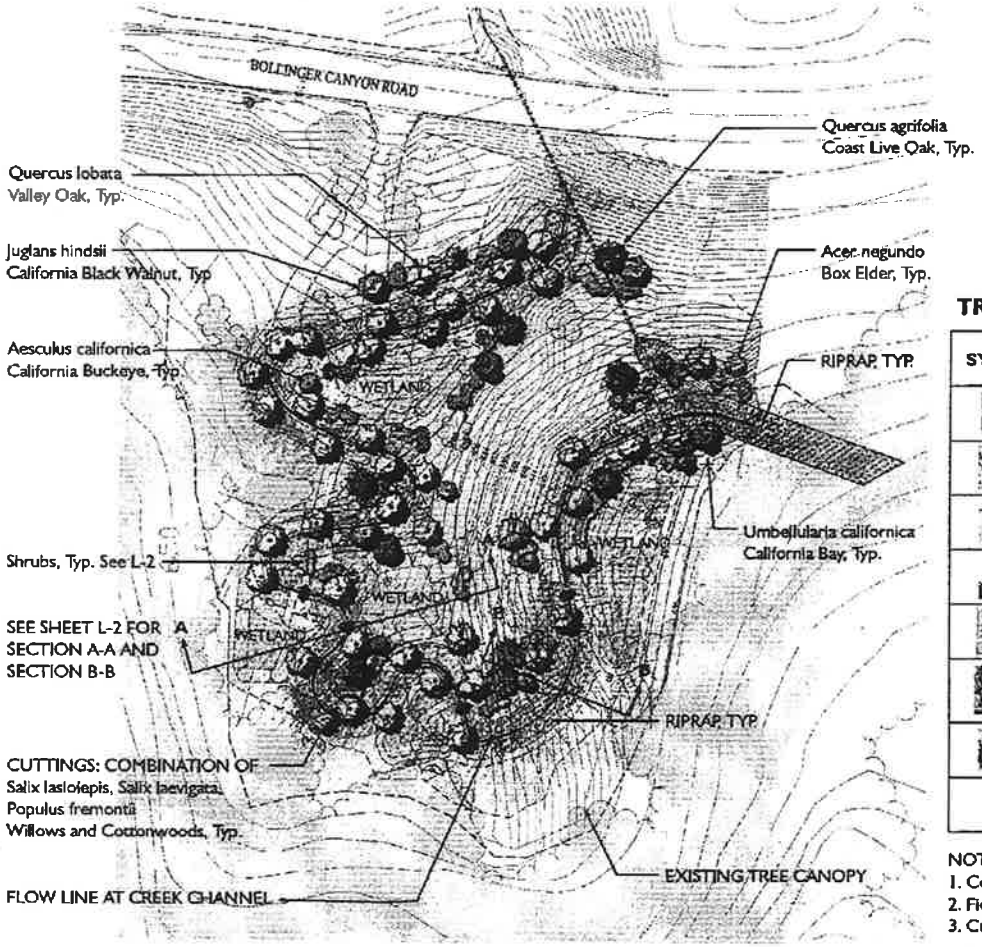
Location	Creek	Station	Height of Headcut (ft.)	Proposed Stabilization
1	Main Stem	5+20	5.0	5 - live willow stakes
2	West Branch	1+40	9.0	15- live willow stakes
3	West Branch	0+82	10.0	20 - live willow stakes
4	West Branch	1+20	2.0	2 - live willow stakes
5	West Branch	3+30	4.0	8 - live willow stakes
6	West Branch	3+80	8.0	16 - live willow stakes
7	West Branch	3+10	11.0	30 - live willow stakes
8	West Branch	2+50	5.0	12 - live willow stakes
9	West Branch	5+80	5.0	17 - live willow stakes
10	West Branch	3+80	2.0	None - Area outside of limits of perennial waters
11	East Branch	8+10	3.0	5 - live willow stakes
12	East Branch	6+90	5.0	17 - live willow stakes
13	East Branch	5+90	7.0	14 - live willow stakes
14	East Branch	5+30	5.0	15 - live willow stakes
15	East Branch	10+30	4.0	None - Area outside of limits of perennial waters

EMGEO

SITE PLAN


RESIDENTIAL
Ribes aureum
Golden Currant
Frangula californica
California Coffeeberry
BLACKBERRY REMOVAL
EXISTING WOODY VEGETATION
BLACKBERRY REMOVAL
SECTION: SEE SHEET L-2
Rosa californica
Carpet Rose
Quercus lobata
Valley Oak
Quercus agrifolia
Coast Live Oak
Aesculus californica
California Buckeye
Heteromeles arbutifolia
Toyon
FLOW CHANNEL
Baccharis pilularis
Coyote Brush
Acer negundo
Box Elder
CULVERT

0 15 30 60ft

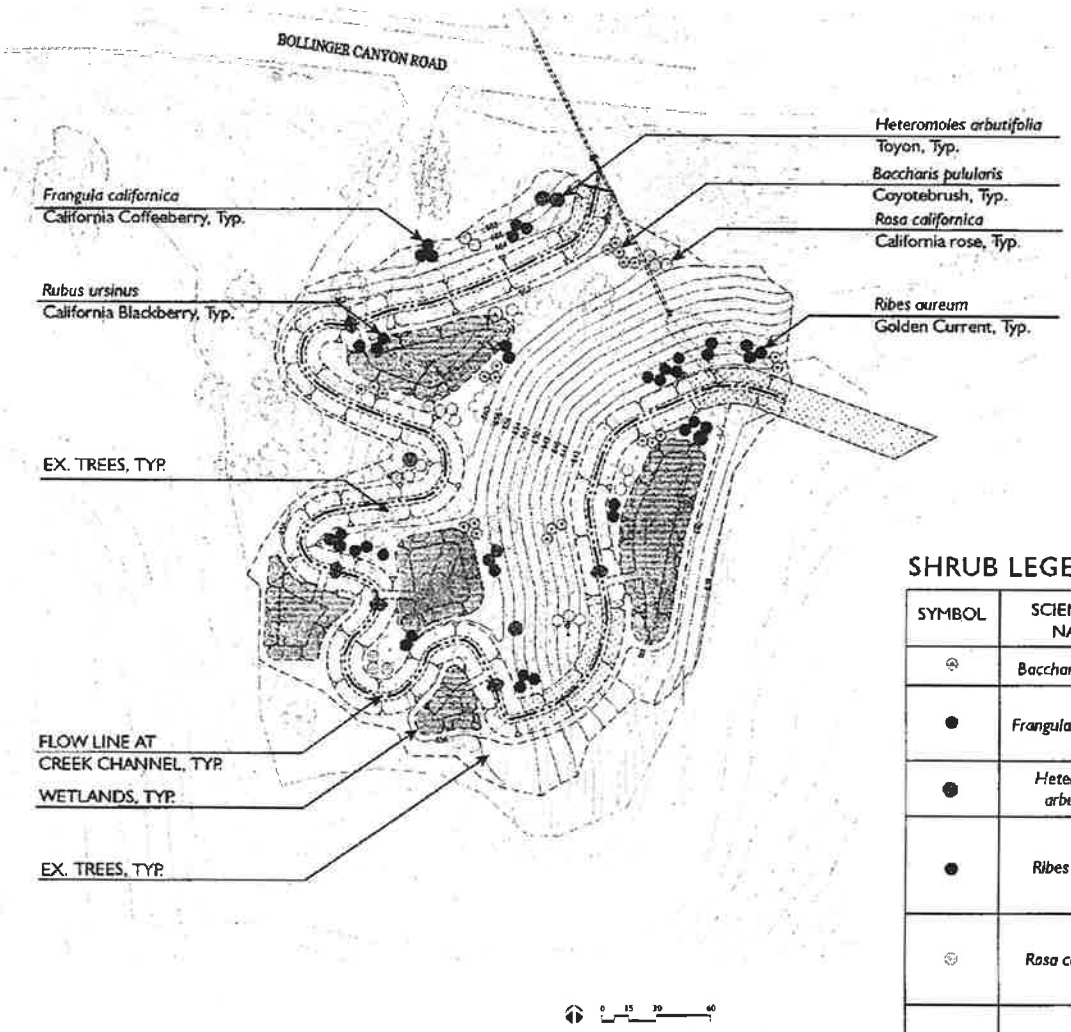


TREE LEGEND

SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY
	Acer negundo	Box Elder	treepot 4	3
	Aesculus californica	California Buckeye	treepot 4	5
	Juglans hindsii	California Black Walnut	15-gal, treepot 4	3
	Quercus agrifolia	Coast Live Oak	15-gal, treepot 4	8
	Quercus lobata	Valley Oak	15-gal, treepot 4	6
	Cuttings: Combination of *Salix lasiolepis, Salix laevigata, Populus fremontii*	Willow and Cottonwood	cuttings	38
	Umbellularia californica	California Bay	treepot 4	4
			TOTAL QUANTITY:	**67**

NOTE:
1. Construction schedule: June 15 to October 31.
2. Field adjust planting per biologist's direction.
3. Cuttings for willows and cottonwood are 3-5 per each symbol indicated.

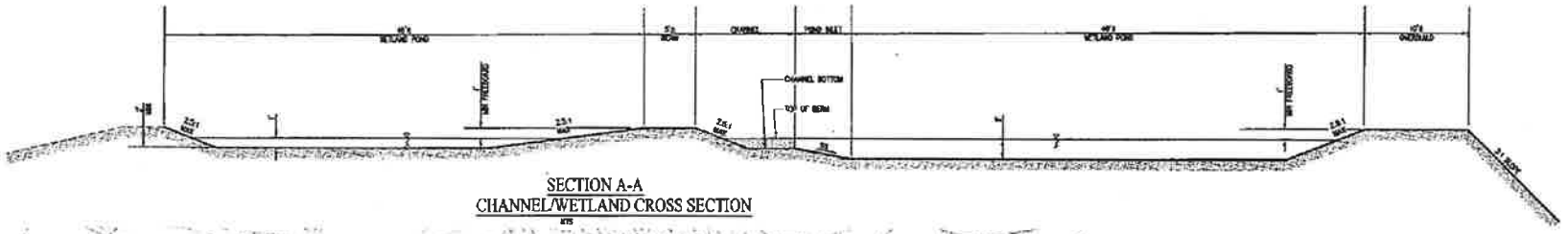
0 15 30 60ft



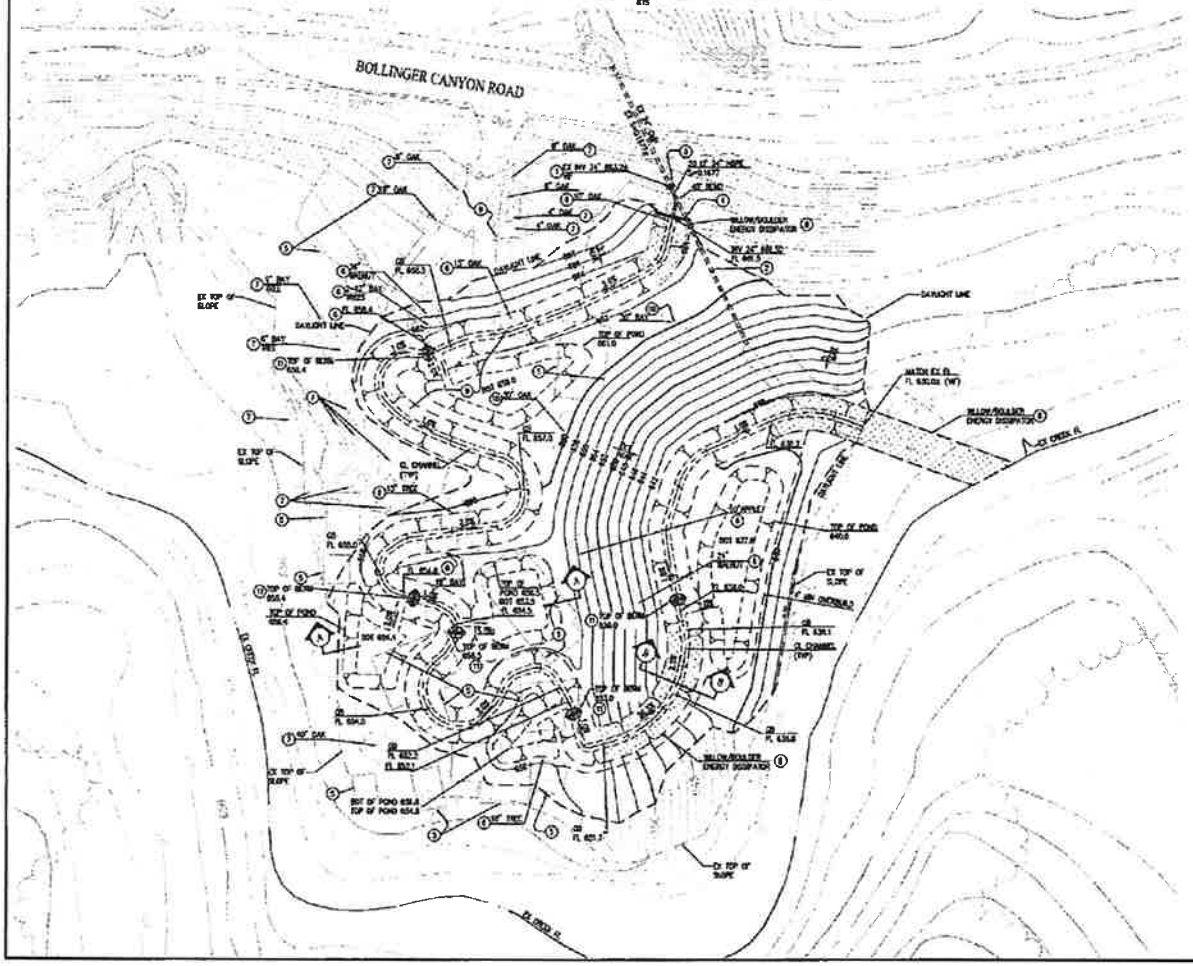
SHRUB LEGEND

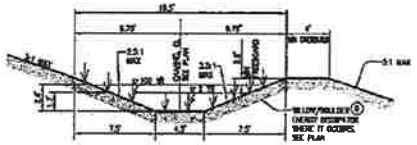
SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY	PLANTING NOTES
⊛	*Baccharis pilularis*	Coyote Brush	1 gallon	22	Individuals (6' O.C.)
●	*Frangula californica*	California Coffeeberry	treepot 4	27	Individuals and clumps of 3 (3' OC) Note: Each symbol stands for (3) 1-gallon plants.
●	*Heteromoles arbutifolia*	Toyon	treepot 4	5	Individuals (8' OC)
●	*Ribes aureum*	Golden Currant	1 gallon	42	Close to channel. Individals and clumps of 3 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
⊛	*Rosa californica*	California Rose	1 gallon	63	Individuals and clumps of 3 to 5 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
●	*Rubus ursinus*	California blackberry	1 gallon	51	Individuals and clumps of 3 to 5 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.

TOTAL QUANTITY: 210



SECTION A-A
CHANNEL/WETLAND CROSS SECTION
NTS





SECTION B-B
CHANNEL CROSS SECTION
NTS

CONSTRUCTION NOTES:

1. CONTRACTOR TO POTHOLE EXISTING STORM DRAIN PIPE TO VERIFY LOCATION AND INVERT PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO CUT AND REMOVE EXISTING STORM DRAIN PIPE, BACKFILL AND PER GEOTECH RECOMMENDATIONS.
3. INSTALL CONCRETE COLLAR.
4. INSTALL CONCRETE HEADWALL, DESIGN BY OTHERS.
5. DEMOLISH CMSWM STRUCTURE.
6. REMOVE EXISTING BIKE.
7. EXISTING TREE PROTECT IN PLACE.
8. PLANT BOULDERS WITHIN 2 TON BOULDERS TO ACT AS ENERGY DISSIPATOR.
9. DEMOLISH EXISTING AC PAVEMENT.
10. INSTALL REDWOOD RETAINING WALLS TO PROTECT EXISTING TREES.
11. 3' HIGH MAX BERM FOR BACKWATER FLOW INTO WETLAND PONDS. BERMS TO BE PLACED JUST DOWN STREAM OF WETLAND POND INLET.

CONCEPTUAL MITIGATION PLAN

PRELIMINARY GRADING PLAN

THE FARIA PRESERVE

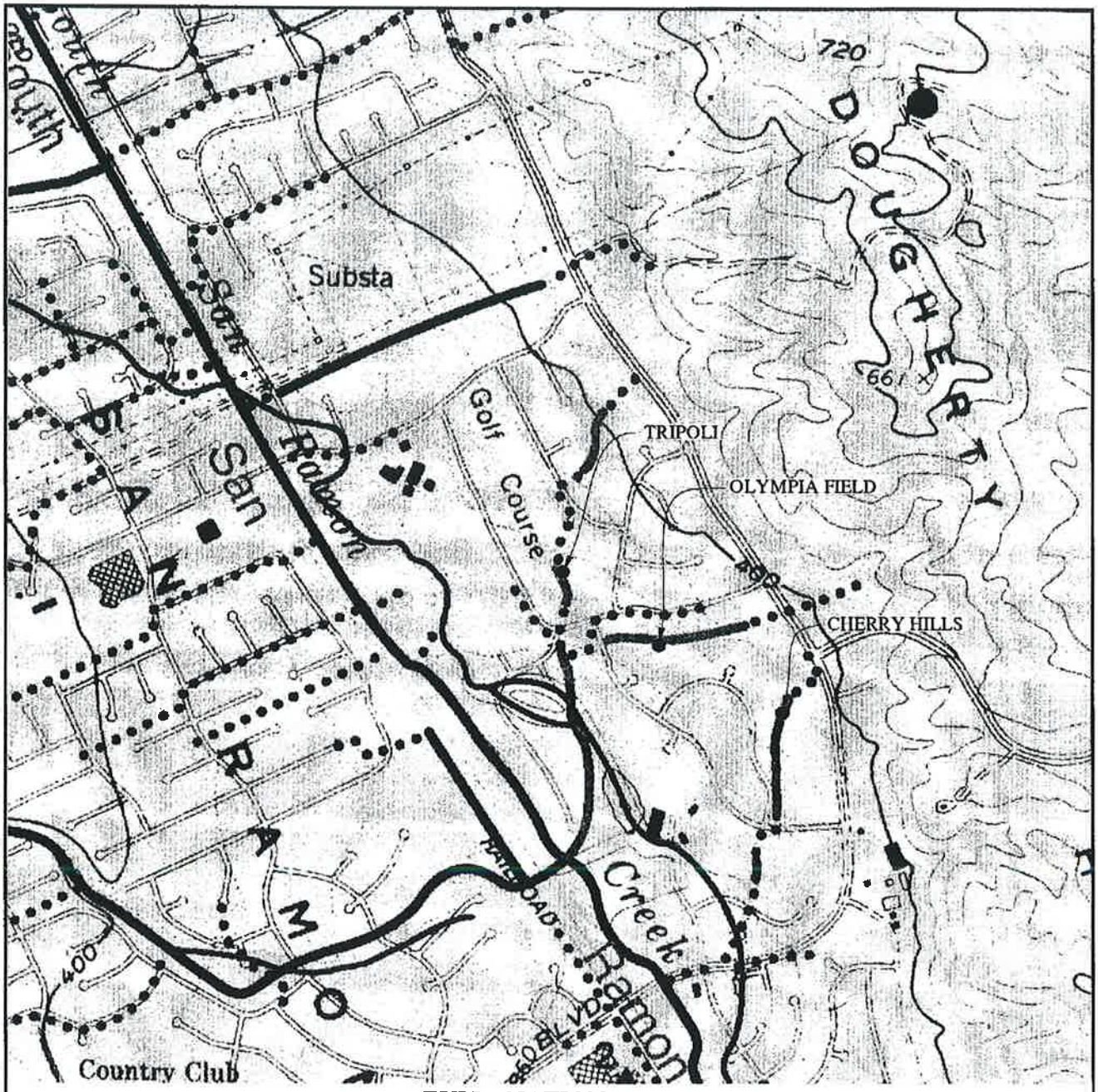
CONTRA COSTA COUNTY CALIFORNIA

0' 30' 60' 120'

SCALE: 1" = 30'

DATE: MAY 16, 2014

Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS
2111 BOLLINGER CANYON ROAD, SUITE 100
SAN RAMON, CALIFORNIA 94583
(925) 866-0322
FAX (925) 866-8575



EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- CREEKS
- FORMER CREEKS, BURIED OR DRAINED
- UNDERGROUND CULVERTS & STORM DRAINS
- ENGINEERED CHANNELS

N

0 FEET 1000

0 METERS 500

BASE MAP SOURCE: SOWERS, WILLIAM LETTIS & ASSOCIATES, INC, 2003

ENGEO Expect Excellence

VICINITY MAP

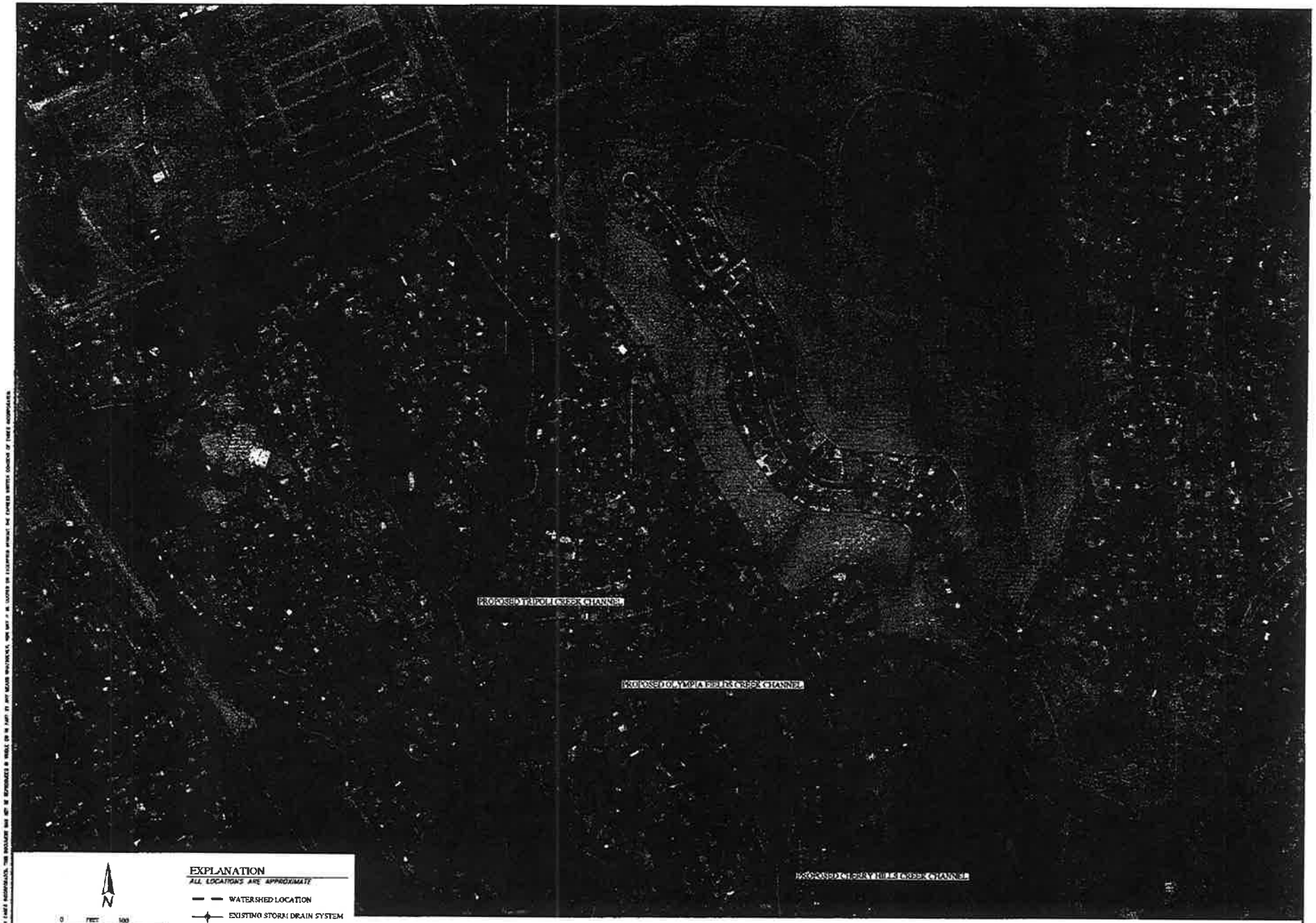
FARIA

SAN RAMON, CALIFORNIA

PROJECT NO.: 6465.003.000	FIGURE NO. 1
SCALE: AS SHOWN	
DRAWN BY: LL	CHECKED BY: JB

G:\Drafting\DRAFTING2_Dwg\6465\003\Existing Drainage Layout 0215\6465003000-1-vicmap-existdrainage-0215.dwg Plot Date: 2-26-15 llee

ORIGINAL FIGURE PRINTED IN COLOR



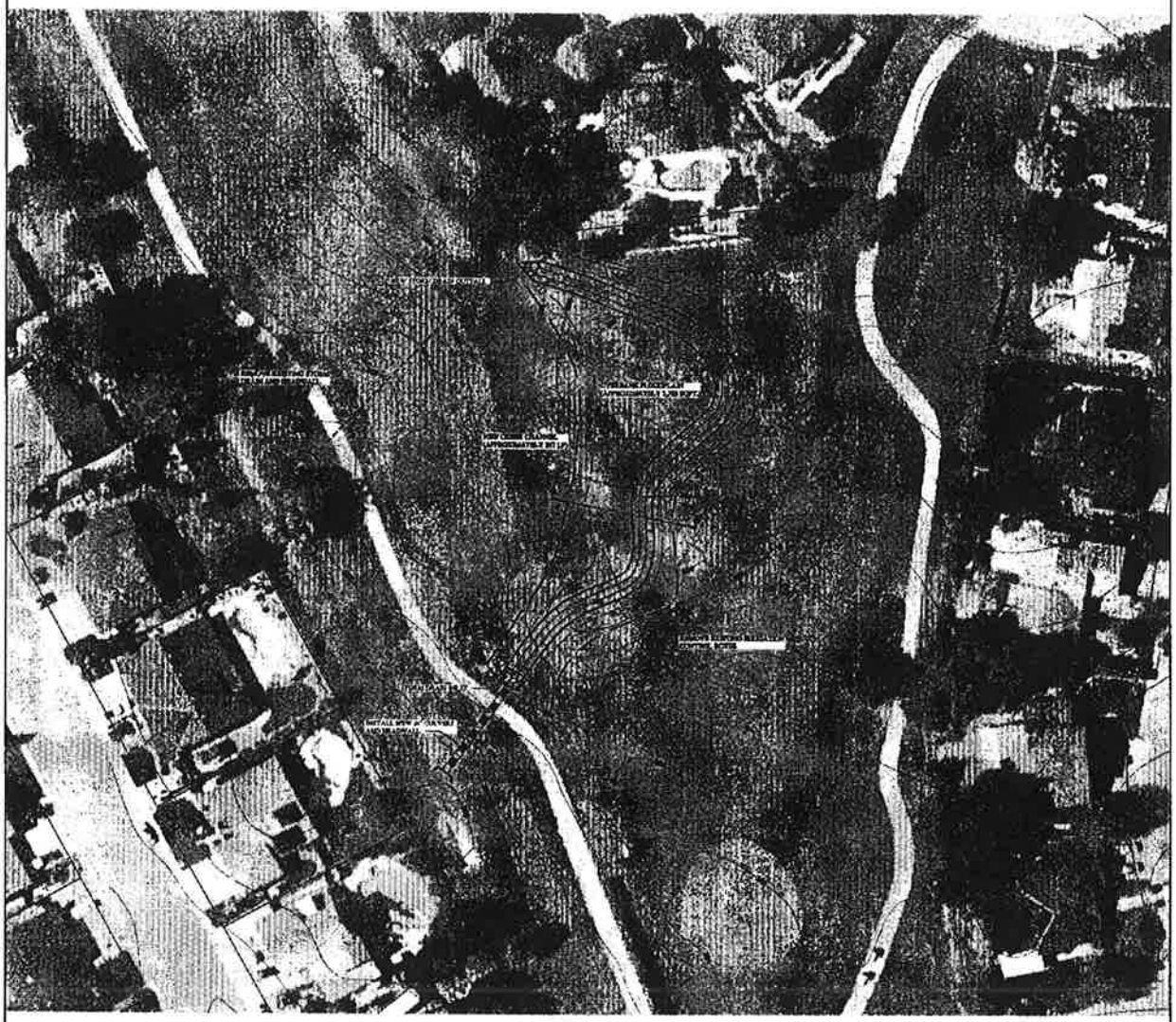
BASE MAP SOURCE: GOOGLE EARTH PRO AND U.S.G.S., 2012

ENGEO

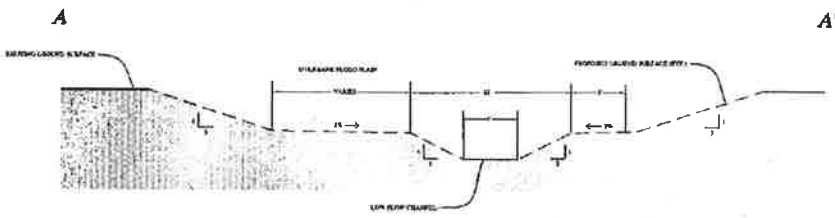
APPROXIMATE WATERSHED LOCATION PLAN
FARIA
SAN RAMON, CALIFORNIA

PROJECT NO: 6455.003.000
SCALE: AS SHOWN
DRAWN BY: LL CHECKED BY: JD

2



SITE PLAN



CROSS SECTION A-A'

APPROVED FOR CONSTRUCTION:

JIM COLLINS, PGA
GENERAL MANAGER
SAN RAMON GOLF CLUB
9430 FIRCREST LANE
SAN RAMON, CA. 94583
925-828-6100 EXT. 27

EXPLANATION

GRADE BREAK

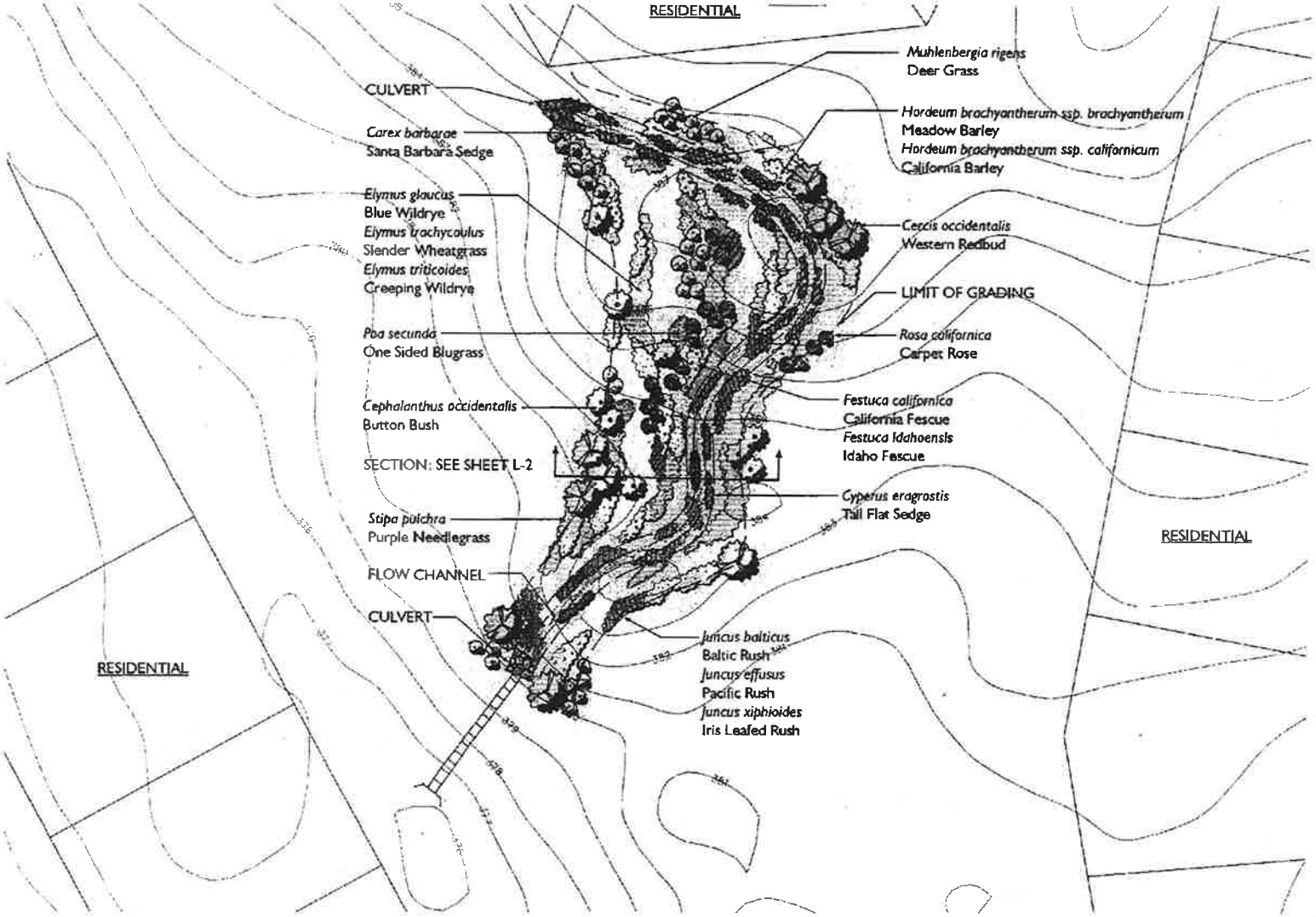
CROSS SECTION

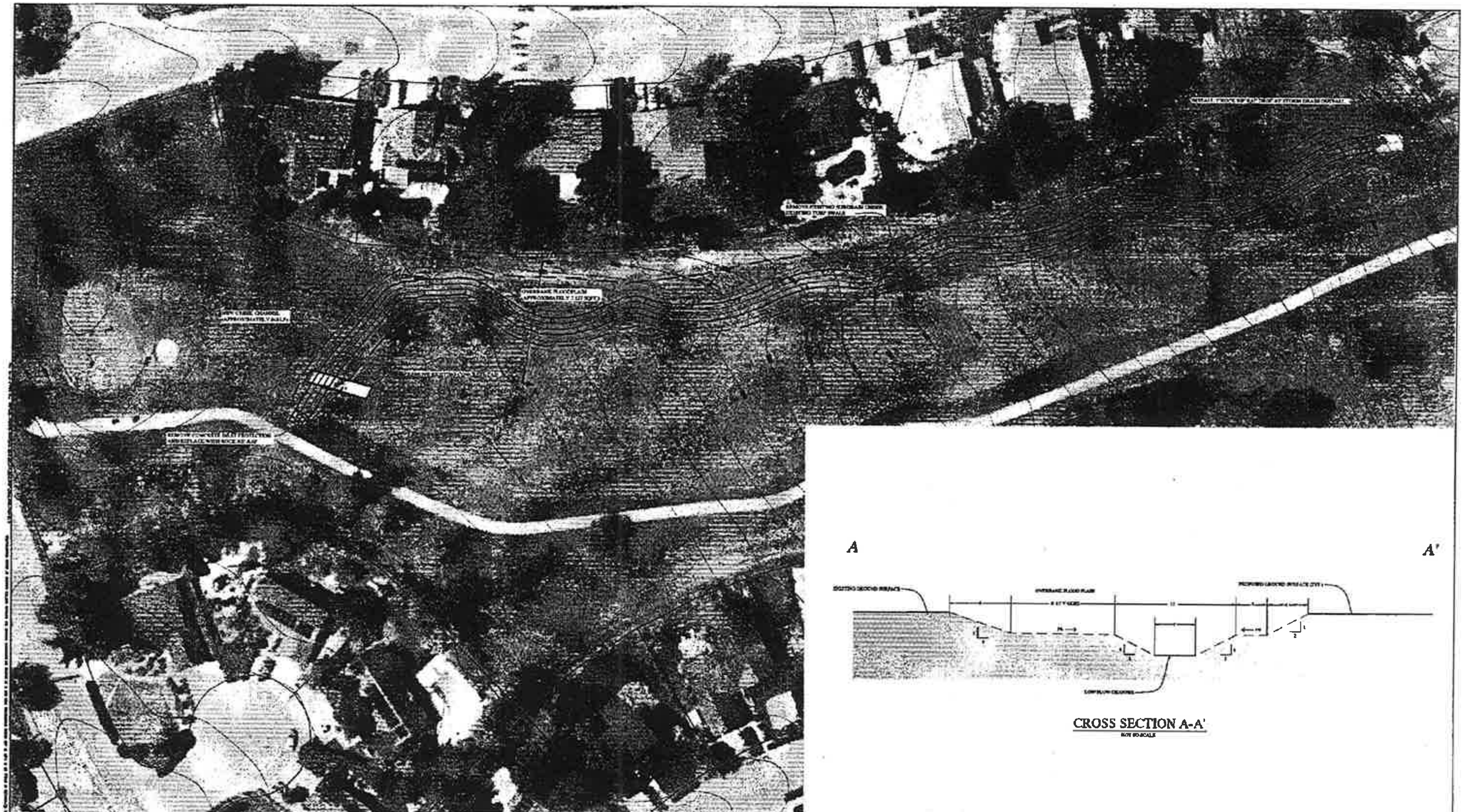
NOTE
TEMPORARY IRRIGATION WILL BE PROVIDED IN THE CREEK CORRIDOR UNTIL PLANT ESTABLISHMENT IS COMPLETE. THE NEED FOR TEMPORARY IRRIGATION WILL BE DETERMINED AFTER ONE YEAR OF MONITORING IS COMPLETED

ENGEO

SITE PLAN

1


RESIDENTIAL
Muhlenbergia rigens
Deer Grass
CULVERT
Hordeum brachyantherum ssp. brachyantherum
Meadow Barley
Hordeum brachyantherum ssp. californicum
California Barley
Carex barbarae
Santa Barbara Sedge
Elymus glaucus
Blue Wildrye
Elymus trachycaulus
Slender Wheatgrass
Elymus triticoides
Creeping Wildrye
Cercis occidentalis
Western Redbud
LIMIT OF GRADING
Poa secunda
One Sided Bluegrass
Rosa californica
Carpet Rose
Festuca californica
California Fescue
Festuca Idahoensis
Idaho Fescue
Cephalanthus occidentalis
Button Bush
SECTION: SEE SHEET L-2
Cyperus eragrostis
Tall Flat Sedge
Stipa pulchra
Purple Needlegrass
RESIDENTIAL
FLOW CHANNEL
CULVERT
Juncus balticus
Baltic Rush
Juncus effusus
Pacific Rush
Juncus xiphioides
Iris Leafed Rush
RESIDENTIAL
0 10 20 40ft



CROSS SECTION A-A'

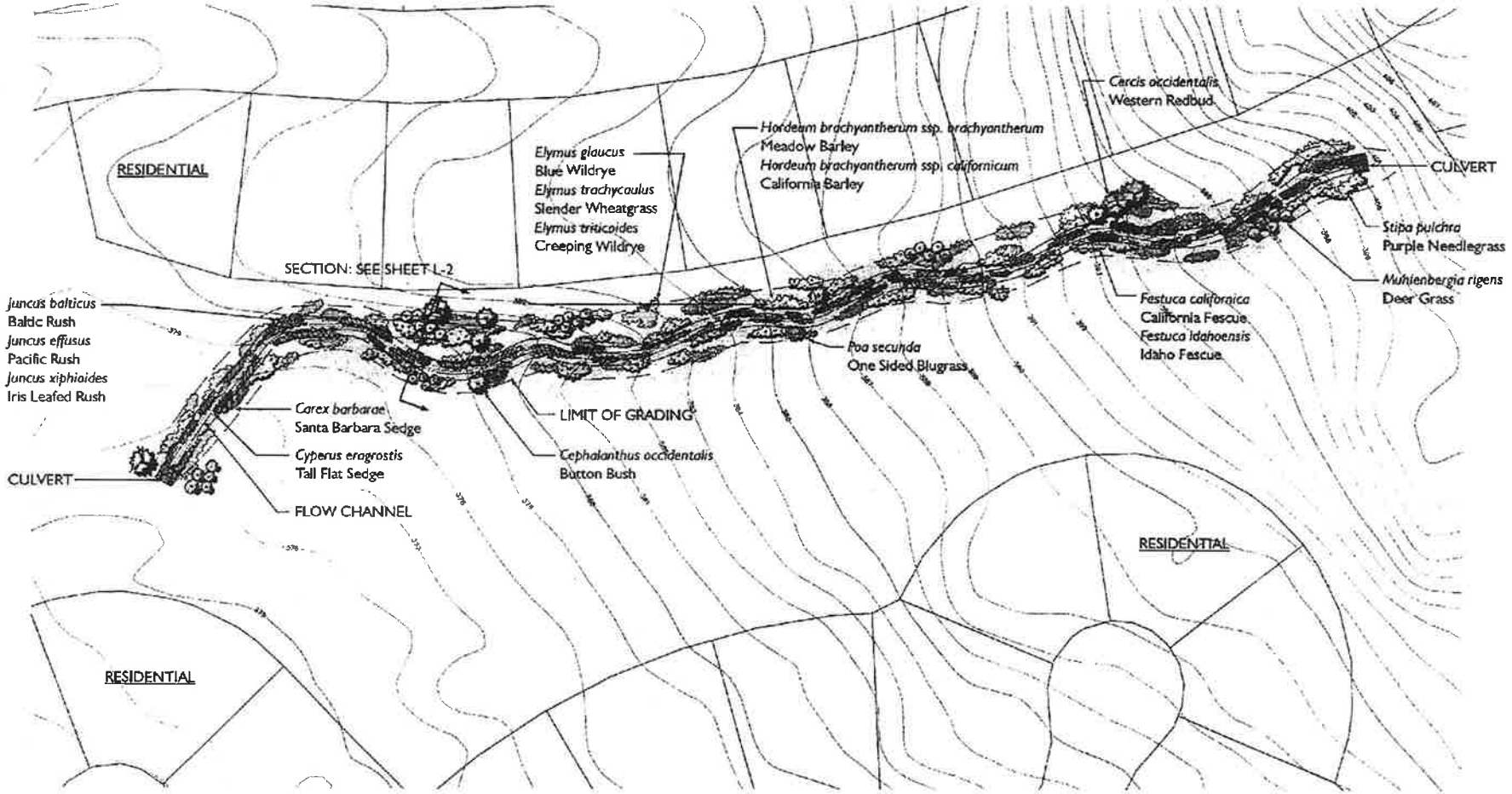
EXPLANATION

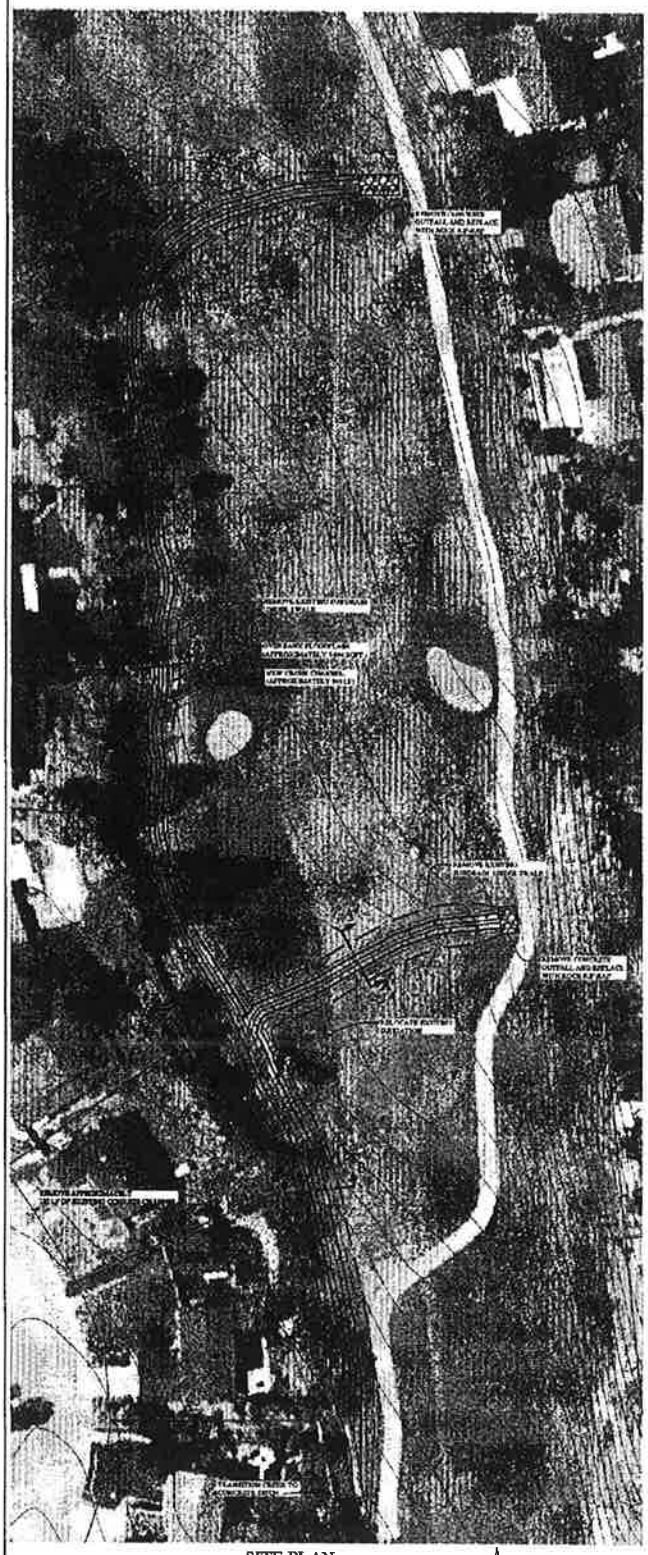
ENGEO

2

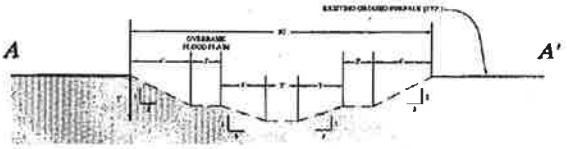
APPROVED FOR CONSTRUCTION:

JIM COLLINS, PGA
GENERAL MANAGER
SAN RAMON GOLF CLUB
9430 FIRCREST LANE
SAN RAMON, CA 94583
925-828-6100 EXT. 27

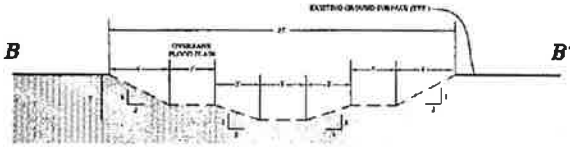

RESIDENTIAL
SECTION: SEE SHEET L-2
Elymus glaucus
Blue Wildrye
Elymus trachycaulus
Slender Wheatgrass
Elymus triticoides
Creeping Wildrye
Hordeum brachyantherum ssp. brachyantherum
Meadow Barley
Hordeum brachyantherum ssp. californicum
California Barley
Cercis occidentalis
Western Redbud
CULVERT
Stipa pulchra
Purple Needlegrass
Muhlenbergia rigens
Deer Grass
Festuca californica
California Fescue
Festuca idahoensis
Idaho Fescue
Poa secunda
One Sided Bluegrass
Juncus balticus
Baldic Rush
Juncus effusus
Pacific Rush
Juncus xiphioides
Iris Leafed Rush
Carex barbarae
Santa Barbara Sedge
Cyperus eragrostis
Tall Flat Sedge
LIMIT OF GRADING
Cephalanthus occidentalis
Button Bush
CULVERT
FLOW CHANNEL
RESIDENTIAL
RESIDENTIAL



SITE PLAN



CROSS SECTION A-A'



CROSS SECTION B-B'

APPROVED FOR CONSTRUCTION:

JIM COLLINS, PGA
GENERAL MANAGER
SAN RAMON GOLF CLUB
9430 FIRCREST LANE
SAN RAMON, CA. 94583
925-828-6100 EXT. 27

EXPLANATION

LIMIT OF GRADING

GRADE BREAK

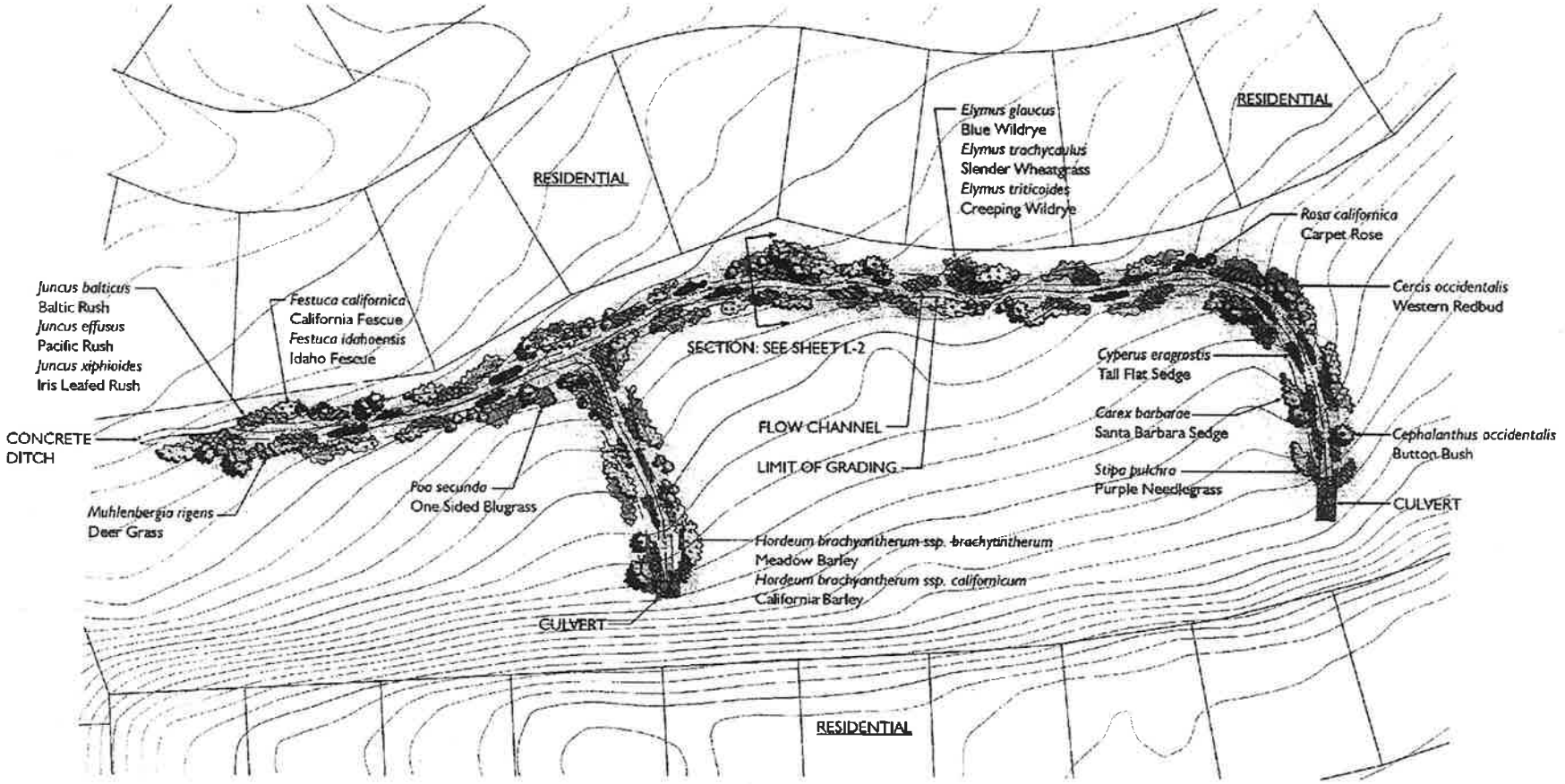
CROSS SECTION

NOTE:
TEMPORARY IRRIGATION WILL BE PROVIDED IN THE CREEK CORRIDOR UNTIL PLANT ESTABLISHMENT IS COMPLETE. THE NEED FOR PERMANENT IRRIGATION WILL BE DETERMINED AFTER ONE YEAR OF MONITORING IS CONDUCTED

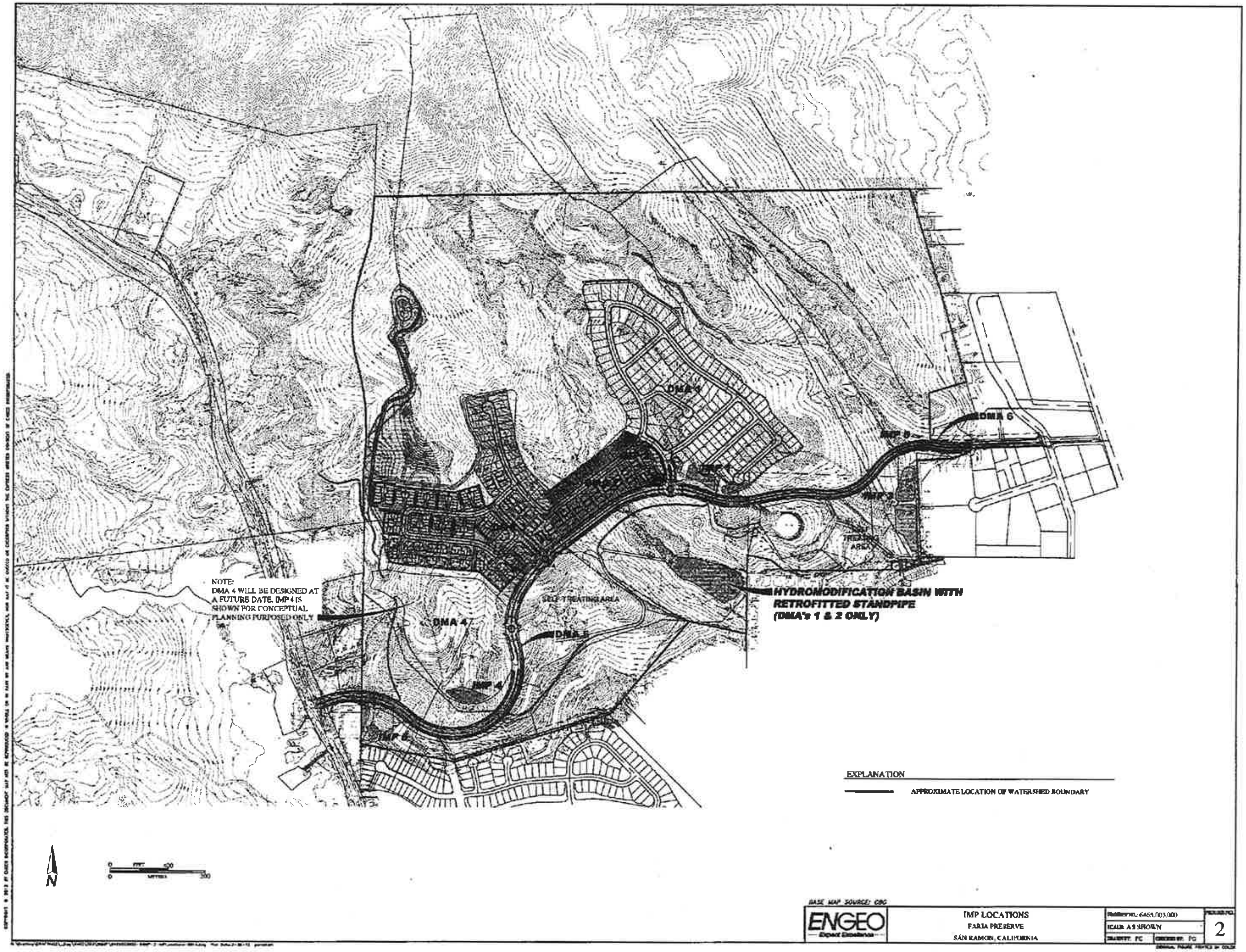
ENGEO

SITE PLAN

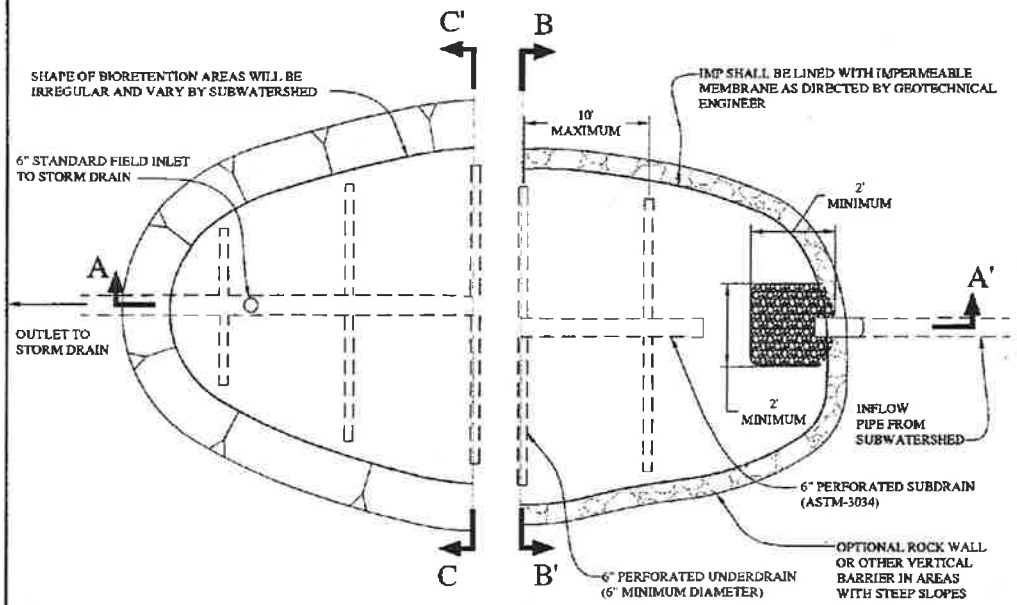
3


RESIDENTIAL
Elymus glaucus
Blue Wildrye
Elymus trachycaulus
Slender Wheatgrass
Elymus triticoides
Creeping Wildrye
RESIDENTIAL
Rosa californica
Carpet Rose
Cercis occidentalis
Western Redbud
Juncus balticus
Baltic Rush
Juncus effusus
Pacific Rush
Juncus xiphioides
Iris Leafed Rush
Festuca californica
California Fescue
Festuca idahoensis
Idaho Fescue
SECTION: SEE SHEET L-2
Cyperus eragrostis
Tall Flat Sedge
CONCRETE DITCH
FLOW CHANNEL
Carex barbarae
Santa Barbara Sedge
Cephalanthus occidentalis
Button-Bush
LIMIT OF GRADING
Stipa pulchra
Purple Needlegrass
Poa secunda
One Sided Bluegrass
CULVERT
Muhlenbergia rigens
Deer Grass
Hordeum brachyantherum ssp. brachyantherum
Meadow Barley
Hordeum brachyantherum ssp. californicum
California Barley
CULVERT
RESIDENTIAL

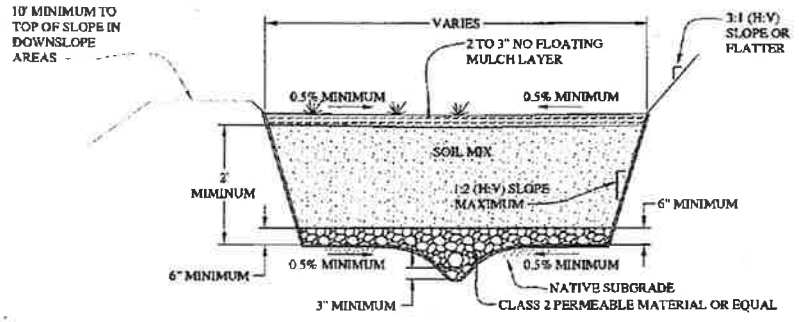
0 15 30 60ft



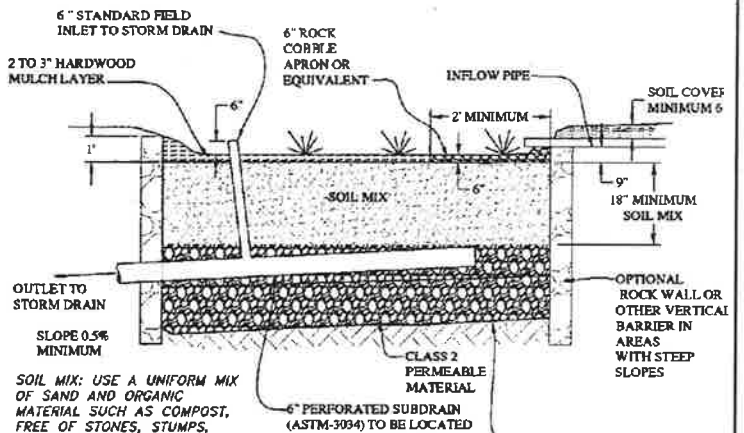
NOTE:
DMA 4 WILL BE DESIGNED AT A FUTURE DATE. IMP 4 IS SHOWN FOR CONCEPTUAL PLANNING PURPOSED ONLY
DMA 4
DMA 6
SELF TREATING AREA
HYDROMODIFICATION BASIN WITH RETROFITTED STANDPIPE (DMA's 1 & 2 ONLY)
EXPLANATION
APPROXIMATE LOCATION OF WATERSHED BOUNDARY
N
BASE MAP SOURCE: CBC
ENGEO
IMP LOCATIONS
FARIA PRESERVE
SAN RAMON, CALIFORNIA
2



TYPICAL BIORETENTION AREA
WITH 3:1 SIDE SLOPES - PLAN VIEW
NO SCALE

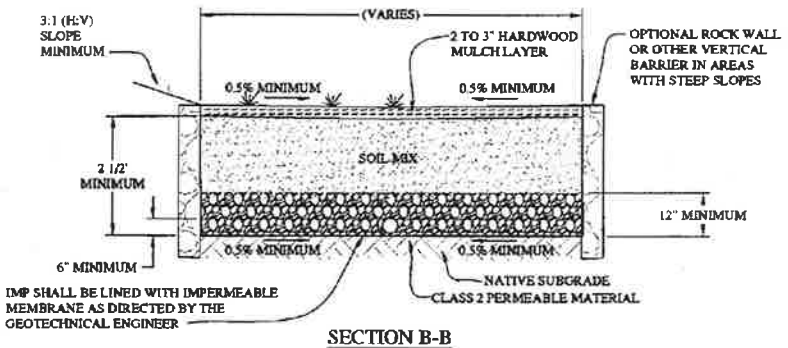


SECTION C-C'
NO SCALE



SECTION A-A'

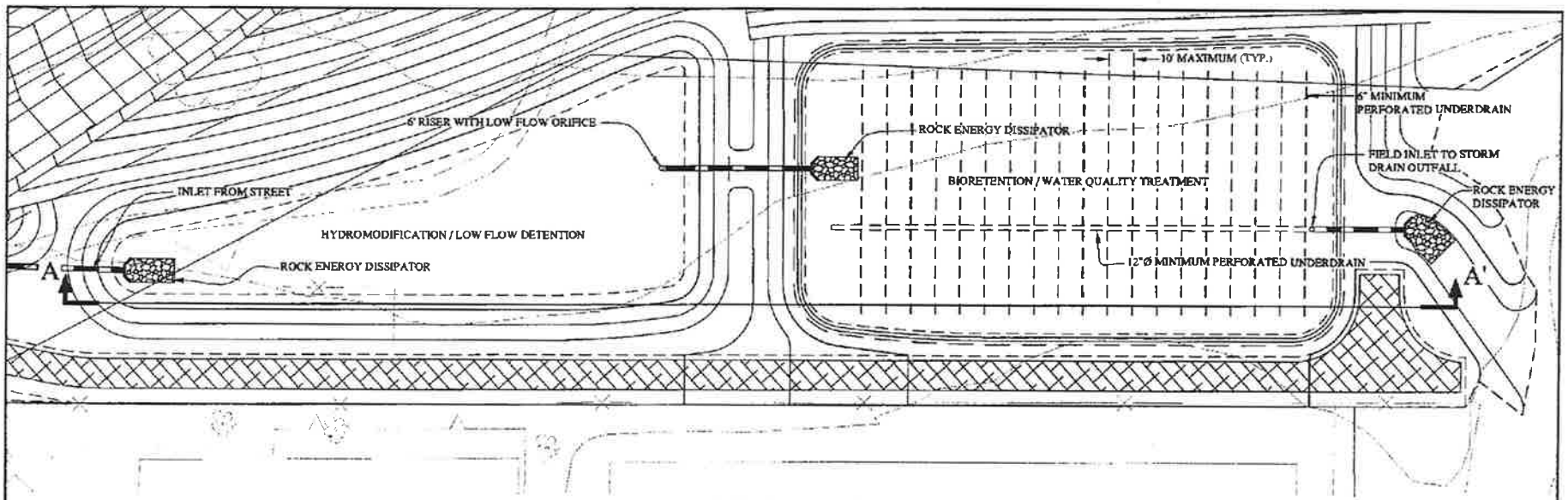
TYPICAL BIORETENTION AREA
WITH ROCK WALL - PLAN VIEW
NO SCALE



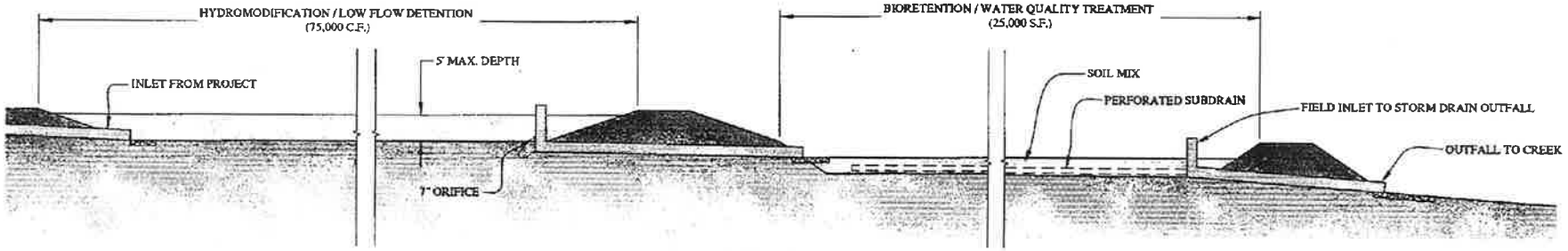
SECTION B-B

BIORETENTION AREA DETAILS
NO SCALE

ENGEO Expect Excellence	BIORETENTION AREA DETAIL FARIA PRESERVE SAN RAMON, CALIFORNIA	PROJECT NO.: 6465.003.000 SCALE: NO SCALE DRAWN BY: PC CHECKED BY: PG	FIGURE NO. 3



PLAN VIEW



SECTION A-A'

BASE MAP SOURCE:

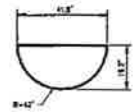
ENGEO Expect Excellence

IMP 3
HYDROMODIFICATION BASIN / BIORETENTION BASIN
FARIA PRESERVE
SAN RAMON, CALIFORNIA

PROJECT NO: 6465.003.000
SCALE: NO SCALE
DRAWN BY: PC
CHECKED BY: PG

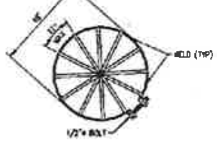
FIGURE NO.
4

ORIGINAL FIGURE PRINTED IN COLOR



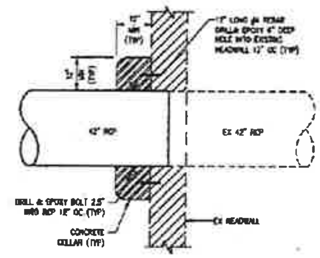
SEMI CIRCLE ORIFICE

SCALE: NTS



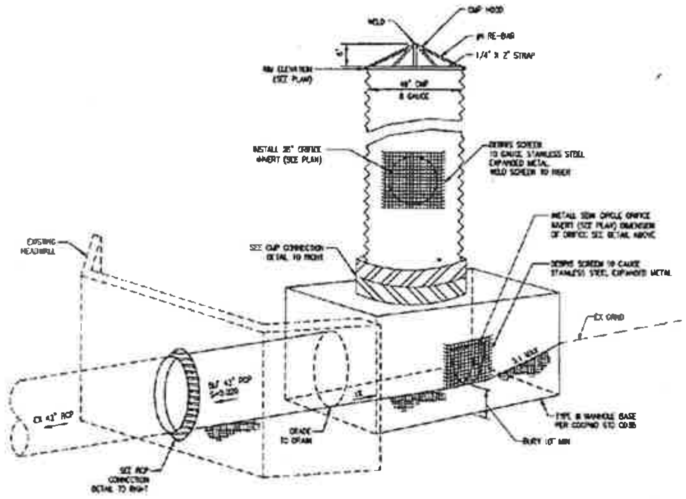
CMP HOOD DETAIL

SCALE: NTS



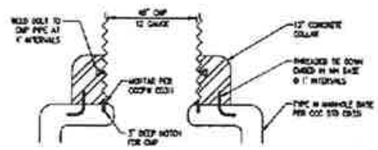
RCP CONNECTION DETAIL

SCALE: NTS



DETENTION BASIN RISER AND DEBRIS SCREEN

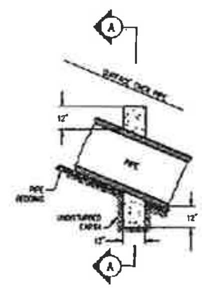
SCALE: NTS



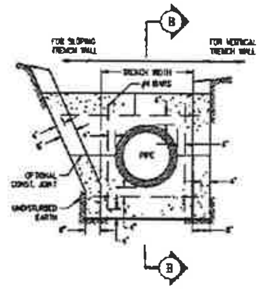
CMP CONNECTION DETAIL

SCALE: NTS

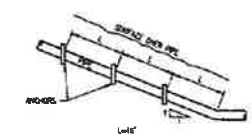
NOTE: WELD STEPS TO INSIDE OF CMP RISER PER STEP DETAIL (CCCFW STD CD36)



SECTION B-B



SECTION A-A



ELEVATION
PIPE ANCHORS

NOTES:

1. PIPE ANCHORS SHALL BE CONSTRUCTED AT "L" HORIZONTAL INTERVALS ON ALL SLOPES GREATER THAN 30%.
2. REINFORCING STEEL SHALL BE AS SPECIFIED PER CCCSD SECTION 15.03202.
3. ANCHORS SHALL BE CAST-IN-PLACE CONCRETE PER CCCSD SECTION 15.05310.
4. SPACING OF ANCHORS SHALL BE 16'.
5. TRENCH BACKFILL SHALL BE CONSOLIDATED BY MECHANICAL COMPACTION. IN LIEU OF MECHANICAL COMPACTION, SOIL CEMENT MAY BE USED, HOWEVER THE TOP 12" OF BACKFILL SHALL BE NATIVE SOIL MECHANICALLY COMPACTED.

PIPE ANCHOR AND BACKFILL STABILIZER DETAIL

SCALE: NTS

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

cbg Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS

DATE: JAN 2015

SUBDIVISION 9342

FARIA PRESERVE

CENTRAL CHANNEL STORM DRAIN SYSTEM
DETAILS

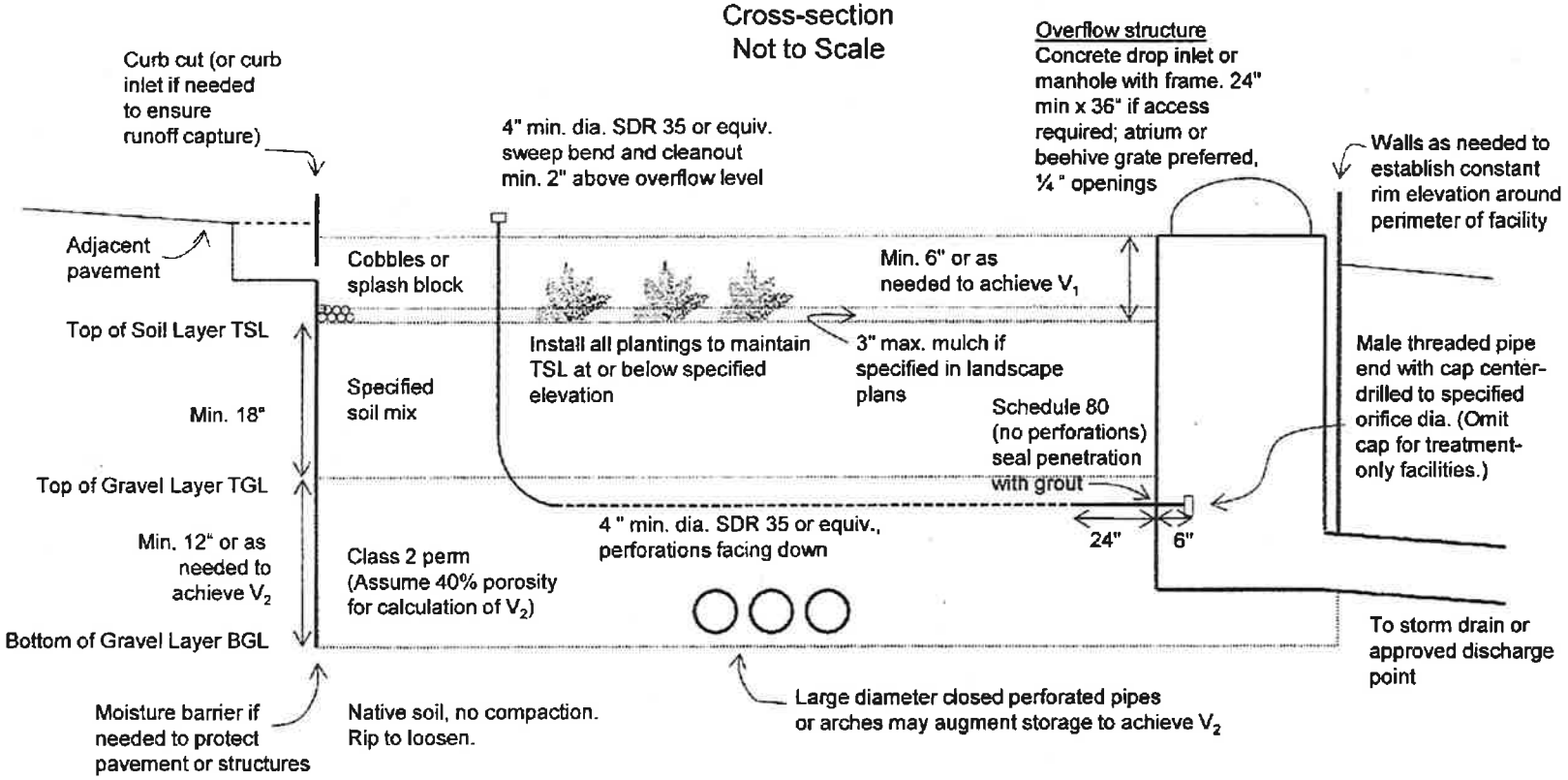
CITY OF SAN RAMON CALIFORNIA

SHEET NUMBER
9
OF 9

JOB NUMBER
1378-090

Bioretention Facility

Cross-section
Not to Scale

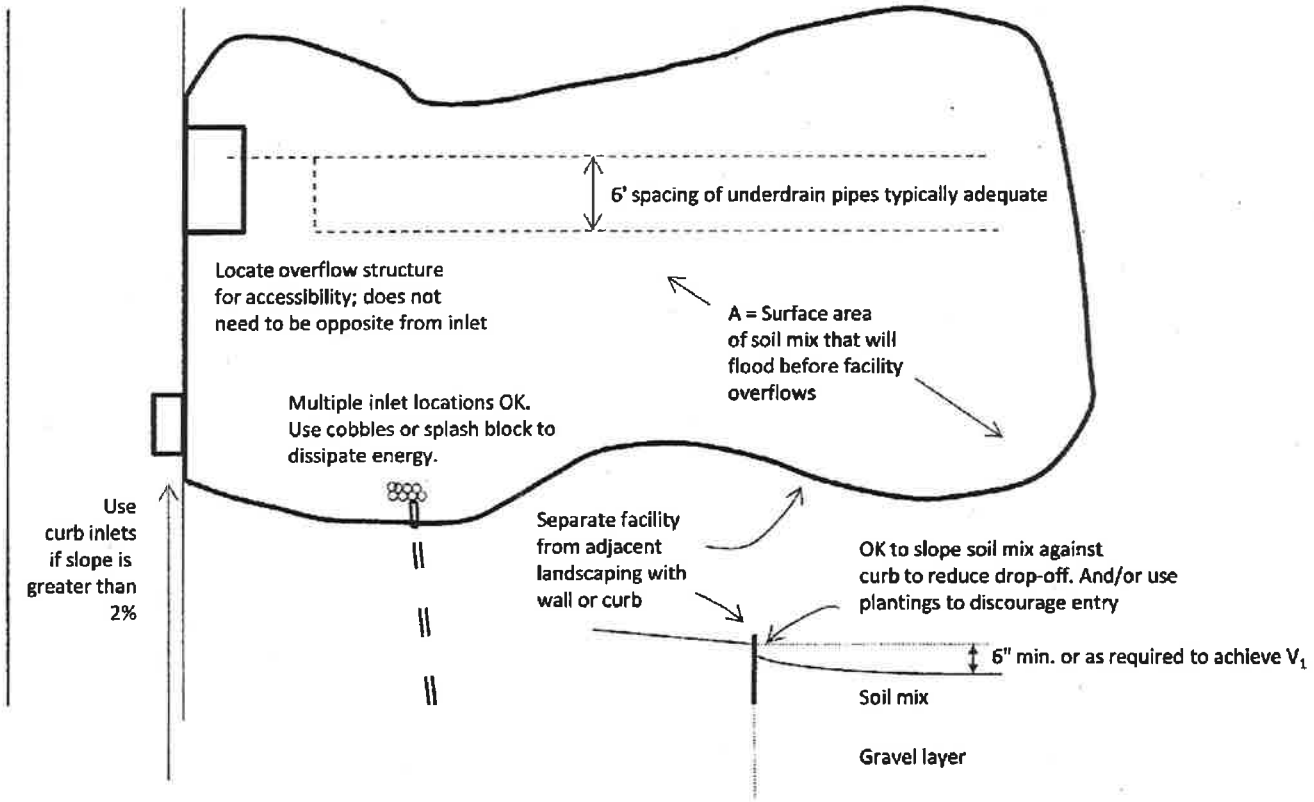


Notes:

- No liner, no filter fabric, no landscape cloth.
- Maintain BGL. TGL, TSL throughout facility area at elevations to be specified in plan.
- Class 2 perm layer may extend below and underneath drop inlet.
- Elevation of perforated pipe underdrain is near top of gravel layer, except when zero infiltration is expected.
- See Appendix B for soil mix specification, planting and irrigation guidance.
- See Chapter 4 for factors and equations used to calculate V_1, V_2, and orifice diameter.

Bioretention Facility

Plan (Not to Scale)



Note: Call out elevations of curb, pavement, inlet, top of soil layer (TSL), bottom of soil layer (BSL), and bottom of gravel layer (BGL) at all inlets and outlets and at key points along edge of facility.

EXHIBIT B

U.S. ARMY CORPS OF ENGINEERS
404 (b)(1) ALTERNATIVES ANALYSIS
(REVISED)

FOR THE

FARIA PRESERVE DEVELOPMENT PROJECT
(Corps File Number: 29678S)

SAN RAMON, CALIFORNIA

Prepared for:

FARIA LT VENTURES, LLC
5000 Executive Parkway, Suite 530
San Ramon, California 94523

Prepared by:

OLBERDING ENVIRONMENTAL, INC.
Wetland Regulatory Consultants
3170 Crow Canyon Place, Suite 260
San Ramon, California 94523

Phone: (925) 866-2111 ~ FAX (925) 866-2126
Contact: Jeff Olberding

DECEMBER 2014

TABLE OF CONTENTS

TABLES

ATTACHMENTS

ATTACHMENT 1 FIGURES

This report should be cited as: Olberding Environmental, Inc., December 2014. U.S. Army Corps of Engineers 404(b)(1) *Alternatives Analysis for the Faria Preserve Development Project, San Ramon, California.* Faria LT Ventures, LLC, San Ramon, California

1.0 INTRODUCTION

This revised Alternatives Analysis is intended to provide updated information necessary to evaluate the Faria Preserve Development Project (Project) located in City of San Ramon, Contra Costa County, California. The Proposed Project involves the permanent fill of U.S. Army Corps of Engineers (Corps) and Regional Water Quality Control Board (RWQCB) jurisdictional wetlands/waters for the purpose of residential development on a portion of the 456-acre Faria Ranch Property (Property). This document is intended to supplement the 404(b)(1) Alternative Analysis prepared for the Faria Ranch Development Project submitted to the Corps and RWQCB in November 2013. Permit applications were submitted to the various agencies as shown below:

- Corps: Section 404 Individual Permit application submitted September 2012
- RWQCB: Section 401 Water Quality Certification application submitted July 2012

The permit applications submitted in 2012 were based on a project design approved by the City of San Ramon; however, the Corps, RWQCB and California Department of Fish and Wildlife (CDFW) had several concerns that resulted in the applicant, Faria LT Ventures, LLC, revising the site plan in 2013, reducing project related impacts to jurisdictional wetlands/waters. The site plan was revised again in the spring of 2014 in response to the City of San Ramon's (City) determination that the primary access road connecting to Deerwood Road was infeasible. In May 2014, the City conditioned the Project to replace the Deerwood Road connection with a connection to Purdue Road. The City imposed condition resulted in additional changes to the site plan requiring Faria LT Ventures, LLC to amend all agency permits and supporting documents in June 2014. More recently, an internal evaluation of Project related impacts to wetlands and waters resulted in the identification of several design modifications to reduce jurisdictional impacts. These modifications, which include combining outfall locations, constructing retaining walls and eliminating over half of the riprap at two inlet structures and eliminating riprap at the standpipe location, have resulted in additional channel impact reductions.

The Faria LT Ventures, LLC has been directed to provide a "focused" evaluation which includes:

- Alternative "E" (Maximum Avoidance Plan 2013 [Proposed Project]);
- Alternative "F" (Avoidance Plan 2006 [Balanced cut/fill - Alternative 6]); and
- Alternative "G" (Maximum Avoidance Plan 2014 [Land Bridge]).

Alternative "E" or the Preferred Alternative includes additional reductions in channel impacts based on recent engineering modifications. Revised exhibits have been included to illustrate the modifications which eliminate 68 feet of channel impact (See Attachment 2). Alternative "F"

includes a site design that was evaluated by the former property owner in 2006. This design represents full avoidance of the central and eastern drainages with the construction of a bridge which connects development on opposing ridgelines. An assessment of Alternative "F" has been included in Attachment 3. Alternative "G" includes a site plan which eliminates housing from the "land bridge" resulting in the removal of approximately 300 addition feet of impact to the central drainage. A discussion of Alternative "G" has been included in Attachment 4.

Faria LT Ventures, LLC (Applicant), is proposing to construct a 141-acre residential development project on the 456-acre Property which is located in the City limit of San Ramon (Attachment 1, Figures 1-4). The Project proposes to construct 740 residential units in a range of housing types and prices, together with public street expansion, interior roads, utilities, other related infrastructures, water quality ponds, and community facilities including a park, house of worship, trail system, and open space dedication.

The Applicant is seeking authorization from the Corps under Section 404 of the Clean Water Act to permanently fill/impact approximately 0.85 acres of seasonal wetland habitat and 0.07 acres (1,552 linear feet) of ephemeral/intermittent drainage channel habitat. A total of 0.92 acres of Corps jurisdictional wetlands/waters will be impacted by the Proposed Project based on the enclosed delineation map (Attachment 1, Figure 5). Jurisdictional impacts will include the placement of approximately 14,217 cubic yards of fill consisting of earthen fill, rock riprap, and concrete into jurisdictional wetlands/waters in association with proposed development activities (Attachment 1, Figures 6 and 7).

Proposed mitigation for jurisdictional impacts includes: (1) setting aside the remainder of the Faria Property as an open space preserve subject to conservation easement; (2) establishment of a riparian and wildlife corridor along the central drainage channel, also protected by a conservation easement; (3) preservation of wetlands and ephemeral/intermittent streambed; (4) creation of wetland habitat along the riparian and wildlife corridor; (5) establishment of riparian habitat along off-site creek channels in the City of San Ramon; (6) restoration of buried creek channel segments in San Ramon; and (7) preservation of two large off-site properties and their aquatic features. These mitigation opportunities are intended to compensate impacts to wetland jurisdictional areas. Attachment 1, Figure 8 identified the general location of on-site mitigation. A complete mitigation proposal is included in Attachment 5.

Approximately 141 acres of the 456-acre Property will be permanently developed with roads, buildings, infrastructure, etc. An additional 59.8 acres will be temporarily impacted during construction. Even though surveys have not documented the species on-site, the Project site is considered potential habitat for Alameda whipsnake and California red-legged frog. Project-related impacts to land permanently impacted will be mitigated at a 3:1 ratio. Temporary impacts will be

mitigated at a 3:1 ratio if the area is isolated from other open space or mitigated at a 1:1 ratio if adjacent to open space. Potential impacts to California red-legged frog and Alameda whipsnake dispersal and foraging habitat (includes 173 acres of Alameda whipsnake critical habitat - AWS 2). Potential Project related impacts to special status species will be mitigated with 544 acres of mitigation land occurring in designated critical habitat. The Project includes preservation, restoration, and management of an On-site Preserve and an East Bay Regional Park District (EBRPD) Open Space Preserve (totaling approximately 260 acres) to provide wetland, riparian and species mitigation. Preservation of portions of two additional mitigation properties, Ambrose Mitigation Property (approximately 117 acres) and Roberts Ranch Mitigation Property (approximately 253 acres) is proposed. In total, 544 acres are proposed to provide species compensation for unavoidable impacts to Alameda whipsnake, California red-legged frog, including the loss of 173 acres of Critical Habitat for Alameda whipsnake. All Mitigation Areas will be protected in perpetuity.

The requested federal action for the Project is the issuance of an Individual Permit-Section 404 Permit by the United States Army Corps of Engineers ("Corps") to discharge fill material into 0.07 acres (1,552 linear feet) of ephemeral channel habitat and 0.85 acre of seasonal wetlands (totaling 0.92 acres of wetlands and waters of the United States under Corps jurisdiction), in connection with the construction of the Project. These impacts would result from the filling of portions of the central drainage, eastern drainage and several seasonal wetland features scattered across the Property in order to provide geotechnical stability suitable for the Proposed Project development and to comply with restrictions of the General Plan limiting ridgeline development. As discussed in the analysis of on-site alternatives, these impacts are unavoidable in order to achieve the overall project purpose.

The purpose of the analysis below is to demonstrate compliance with the U.S. Environmental Protection Agency's ("EPA") Section 404(b)(l) Guidelines for Specification of Disposal Sites for Dredged or Fill Material under 40 CFR Part 230 "Guidelines"). The Guidelines establish the principal prohibitions and standards regulating discharges of dredged and fill material to wetlands and other "waters of the U.S." Specifically, the Guidelines require the Corps to evaluate the effects of the proposed discharge on the physical, chemical, biological, and human use characteristics of the aquatic environment; identify the "least environmentally damaging practicable alternative" to the proposed discharge (LEDPA); and require all "appropriate and practicable" measures to minimize and compensate for unavoidable adverse impacts to the aquatic ecosystem associated with the discharge. The Guidelines also prohibit discharges that cause or contribute to violations of state water quality standards; cause significant degradation of the aquatic environment; or jeopardize the continued existence of a federally-listed threatened/endangered species or the adverse modification of designated critical habitat for such a species. The analysis below demonstrates that the Project is the least environmentally damaging practicable alternative and satisfies all requirements of the Guidelines.

This Section 404(b) (1) alternatives analysis has been developed to assist the Corps and RWQCB in determining whether the Proposed Project-Alternative "E" (Proposed Project), is the least environmentally damaging practicable alternative (LEDPA) available.

1.1 Regulatory Background

Any activity requiring an Individual Permit under Section 404 of the Clean Water Act must undergo an analysis of alternatives in order to identify the LEDPA. Each potentially practicable alternative must meet the overall project purpose.

Prior to issuing a Section 404 permit, the Corps is required to make a finding that the project complies with the Guidelines established by the United States Environmental Protection Agency (EPA) at 40 CFR Part 230. These Guidelines, known as the "Section 404(b)(1) Guidelines," prohibit discharge of dredge or fill material to waters of the United States if there is a "practicable alternative to the proposed discharge that would have less impact on the aquatic ecosystem, provided that the alternative does not have other significant environmental consequences." 40 CFR § 230.10(a). An alternative is practicable "if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 CFR § 230.10(a)(2) and 230.3(q). "If it is otherwise a practicable alternative, an area not presently owned by an applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered." 40 CFR § 230.10(a)(2).

If the proposed activity would involve a discharge into a special aquatic site such as a wetland, the Section 404(b)(1) Guidelines distinguish between those projects that are water dependent and those that are not. A water dependent project is one that requires access to water to achieve its basic purpose such as a marina. A non-water dependent project is one that does not require access to water to achieve its basic purpose, such as a housing or residential development. Here, the Project is not water dependent.

The Section 404(b)(1) Guidelines establish two presumptions for non-water dependent projects that propose a discharge into a special aquatic site. First, it is presumed that there are practicable alternatives to non-water dependent projects, "unless clearly demonstrated otherwise." 40 CFR § 230.10(a)(3). Second, "where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impacts on the aquatic ecosystem, unless clearly demonstrated otherwise." The thrust of the Guidelines is that the project applicant should avoid impacts if it can meet the project purpose. This approach is emphasized in a Memorandum of Agreement between the EPA and the Corps, Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines (1990) (MOA). The MOA articulates the Guidelines "sequencing"

protocol as first, avoiding impacts; second, minimizing impacts; and third, providing practicable compensatory mitigation for unavoidable impacts providing no overall net loss of functions and values.

A LEDPA determination requires balancing the factors outlined above. However, the approach is meant to be a reasonable one: "A reasonable, common sense approach in applying the requirements of the Guidelines' alternatives analysis is fully consistent with sound environmental protection." U.S. Army Corps of Engineers, Guidance on Flexibility of the 404(b)(1) Guidelines and Mitigation Banking, RGL 93-02 (Aug. 23, 1993). The ultimate decision regarding what is a practicable alternative must also take into account the degree of wetland impacts: "the level of documentation should reflect the significance and complexity of the discharge activity." 40 C.F.R. § 230.6(b). The Corps has noted that "the level of scrutiny required by the Guidelines is commensurate with the severity of the environmental impact (as determined by the functions of the aquatic resource and the nature of the propose activity) and the scope/cost of the project." RGL 93-02.

In addition to requiring the identification of the LEDPA, the Guidelines mandate that a project must not violate any applicable toxic effluent standard or prohibition (40 CFR § 230.10(b)(2)); jeopardize the continued existence of any federally-listed species or destroy or adversely modify designated critical habitat (40 CFR § 230.10(b)(3)); cause or contribute to violations of any applicable state water quality standard (40 CFR § 230.10(b)(1)); or cause or contribute to significant degradation of waters of the United States (40 CFR § 230.10(c)). Prior to completing review, the Corps also must evaluate the Proposed Project in light of the public interest. 33 CFR § 320.4. As a general matter, projects which have been approved by state authorities and which the applicant demonstrates to be the LEDPA will be approved by the Corps in the absence of overriding national factors of public interest 33 CFR § 320.4(J)(3). This is in recognition of the fact that land use planning decisions primarily fall within the purview of local and state authorities.[1]

1.2 Project Background

The Faria Ranch Property is a 456-acre site in unincorporated Contra Costa County, contiguous to the north and west of the current City limits. The Project is proposed to be located on approximately 141 acres within the Property. The Property is located north of an existing subdivision and is contiguous to the City limits. The Property consists of lands with primarily non-native annual grassland, oak woodland, and riparian corridors along ephemeral drainages. The

[1] The Corps regulations provide: "The primary responsibility for determining zoning and land use matters rests with state, local and tribal governments. The district engineer will normally accept decisions by such governments on those matters unless there are significant issues of overriding national importance. Such issues would include but are not necessarily limited to national security, navigation, national economic development, water quality, preservation of special aquatic areas, including wetlands, with significant interstate importance, and national energy needs. Whether a factor has overriding importance will depend on the degree of impact in an individual case." 33 C.F.R. § 320.4(j)(2).

Property is currently used for cattle grazing. The boundaries of the Property and the location of the 141 acre development area of the Property are shown in Attachment 1, Figures 1-7.

The Applicant proposes a combination of open space, trails, community park, educational use, house of worship, and residential uses (Attachment 1, Figure 7). The Applicant proposes a total of 740 residential units on a development footprint encompassing approximately 204 acres of the Property, including a combination of single and multifamily housing types.

Impacts to waters of the United States include 0.07 acres (1,552 linear feet) of ephemeral/intermittent drainage channel habitat and 0.85 acre of seasonally flooded wetlands. These impacts would result from the filling of portions of two ravines (central and eastern) in order to provide geotechnical stability suitable for the Proposed Project development and to comply with requirements by the City regarding ridgeline development. As discussed in the analysis of on-site alternatives, these impacts are unavoidable in order to achieve the overall project purpose.

The Property was included in the City's Urban Growth Boundary ("UGB") during the City's 2002 voter-approved General Plan update ("General Plan"). The General Plan identifies a level of development for the Property commensurate with the levels currently being proposed by the Project. City staff has relied upon this anticipated development to satisfy a substantial portion of its required housing obligations.

The General Plan establishes development policy with which any future development project on the approximately 456-acre Faria Ranch Property must be consistent. The Property is located within the northwesterly portion of the City's Planning Area Boundary within the Northwest Specific Plan Area. Situated within the City's Sphere of Influence and Planning Area Boundaries, the Property is entirely within the voter-approved UGB. The General Plan directs that these 456 acres be annexed to the City. According to the Growth Management Element of the General Plan, the UGB was established for the purpose of limiting future growth to areas of infill and land that is contiguous to developed areas within the City.

The planning framework of the General Plan was further refined through the implementation of a specific plan (the Northwest Specific Plan) which include the Property and two other properties (the "Chu" and "Panetta" properties) located to the west of the Property. The Northwest Specific Plan will implement a range of land use, housing, public facility, resource conservation and related policies embodied in the General Plan, and will be used to further define the development plans for the Property.

A Vesting Tentative Subdivision Map application (the Faria Preserve VTM) was submitted to the City and concurrent with the processing of the Northwest Specific Plan. As called for in the adopted General Plan and Specific Plan, and consistent with the individual permit application to

the Corps, the Faria Preserve VTM contemplates development of a wide range of housing types, including a total of 740 single and multi-family dwelling units (including both senior housing and 25% affordable housing), along with a community park, a house of worship and an educational facility. Consistent with the City's adopted Resource Conservation Element policies, the Faria Preserve VTM preserves 75% of the overall Property for open space and public facility uses. These uses include the foregoing active use facilities, as well as extensive natural and improved oak woodland and wetland/riparian habitat areas (which also serve as a wildlife movement corridor).

The Property is part of a larger ownership which continues north and west beyond the UGB, and includes approximately 169 additional acres along both sides of Bollinger Canyon Road. This remaining acreage outside the Northwest Specific Plan boundaries is not subject to annexation to the City and therefore not part of the Faria Preserve VTM. However, the Faria Preserve VTM includes recordation of a conservation easement over 144 acres within the Remainder Parcel as well as additional acreage within the 456-acre development Property. This conservation easement is an exclusive feature of the Faria Preserve VTM, which is tied to the larger number of dwelling units and greater development footprint of the Proposed Project.

The development grading footprint for the Proposed Project includes an area of approximately 180 acres, of which 141 acres are allocated to residential structures, public facilities and infrastructure. Consistent with voter-approved Resource Conservation Element policy, the Project allocates up to 25% of the approximately 456-acre Property area to accommodate a total of 740 dwelling units, while preserving additional valuable habitat resources surrounding the Proposed Project as a permanent open space buffer. Areas intended to be dedicated to conservation easement to be managed as open space in perpetuity total 255 acres and include the 144-acre area along both sides of Bollinger Canyon Road within the Remainder Parcel, and an riparian and wildlife corridor which is incorporated into the development plan for the Project.

The Project includes a large open space corridor extending from the development up the central drainage. The riparian and wildlife corridor will be a focus of mitigation provisions recommended in the permit application to the Corps. Portions of the undisturbed (ungraded) land within the 456 acre development Property will be explicitly designated for purposes of planting of replacement trees and development of mitigation oak woodlands. The riparian and wildlife corridor will be protected by the conservation easement and managed by a third party.

To comply with City's requirements regarding ridgeline development, developed land uses are proposed at lower elevations on the Property within several canyons present on the Property. Grading work within the Property will involve upwards of 5.1 million cubic yards of balanced cut and fill, with maximum cut and fill depths approaching 110 feet. The grading work will affect internal ridgelines and valleys and does not involve designed off-haul of material. The grading work is necessary to create building sites for residential and public facilities, repair and stabilize

nearby existing landslides, and provide for contoured finished grades on adjoining open space areas.

1.3 Public Need

The Project is needed because the City is experiencing an acute housing shortage, which has driven up housing costs substantially. The lack of affordable housing is preventing many local teachers, government employees (e.g., policemen, firemen), and other middle income workers from purchasing homes in the area. As a result, they are forced to endure long commutes from areas with affordable housing (e.g., the Central Valley). Additionally, the City is in need of community facilities, such as parks, community buildings, educational facilities and public access to open space that would serve local families.

The Project would increase the supply of homes in the City, including approximately 213 units of affordable housing. These planned housing resources have been identified by the California Department of Housing and Community Development as critical components of the City's Certified Housing Element of 2004 ("Housing Element"), which are necessary in order to meet the City's regional fair share of housing needs over the next several years. Furthermore, the Project would provide needed community facilities including a community park, a public trail system, an educational facility, and a house of worship, consistent with the Land Use policies in the City's General Plan to provide high quality public facilities, services and other amenities within close proximity to residents.

1.4 Overview of the 404(b)(1) Guidelines

The Corps is required to determine whether a project complies with the Section 404(b)(1) Guidelines (40 CFR §Part 203; 33 CFR § 320.4[a][l]). The *Memorandum of Agreement between the EPA and the Corps Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(l) Guidelines* (1990) ("MOA") provides that the Section 404(b)(l) Guidelines first must avoid impacts, then minimize impacts and finally provide practicable compensatory mitigation for unavoidable impacts. The MOA encourages on-site, in-kind mitigation and an overall no net loss of functions and values.

The Corps and EPA are responsible for implementing the Section 404 program. The Corps issues permits for dredge and fill activities, while EPA develops criteria governing permit issuance. The two agencies share enforcement duties.

Prior to issuing a Section 404 permit, the Corps must ensure the proposed discharge complies with EPA's 404(b)(l) Guidelines. The Guidelines, which are published at 40 CFR Part 230, provide the principal prohibitions and standards the Corps is to use when evaluating proposed discharges

of dredged and fill material to waters of the U.S. The following discussion describes the approach to be taken under the Guidelines to the key issues of practicability, sequencing, flexibility, proportionality and additional prohibitions.

1.4.1 Practicability

The Section 404(b)(I) Guidelines prohibit the discharge of dredged or fill materials to waters of the United States if there is a "practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other, significant adverse environmental consequences" (40 CFR §230.10[a]). Practicable alternatives include activities that do not involve a discharge of fill waters of the United States or involve a discharge at other locations in waters of the United States. An alternative is "practicable" if it is "available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes" (40 CFR 230.10[1][2]).

If it is otherwise a practicable alternative, an area not owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered" (40 CFR § 230.10(a)(2)). Where it can be demonstrated that cost, existing technology and logistics preclude an alternative from fulfilling the basic purpose of the project, it will also be similarly demonstrated that an alternative is not "available and capable of being done" in light of the "overall project purposes."

Where the activity is proposed for a special aquatic site and the basic project purpose is not water dependent, as is the case for the Proposed Project, practicable off-site alternatives are presumed to be available that do not involve discharges to special aquatic sites, unless clearly demonstrated otherwise (40 CFR § 230.10(a)(3)). Moreover, practicable alternatives to a non-water dependent project that do not involve discharges to special aquatic sites are presumed to have less adverse effects on the aquatic ecosystem. These provisions shift the burden of proof to the applicant, who must rebut the presumptions that: (1) a practicable alternative exists to the proposed activity that would not involve a discharge to special aquatic sites; and (2) that the alternative would have less adverse effects on the aquatic ecosystem than the proposed discharge. The "no discharge to special aquatic sites" alternative will only be rejected if it is not practicable (as defined above) or will result in other significant adverse environmental consequences.

These presumptions must be rebutted in light of the overall project purpose. By this, it is meant that all components of the project purpose are integrated and necessary to the practicability of the project. There are some components, however, that are more critical than others because they cannot be duplicated, substituted, purchased, built, modified, or otherwise

provided. Based on these provisions, Olberding Environmental evaluated alternative off-site locations that could accommodate the Proposed Project and on-site alternatives. In accordance with 40 CFR § 230.1O(a)(2), this analysis considers areas not owned by the Applicant, but which could reasonably be obtained, utilized, expanded, or managed in order to fulfill the basic project purpose.

1.4.2 Sequencing

Central to EPA's 404(b)(1) Guidelines is a hierarchical approach designed to minimize impacts to wetlands and other waters of the United States. The 1990 MOA establishes a "sequencing" procedure which Corps field personnel are to use when determining whether a proposed discharge complies with the Guidelines:

> **First**, all potential impacts to the aquatic ecosystem must be avoided "to the maximum extent practicable" (i.e., impact avoidance);
>
> **Second**, all "appropriate and practicable measures" must be incorporated to minimize unavoidable adverse impacts associated with the proposed discharge (i.e., impact minimization); and
>
> **Third**, remaining unavoidable impacts must be fully offset via compensatory mitigation (i.e., compensation).

In accordance with the "sequencing" concept, the Corps and EPA generally will not judge the appropriateness of a compensatory mitigation proposal until the LEDPA has been identified, and adverse environmental impacts associated with the proposed discharge have been fully minimized. Similarly, compensatory mitigation cannot be used as a rationale for lessening the environmental impacts of a proposed discharge or identifying the LEDPA. In other words, "mitigation buy-down" approaches are prohibited under the Guidelines. [2]

1.4.3 Flexibility

The Guidelines are to be applied with a "rule of reason" in light of the fact that there can be no objectively defined standards for judging practicability that would apply in all circumstances. As a result, determinations of what is and is not practicable are made on a case-by-case basis. Accordingly, EPA and Corps regulations acknowledge that the evaluation of project alternatives

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[2] In addition to demonstrating that the Proposed Project represents the least damaging practicable alternative, the applicant must show that the proposed discharge is not prohibited under the standards set forth in 40 CFR. §230.1O(b), (c), and (d).

under the 404(b)(I) Guidelines is a fact-specific exercise calling for flexibility and judgment, rather than simple formulas. As stated in the preamble to EPA's 404(b)(1) rule (45 Fed. Reg.85336, December 24, 1980), the Guidelines are "clearly regulatory in nature," but "a certain amount of flexibility is still intended." While the ultimate conditions of compliance are "regulatory," the Guidelines "allow some room for judgment in determining what must be done to arrive at a conclusion that those conditions have or have not been met."Corps Regulatory Guidance Letter 84-9 articulates a corresponding need to apply a rule of reason to alternatives analyses: "The discussion of practicable alternatives for any or all of the above requirements [i.e., the Corps' permit regulations and the EPA Guidelines] should be guided by the rule of reason, and should consider alternatives both in terms of the applicant's wishes and capabilities, and in terms of the need for or purpose to be served by the proposed activity."

1.4.4 Proportionality

The level of analysis required to demonstrate compliance with the 404(b)(1) Guidelines should be commensurate with the level of impacts to aquatic resources associated with the proposed discharge. According to EPA and the Corps, regulatory decisions pertaining to the Guidelines should be based on the relative severity of the environmental impact of proposed discharges of dredged or fill material into waters of the U.S. The regulations specifically include a provision entitled "Adaptability," which states that:

> *Agencies responsible for implementing the Guidelines, must recognize the different levels of effort that should be associated with varying degrees of impact and require or prepare commensurate documentation. The level of documentation should reflect the significance and complexity of the discharge activity.*

40 C.F.R. 230.6(b). This guidance includes limiting the request for information and "conducting further evaluation only as needed." 40 C.F.R. 230.6(c).

The manner in which the Guidelines are used depends on the physical, biological, and chemical nature of the proposed extraction Property, the material to be discharged, and the candidate disposal site, including any other important components of the ecosystem being evaluated" [40 CFR§230.6(a)]

The "proportionality" concept is further articulated in an August 1993 EPA/Corps Memorandum to the Field (EPA No. 843B93002) regarding the appropriate level of analysis required for evaluating compliance with the Section 404(b)(l) Guidelines. As stated in this memorandum the (permit decision) record must contain sufficient information to demonstrate that the proposed discharge complies with the requirement of Section 230.10(a) of the Guidelines. The amount of information needed to make such a determination and the level of scrutiny required by the Guidelines is commensurate with the severity of the environmental impact (as determined by the functions of the

aquatic resource and the nature of the proposed activity) and the scope/cost of the project." Thus, the level of analysis required by the Guidelines is related to the severity of the relevant impact; in this case, the filling of 0.07 acres of channel habitat and 0.85 acres of seasonally flooded wetlands.

1.4.5 Additional Prohibitions

The Section 404(b)(I) Guidelines also contain substantive requirements in addition to the "practicable alternative" standard. These requirements and prohibitions include the following:

No discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem (40 CFR § 230.10(d)). The Guidelines define possible mitigation measures to include appropriate design of the construction activity to avoid or minimize fill impacts, discharge controls, and restoration of areas temporarily by construction activities (40 CFR § 230, Subpart H).

- No discharge of dredged or fill material shall be permitted if it causes or contributes to violations of state water quality standards or violates applicable Clean Water Act effluent limitations (40 CFR § 230.10(b)(l) and (b)(2)).

- No discharge of dredged or fill material shall be permitted if it will cause or contribute to significant degradation of waters of the U.S. (40 CFR § 230.10(c)). Factors to be considered in evaluating this prohibition include physical and chemical characteristics of the aquatic ecosystem (e.g., substrate, suspended particulates/turbidity, current patterns and water circulation, salinity), biological characteristics (e.g., threatened/endangered species, aquatic organisms, other wildlife), and human use characteristics (e.g., water supplies, recreational and commercial fisheries, water-related recreation, aesthetics).

- No discharge of dredged or fill material shall be permitted if it jeopardizes the continued existence of a federally-listed threatened or endangered species; results in the destruction or adverse modification of designated critical habitat for such species; or violates protective measures established for designated marine sanctuaries. (40 CFR § 230.10 (b)(3)).

- If a federally-listed threatened or endangered species may be affected by a project, then the Corps is required to consult with the USFWS, pursuant to 33 CFR § 320.3. Here,

The Applicant has requested that the Corps initiate consultation with the USFWS, regarding the potential for use of the Property by the listed Alameda whipsnake and California red-legged frog. The basis for this request is set forth in the Biological Assessment submitted with the June 2014 permit application. The Applicant has also requested that the Corps initiate a "conference" process with the USFWS given the proposed designation of critical habitat for the whipsnake on a portion of the Property.

2.0 PROPOSED PROJECT (ALTERNATIVE "E") DESCRIPTION AND IMPACTS

2.1 Local and State Land Use Authority and Approval

The City of San Ramon maintains local land use authority over the Development Property. In response to development pressures, the City developed a comprehensive area wide development strategy to address the needs of the City and enhance the quality of life and character of the community taking into consideration environmental constraints. The City approved an updated General Plan in 2010, which covered the subject parcel. Development of the Project is in compliance with locally approved zoning regulations for residential development. The majority of the surrounding lands to the south and east have been developed for residential, open space and commercial uses.

2.2 Location

The Property is located on the east side of Bollinger Canyon Road, west of Highway 680, in the City of San Ramon, California. Attachment 1, Figure 1 depicts the regional location of the Property in the San Francisco Bay Area. Attachment 1, Figure 2 illustrates the vicinity of the Property in relationship to the City of San Ramon. Attachment 1, Figure 3 identifies the location of the Property on a USGS 7.5 Quadrangle Map. An aerial of the Property has been included as Attachment 1, Figure 4. The Property is comprised of the following eight Assessor's Parcels: 208-240-005, 007,008,009,039,048, 208-250-011 and 208-260-046.

Access to the Project site is obtained by taking the Crow Canyon Road exit west, from Highway-680. Turn north on San Ramon Valley Blvd. Turn west on Deerwood Road and continue for 0.3 miles. The Property is located on the north side of the road.

2.3 Project site Characteristics

The Property encompasses approximately 456 acres northeast of the intersection of Bollinger Canyon Road and Deerwood Road. The actual Development Property extends from the terminus of Purdue Road to Bollinger Canyon Road and is north of Deerwood Road and existing residential development. Elevations of the Development Property range from 930 feet at the northern portion of the development parcel to 520 feet at the inlet location to the existing underground culvert near the terminus of Purdue Road. Topographical variations of the Property favor a drainage system which flows generally from northwest to southeast. The topography consists of moderately steep, southeast-facing slopes and ravines at the base of Las Trampas Ridge.

Habitats on the Property are characteristic of the East Bay foothills, consisting of large expanses of non-native annual grassland habitat and dense stands of oak and bay woodland in the ravines. Within the Project site, several smaller tributaries flow across the slopes connecting to two main drainage channels. The two major drainages in the Project site are deeply incised, as much as 15-20 feet deep and contain flowing water on a seasonal basis. The on-site drainages have a moderately steep gradient and support primarily oak and bay woodland habitats with scattered occurrences of willow thickets. Several springs or seeps were noted along the primary drainage located in the center of the Project site. Numerous seeps are also present within the Project site in association with landslide locations. The Property has also been used historically for livestock grazing resulting in severe impacts along the majority of the channel features. The only structure on the Project site is a large water tank located in the southeast corner of the site. The Project site is surrounded and dissected by barbed wire fences.

Surrounding land uses include commercial and industrial development to the east, residential development to the south and open space to the north and west. Highway-680 is located ¼ mile to the east of the Project site, with extensive suburban development and the City of San Ramon beyond.

The Property supports four habitat types that consist of non-native annual grassland, coast live oak woodland, seasonal wetlands and intermittent drainage channel habitats. These habitat types are described in further detail below.

Non-Native Annual Grassland Habitat - Non-native annual grassland represents the dominant plant community within the survey area. The Property has been primarily used for grazing in the past. As a result, non-native annual grasses of European origin make up the dominant species. These include wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), hare barley (*Hordeum murinum spp. leporinum*), and Italian ryegrass (*Lolium multiflorum*), among others. Common non-native forbs observed during the survey include black mustard (*Brassica nigra*), yellow star thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), filaree (*Erodium spp.*), and bur clover (*Medicago polymorpha*), among others.

Coast Live Oak Woodland Habitat - Coast live oak woodland on the Property consists primarily of dense, closed canopy groves within steep ravines on the east-facing slopes of the Property. A small portion of this habitat also occurs within the southern edge of the site (Attachment 1, Figure 6). This community is dominated by coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), valley oak (*Quercus lobata*), and California buckeye (*Aesculus californica*). Within this plant community, the shrub layer is typically poorly developed and the herbaceous layer is continuous. Characteristic shrub species observed on the site include snowberry (*Symphoricarpus albus*), poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), coyote brush (*Baccharis pilularis*), and wood fern (*Dryopteris arguta*), among others. Characteristic

herbaceous plants detected on-site include such non-native species as brome grasses, wild oats, and Italian thistle, among others.

Drainage Channel Habitat – Numerous drainage channels occur within the Property. Many of the drainage features are sparsely vegetated, dominated by grass and forb species such as rabbit's foot grass (*Polypogon monspeliensis*), loosestrife (*Lythrum hyssopifolia*), toad rush (*Juncus bufonius*), Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), curly dock (*Rumex crispus*), and bristly ox-tongue (*Picris echioides*). The primary drainage in the central portion of the Property is more representative of a natural drainage and contains a riparian component. However, this area has been heavily degraded by grazing resulting in steep embankments and severe erosion. Riparian habitat observed along the drainage channel includes coast live oak, California bay, valley oak, and California buckeye, snowberry, poison oak, blackberry, coyote brush, and wood fern.

Seasonal Wetland - Seasonal and seep wetland features were observed throughout the Property. Many of these features are associated with slope failure areas. The Property has an extensive history of grazing and the fact that cattle tend to congregate in areas that remain moist well past the growing season results in highly impacted features. The majority of the seasonal wetland and seep areas throughout non-native grasslands on-site have been highly altered. On-site, ruderal seasonal wetlands form continuous bands and isolated pockets that are readily recognizable in aerial photographs and in the field. Vegetation is dominated by such non-native wetland indicator species as perennial ryegrass with lesser amounts of Mediterranean barley *(Hordeum marinum* ssp. *gussoneanum),* rabbits foot grass, Italian ryegrass, curly dock *(Rumex crispus),* bristly ox-tongue *(Picris echioides)* and bitter dock *(Rumex obtusifolius),* among others. As such sites dry out in the summer, typical non-native upland species begin to appear. Such species include field bindweed *(Convolvulus arvensis),* Fitch's spike weed *(Hemizoniafitchii)* and yellow star thistle, among others.

2.4 Jurisdictional Features

A Corps verified delineation has identified the presence of approximately 6.7 acres of regulated wetlands/waters within the boundaries of the 456-acre Property (Attachment 1, Figure 5). Of this, amount 0.92 acres will be impacted by Project fill activities (see Attachment 1, Figures 7). Grading of the Project site will include the permanent fill of 11 wetland feature totaling 0.85 acres. Two ephemeral drainage channels will be partially impacted resulting in the permanent fill of 0.07 acres (1,552 lnft). Table 1 provides information on jurisdictional habitat impacted by the Proposed Project.

Table 1 Water Bodies Impacted		
Wetland/Waters (Type)	**Existing (Acres)**	**Impacted (Acres)**
Seasonal Wetland	3.03	0.85
Drainage Channel	3.67	0.07
Total	**6.70**	**0.92**

A Jurisdictional Delineation map has been included as Attachment 1, Figure 5 and illustrates the location of all regulated features on the Development Property.

2.5 The Proposed Project

For the purpose of this discussion, the Development Property will include a 204 acre portion of the 456-acre Property. Within the Project site 180 acres will be disturbed or graded in association with development. The remaining acreage will remain undisturbed throughout construction but is landlocked in the south-central portion of the Project site. Attachment 1, Figure 7 best illustrates the Project impact area.

Approximately 141 acres of the 456-acre Property will be permanently developed with roads, buildings, infrastructure, etc. An additional 59.8 acres will be temporarily impacted during construction. The Proposed Project would require the permanent fill of 0.92 acres of wetland/waters habitat. The following information details impacts related to jurisdictional wetlands/waters associated with the development project.

Seasonal Wetland Impacts - The Proposed Project would require mass grading of the 180-acre development site resulting in the redistribution of approximately 2,500 cy of earthen fill within (0.85 acres) of seep/seasonal wetland habitat located on the hillsides above existing residential and commercial developments to the east and south.

Drainage Channel Impacts - Approximately 11,625 cy of earthen fill will be used to backfill a 1,380-foot segment (0.0555 acres) of existing drainage channel following the installation of an underground culvert pipe down the center of the development. The existing channel currently terminates at the edge of the Property where it enters an inlet structure routing stormwater runoff underground through an existing culvert below residential development located south of the Project site. Following construction stormwater runoff flowing in the drainage would be intercepted, routed through the newly constructed 1,380-foot section of underground culvert below the proposed

development Project and discharging back into the unfilled portion of the channel downstream. Flows would remain in the remnant above ground channel for approximately 390 feet prior to entering a proposed standpipe. The standpipe would be installed to allow temporary ponding and removal of sediment from site runoff prior to flows being routed into the existing underground culvert which then flows below existing residential development and Highway-680 before being discharged into San Ramon Creek approximately ½ mile away.

Additionally, approximately 80 cy of earthen fill will be used to backfill a 120-foot segment (0.008 acres) of existing drainage channel following the installation of an underground culvert pipe below the Purdue entrance located on the east side of the development.

The entrance and exit of the proposed culvert would be protected with placed rock riprap. Rock riprap would be installed approximately 10 linear feet upstream of the inlet or headwall structures. The downstream outlet would receive approximately 20 linear feet of rock riprap. This activity would require excavation of the existing channel bed to an approximate 2-foot depth. Each excavated area would be filled with 3 cy of ½ to ¼ ton rock riprap. The total area impacted by rock riprap installation is 0.0025 acres (52 lnft). Approximately 9 cy of rock would be used between the three sites.

2.6 Project Impact Summary

Discharge of fill would be necessary to utilize the 180-acre site for residential development. Table 2 provides details on the reason for jurisdictional discharges.

Table 2 Reason for Discharge						
Discharge Activity	**Total Area of Discharge (Acres)**	**Permanent (Acres)**	**Linear Feet**	**Cubic Yards of Fill**	**Type of Material**	**Reason for Discharge**
Seasonal Wetland	0.85	0.85	--	2,500	Earthen Fill	Grading Activities
Central Ephemeral Drainage Channel	0.0555	0.0555	1,380	11,625	Earthen Fill	Grading Activities
Eastern Ephemeral Drainage Channel	0.008	0.008	120	80	Earthen Fill	Grading Activities
RS#1 Ephemeral Drainage Channel	0.0005	0.0005	10	3	Rock Riprap	Erosion Protection
RS# 2 Ephemeral Drainage Channel	0.0005	0.0005	10	3	Rock Riprap	Erosion Protection
RS#3 Ephemeral Drainage Channel	0.0009	0.0009	20	3	Rock Riprap	Erosion Protection
RS#4 Ephemeral Drainage Channel	0	0	0	0	-	-
RS#5 Ephemeral Drainage Channel	0.0006	0.0006	12	3	Concrete	Erosion Protection
Total	**0.92**	**0.92**	**1,552**	**14,217**	--	--

As shown in Table 2 above, the Project will result in the discharge of 0.92 acres (1,520 linear feet) of permanent fill into jurisdictional wetlands and waters located on the Project site (Attachment 1, Figures 7). Fill will consist of earthen backfill taken from on-site excavation activities and rock riprap for erosion protection. The excavated material would be removed with a backhoe, front loader or scraper. Removed material would be temporarily stored outside Corps jurisdiction for use as backfill. The estimated amount of fill material that will be used to complete the Project will include approximately 14,205 cy of earthen fill, 3 cy of concrete and 9 cy of rock riprap being placed in jurisdictional wetlands/waters.

3.0 PROJECT PURPOSE STATEMENT AND SUMMARY OF PRACTICABILITY CONSTRAINTS

The basic Project purpose is to provide a large-sized residential development to service the City of San Ramon. The overall Project purpose is to construct an economically viable mixed residential development to accommodate the increasing housing demand within the City limits of San Ramon, in compliance with the City's General Plan and Zoning Ordinance, which will, at a minimum, provide for City required amenities including associated infrastructure and preserved open space.

The Proposed Project will provide residential development to service demand in the City of San Ramon as well as the future demand from planned development in the Tri-Valley region of Contra Costa County. The Proposed Project will create employment opportunities, provide needed open space protection and extend city infrastructure. By providing housing on a site that is located within an existing residentially zoned area, the Project will avoid "leapfrogging" development into undeveloped areas, many of which are located in environmentally sensitive areas to the west. The Development Property is currently surrounded by existing residential development to the south and commercial zoned properties to the east. The site has been zoned in the City's General Plan for residential development uses.

3.1 Basic and Overall Project Purpose

The statement of the "basic" project purpose identifies the fundamental objectives of the project that need to be satisfied by any alternative before it is considered to be practicable. The statement of the "overall" project purpose is intended to further refine the basic project purpose in the context of the specific project being considered, although still at a general level. The following summarizes both the basic and overall project purposes for the Project:

Basic Project Purpose - Construct and operate a residential housing development with community facilities within the City of San Ramon, California.

Overall Project Purpose - The overall project purpose of the proposed Faria Preserve Development Project is to construct and operate a residential housing development with community facilities within the City of San Ramon's Urban Growth Boundary that meets the goals and objectives of the City's voter approved General Plan and adopted Certified Housing Element of 2004.

The analysis below applies these statements of the project purpose to the comparative evaluation of the alternatives.

3.2 Summary of Practicability Constraints Affecting the Project

The project purpose needs to be considered in the context of the specific constraints of the Property and its regulatory environment. For the Project, there are three major sources of these constraints. First, is the planning context of the City, which has established a number of constraints on the Proposed Project. Second, are the physical constraints of the Property, including areas with soils instability that need to be remediated, and drainages, wetlands and ridgelines that need to be protected. Third, is the need to ensure that the Project is financially viable, and to avoid excessive expenditures. These factors serve as the basis for the principal practicability constraints for the project that are summarized immediately below and discussed further in this section.

Principal Practicability Constraints: To satisfy the project purpose stated above, the Project needs to satisfy the following principal practicability criteria:

- Provide a housing development that prevents urban sprawl by developing within the City's Urban Growth Boundary and maximizing allowable densities so as to encourage clustering, while providing a range of housing available to mixed incomes that maximizes the City's ability to meet the requirements set forth in the City's General Plan and adopted Certified Housing Element of 2004.

- Provide necessary community facilities, including a community park, a public trail system, an educational facility, and a house of worship, as required by the General Plan, along with a safe and reliable infrastructure and circulation system that connects the Project internally and allows the surrounding community to have access to the new facilities.

- Restore, enhance and/or maintain riparian corridors and oak woodland areas to ensure permanent protection of valuable habitat and open space, including upper ridges and visible hillsides within the development area of the Property, consistent with the open space and resource management policies stated in the General Plan.

- Design a development plan that provides geologic stability and balances on-site grading to mitigate for underlying landslide activity, prevent further erosion of displaced soils, degradation of water quality and wetland/riparian habitats and risks to proposed and existing downstream improvements, and to avoid environmental impacts from the off- hauling of materials.

- Include a feasible implementation financing and maintenance program, addressing necessary capital and other improvements for infrastructure, including roadways, sewer, water, electricity and drainage access, design and capacity.

In addition to meeting these principal practicability constraints, an alternative Property would need to satisfy the following requirements before being considered "available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes":

- Be within the City's UGB
- Be privately held and available for acquisition
- Be of sufficient size to meet the Project purpose and be able to be developed at a comparable cost.
- Have access to adequate infrastructure (water, power, roads, etc.).

The discussion below evaluates the key practicability constraints of the Project, in terms of the 404(b)(1) criteria of availability, cost, logistics, technology, before proceeding to a detailed analysis of each alternative.

3.2.1 Availability

In order to represent a practicable alternative, the Property must be "available" to the applicant. An area not presently owned by an applicant may be considered as an alternative discharge location if it could be reasonably "obtained, utilized, expanded or managed to fulfill the basic purpose of the proposed action" (40 CFR § 230.10[1][2]). Sites that meet the project purpose but were not owned by the Applicant are included in this analysis. Similarly, sites that meet the project purpose and currently are not owned by the Applicant were evaluated to determine whether they could be reasonably obtained, utilized, expanded or managed to fulfill the project's basic purposes.

As discussed further below, the proposed Property has been specifically identified in local planning processes as an area for future growth, and there are no other sites of equivalent size in the vicinity of the City that are likewise so designated.

3.2.2 Cost

According to the 404(b)(1) Guidelines, if an alternative is "unreasonably expensive to the applicant, the alternative is not 'practicable." (Guidelines Preamble, "Economic Factors," 45Fed. Reg. 85343 (December 24, 1980).) "Therefore, to the extent that individual homeowners and small businesses may typically be associated with small projects with minor impacts, the nature of the applicant may also be a relevant consideration in determining what constitutes a practicable alternative." (Memorandum to the Field: Appropriate Level of Analysis Required for Evaluating Compliance with Section 404(b)(1) Guidelines Alternatives Requirements, USEPA and Army Corps, p. 4.) There are very few specific guidelines as to how to develop an appropriate cost analysis, but the costs must be substantially greater than the costs normally associated with the particular type of project under consideration in order to considered unreasonable. (Preamble, 45 Fed. Reg.85339). In the context of residential real estate developments such as the Proposed Project, key cost considerations include the ability to finance Property development costs out of project revenues, the avoidance of excessive up-front costs that may require cash flows in advance of their availability, the reduction of risk, and the need to produce a "residual value" of the entitled and completed lots that is competitive in the marketplace. The unique attributes, constraints and opportunities of each Property must be considered carefully.

Here, there are a variety of costs associated with the Project that grow exponentially per unit as the number of units decreases, including infrastructure and other Property development costs. These include the costs of rough grading, the installation of streets and utilities, the provision of a water supply to the Project site, fees for schools and other public services, mitigation costs such as habitat restoration, and the facilities required by the General Plan to be included in the Project such as the Property for a park and house of worship. This is known as the cost burden of the project. This cost burden usually includes basic sewer, water and storm drainage system, mass grading, major roadways such as arterials and collectors, off-site traffic improvements such as traffic signals, and public facilities such as schools and parks, which can be funded directly or through impact fees.

As discussed further below, in order to avoid the fill of Corps jurisdictional areas on the Property while still addressing stability issues, either a substantial reduction in the number of units would be required, or a large quantity of excavated material would need to be removed from the Property. Since the Property development costs are relatively fixed and already at the limit of an acceptable cost burden, reducing the number of units by even a relatively small degree (and/or changing the product mix to include more lower-value units such as condominiums as compared to the presently proposed single family homes) would make the per-unit share of these costs prohibitive. The alternative scenarios requiring the off-hauling of excavated materials would also

be economically infeasible since they would include an additional cost burden approximating 6% of the anticipated Project value. Again, this would cause the cost burden to substantially exceed 15% and would be unsupportable by the Project's economics. As a result of these constraints, the Proposed Project is the only economically feasible development design for this Property.

3.2.3 Logistics

As with cost considerations, the evaluation of logistical constraints is highly dependent upon the attributes of the project being proposed, and the characteristics of the Property and its context. Each property has unique attributes, constraints and opportunities that need to be considered carefully. Also, each local government has its own unique set of policy objectives, restrictions, and political realities that need to be considered as potential logistical constraints.

The Property is subject to a number of constraints that severely limit the ability to alter the proposed development design. First, the Proposed Project is tailored to meet all of the specific goals and objectives established for this Property in the General Plan. Modification of those requirements would require voter approval (as discussed below), which would be extremely difficult or impossible to obtain. Second, the Property contains several topographical constraints that significantly limit the areas suitable for development. Third, most other designs will require the off-haul of a large amount of material, with the smallest amount requiring approximately 675,000 cubic yards of dirt to be hauled off the Property.

In the Alternatives Analysis, one of the most common policy issues facing a project and the alternatives is the location of the "urban limit line" or growth boundary, which has often been ratified by voters. These limits have usually been set in the midst of intense public debate and controversy. In many communities, the allowable density of residential development is also a hotly contested issue, and changing the maximum density can be extremely difficult. This is not to say that local policies cannot be changed in some extended time frame. However, careful consideration must be given to these local decisions.

The observation that local planning can establish logistical constraints certainly is true of the City and its General Plan. The development of that Plan spanned a period of several years during which a recommendation for voter approval was developed by 35 appointed members of the community. The City's current General Plan was approved in March 2002 by 77% of those who cast votes. This Plan was updated in 2010. The appropriate use of the Property was a principal focus of that public process. Thus, the Project is the result of years of building public consensus that culminated in the 2002 voter-approved General Plan, which serves as the basis for the development design currently proposed.

In recognition of the voters' substantial and unique role in this process, the City has made amendment of its General Plan difficult. Amendment of the City's General Plan may only be considered where both the City's Planning Commission and the City Council have made the finding that the amendment is consistent with the general principles and objectives of the General Plan. Assuming such a finding can be supported, any amendment would also require a 4/5ths affirmative vote by the Planning Commission after three noticed public hearings, followed by a 4/5ths affirmative vote of the City Council after three noticed public hearings. Accordingly, amending the General Plan to support an alternative on-site development design would be extremely difficult and would only be allowed to go to a vote if it was found consistent with the General Plan. As described in more detail below, none of the on-site alternatives are consistent with the general principles and objectives of the General Plan. Likewise, all of the potential off-Property alternatives are subject to the same political constraints and an increase of development potential on another Property or combination of sites to compensate for a reduction of development levels on the Property would be exceedingly unlikely to gamer the required approvals.

Here, the General Plan, and all of the valid political reasons behind its adoption, constrain the logistical implementation of any development design that do not provide sufficient housing to satisfy the City's housing needs as memorialized in the General Plan. According to the Corps' regulations:

> *"The primary responsibility for determining zoning and land use matters rests with state, local and tribal governments. The district engineer will normally accept decisions by such governments on those matters unless there are significant issues of overriding national importance. Such issues would include but are not necessarily limited to national security, navigation, national economic development, water quality, preservation of special aquatic areas, including wetlands, with significant interstate importance, and national energy needs. Whether a factor has overriding importance will depend on the degree of impact in an individual case.* [3]

A somewhat related issue is the need for the City to provide its fair share of regional housing resources as required under state law. For years, the City has struggled to balance the desire of its residents to maintain a semi-rural climate with its housing requirements as determined annually by the Association of Bay Area Governments. This tension presents a tenuous political climate for approval of development projects in the City. If the City does not meet its housing needs, it not

[3] 33 CFR § 320.46)(2). This is not to say that the General Plan automatically "trumps" the alternatives analysis process. Instead, the issue is whether the project applicant is sufficiently constrained by the relevant planning and zoning ordinances, and the political context, such that alternatives not satisfying the current general plan are logistically impracticable under the 404(b)(1) guidelines.

only denies residents necessary housing, but also fails to satisfy state law requirements for the provision of housing, including units affordable to low and moderate income purchasers.

The Property contains geotechnical and topographical constraints that significantly limit the areas suitable for development. The three major geotechnical constraints are the current slide zones that require remediation before the Property can be developed, the steep slopes and ridgelines on the northern portions of the Property, and the fault line traversing the eastern side of the Property. The Property contains three major northwest to southeast trending drainage corridors that limit the available areas for development. Even in the absence of development, the Property is in need of geotechnical work to address stability problems on the sides of these corridors. Development of the ridgelines is prohibited under the General Plan, primarily due to the significant visual impacts that would occur. In order to build below the ridgeline, significant corrective and mass grading is required on the Property in order to provide for circulation within the Property and to establish the building pads. The topographical conditions on the Property require that the excavated soils be used on-site to fill other portions of the Property.

Finally, the off-haul of the dirt involved in avoiding fill of the riparian corridor would result in substantial air pollution, traffic and other impacts. Given the public opposition that would be anticipated to result from these environmental concerns, an alternative involving substantial off-hauling of excavated materials could not be expected to receive local approvals, creating an additional logistical constraint.

3.2.4 Technology

Consideration of exiting technology is applicable to this alternatives analysis primarily due to the lack of technologies that could be used to overcome the cost and logistics constraints described above, or the other environmental impacts described below. For example, the only available method for addressing the Property stability problems is the grading plan associated with the Proposed Project (i.e., those problems could not be addressed through alternative foundation or building designs). Likewise, the only feasible method for removing excavated materials from the Property is by truck, which would result in unavoidable traffic and air pollution impacts. There are no existing technologies that could be used to avoid these constraints or impacts.

3.2.5 Other Environmental Impacts

The 404(b)(1) Guidelines provide that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." (40 CFR § 230.10(a) (emphasis added)). Here, several of the

alternatives would require the off-hauling of considerable amounts of excavated soil, resulting in significant adverse air pollution and traffic impacts. Some of the alternatives would require development on visually sensitive ridgelines. As applicable, these other environmental impacts are discussed in the analysis of the alternatives below.

4.0 ALTERNATIVES

This section analyzes possible off and on-site alternative designs to the Proposed Project. The purpose of this analysis is to determine if one or more alternative designs could attain the overall Project purpose while causing significantly less impacts to waters of the United States, without having other significant environmental consequences.

4.1 Summary

The Applicant is providing supplemental information to augment the information provided in the original Alternatives Analysis provide to the Corps and RWQCB in November 2013. As instructed by RWQCB staff, the assessment included in the submittal will focus on Alternative "E" (Maximum Avoidance Plan 2013-Proposed Project), Alternative "F" (Balanced Cut/Fill- Alternative 6), and Alternative "G" Maximum (Avoidance Plan 2014-Land Bridge). The November 2013 Alternatives Analysis concluded that Alternatives A-D were not practicable alternatives. Not only did these alternative result in greater impacts to jurisdictional wetlands/waters, but it was concluded that these alternatives cannot satisfy the Project objectives, cannot feasibly overcome cost, logistic or technological constraints, and, therefore, are not the least environmentally damaging practicable alternative. The November 2013 Alternatives Analysis also concluded that all 3 off-site alternatives were not practicable alternatives due to the inability of the Application to acquire or entitle these properties having purchased the Faria Ranch Property.

Alternatives which have been previously evaluated included:

Off-site Alternatives:

Off-site Alternative 1: Off-site Development within the City of San Ramon
Off-site Alternative 2: Off-site Development within the City of San Ramon
Off-site Alternative 3: Off-site Development within the City of San Ramon

On-site Alternatives:

Alternative A: Entire Property Development Plan 2000
Alternative B: Double-Loaded Creek Corridor Plan 2006
Alternative C: Single-Loaded Creek Corridor Plan 2008
Alternative D: Eastern Creek Avoidance Plan 2010

This document evaluates the following alternatives to the proposed Faria Preserve Project:

Alternative E: Maximum Avoidance Plan 2013 (Proposed Project) Reduced Impact
Alternative F: Avoidance Plan 2006 (Balanced Cut/Fill- Alternative 6)
Alternative G: Maximum Avoidance Plan 2014 (Land Bridge)

The following table summarizes the ability of each alternative to satisfy the project purpose, its availability, whether it is practicable based on consideration of cost, logistics and technology, and whether it would result in other significant environmental impacts.

Table 3: Comparative Analysis of Alternatives

Alternative	1	2	3	A	B	C	D	E	F	G
Ability to Satisfy Project Purpose	+	+	+	-	-	-	-	+	-	-
Availability	-	-	-	+	+	+	+	+	+	+
Cost	-	-	-	-	-	-	-	+	-	-
Logistics	+	+	+	-	-	-	-	+	-	-
Technology	-	-	-	-	-	-	-	+	-	-
Other Environmental Impacts	-	-	-	-	-	-	-	+	+	+

- = Fails Criterion

+ = Passes Criterion

The principal conclusions of this alternatives analysis are the following:

- There are no off-site alternative properties that are available or practicable.
- All of the project alternatives that would reduce the number of proposed units (Alternatives A, B, C, D, F and G) would fail to meet the Project purpose, and would be impracticable due to the inability to support the required infrastructure costs from the reduced overall Project revenues associated with the reduction in units.
- Alternatives A through D would involve a considerable amount of off-hauling of excavated dirt (in excess of 3 million cubic yards), which would result in substantial environmental impacts during the construction period, and which would add an unaffordable expense to the development of the Project. These alternatives do not allow for a balanced cut/fill.
- Alternative F, while allowing for a balanced cut/fill, results in a significant reduction in the number of units (loss of 485). All of the City required affordable units would be eliminated. As stated above, Alternative F would be impracticable due to the inability to support the required infrastructure costs from the reduced overall Project revenues associated with the large reduction in units.
- Alternative G would involve a substantial reduction of available area to accommodate generated fill material from excavation activities elsewhere on the Project site. Approximately 675,000 cubic yards of excavated dirt would need to be absorbed within the project, adding an unaffordable expense to the development of the Project. The alternative results in the loss of 110 units. This alternative does not allow for a balanced cut/fill.

None of the alternatives could feasibly satisfy the Project purpose while lessening the effects to aquatic resources.

4.2 Screening Procedures for On-Site Alternatives

The following criteria were used to evaluate all alternative on-site designs for the Project:

Project Purpose: Alternative design must be able to accommodate roughly equivalent number of housing units which has been identified by the Applicant as providing an economically feasible project.

Logistics: Alternative design must have a safe, efficient internal circulation pattern, meet the conditions of the local land use authority, and accommodate installation of the necessary infrastructure. The alternative must also be in compliance with the City General Plan and zoning.

Cost: Alternative design must not significantly increase the cost associated with the project without a concomitant increase in benefit to the project.

Environmental/Impacts to Aquatic Resources: Alternative design must have significantly less adverse impacts to aquatic ecosystem without having other significant adverse environmental effects.

Overall: An alternative is not a practicable alternative to the project unless it meets all of the above criteria.

4.3 Analysis of Alternative On-Site Designs

Our on-site alternative analysis utilizes a chronological representation of the modifications that were made to the Project site plan over a 13 year time frame to maximize avoidance and minimization of impacts to sensitive wetlands and waters of the United States. These alternatives were coordinated in meetings with the RWQCB and their input was central in the redesign process.

The wetland delineation prepared by Huffman-Broadway Group is the basis for the calculations of impacts to wetlands and waters of the United States. The original delineation map was dated 4/3/2012. On 11/27/2012, Corps Project Manager Holly Costa visited the site as part of an interagency site meeting. This field survey resulted in the visual confirmation of the 4/3/2012 map as well as identified additional wetlands. The updated jurisdictional map dated 11/5/2013, prepared by Carlson, Barbee and Gibson Inc., depicts the locations of these additional features. All of the

calculations as shown on the alternatives analysis have been updated to correlate to the final 11/5/2013 delineation.

The Proposed Project will require the permanent placement of fill within approximately 0.92 acres of Corps and RWQCB jurisdictional wetlands and waters in association with the Development Project presented in Attachment 1, Figure 7. This includes the placement of fill into approximately 0.85 acres of seasonal wetland habitat and 0.07 acres (1,552 linear feet) of ephemeral drainage channel habitat. To determine if there was any feasible way of reducing impacts to waters of the United States, the Development Team analyzed the possibility of reducing and/or avoiding impacts primarily to the central drainage, the primary channel flowing down the center of the Property. Full avoidance was determined to not be practicable given slope constrains and removal of development area which rendered the Project infeasible economically. Therefore, all efforts have focused on producing a modified site plan which reduces the amount of direct impact to the central drainage and other drainage and wetland features following 13 years of jurisdictional impact reductions and site plan modifications. The Maximum Avoidance Plan 2013 (Proposed Project), along with four previous site plan alternatives (A-D), and two new alternatives ("F" and "G") were screened for practicability in terms of the criteria listed above.

4.4 Assessment of On-Site Alternatives A-D

Complete Avoidance Alternative: A Complete Avoidance Alternative was designed to test the practicability of avoiding all impacts to jurisdictional features while maintain an economically feasible project. However, complete avoidance results in a significant reduction of developable area. Over half of the units would be eliminated. This alternative is not consistent with the project purpose as it does not provide sufficient units to make the development an economically feasible project. Additionally, site grading and development up to the embankment of the channel, while avoiding the drainage features would not significantly reduce impacts to the aquatic ecosystem as the channel area that would remain through the development would not continue to possess, in the long-term, even the limited functions they currently provide, as the development would surround this segment of avoided channel feature. This is not a practicable alternative.

Alternative A: This alternative (Attachment 1, Figure 13) was designed to test the practicability of maximizing the development of the Property... In 2000, the entire Property was within Contra Costa County with portions within the City of San Ramon's annexable Sphere of influence. The initial land plans for the Property spanned the entire site. The impacts of this plan were significant compared to the subsequent reduced footprint alternatives. Due to the steep terrain at the west near Bollinger Canyon Road, significant grading was required which would have impacted over 77% of the wetlands and 64% of the waters of the United States.

Alternative B: This alternative (Attachment 1, Figure 14) was proposed in 2006, by the project proponent, Claremont Homes. A Tentative Map was processed with the City of San Ramon to significantly reduce the development footprint from Alternative A. As a part of this reduction, the unit count was reduced to 786 units with much of the development clustered on the east side of the property away from Bollinger Canyon Road and the existing and potential habitat areas to the west including Bollinger Creek. As a part of this alternative, approximately 144 acres of the property were to be held as a preservation area and proposed to be dedicated as a conservation easement in perpetuity. Due to the loss of developable land and associated units, there was a sizable decrease in revenue associated with this modification. This land plan was approved by the City of San Ramon and the project proponent was in the process of making potential modifications to the plan to address requirements as described in the East Bay Regional Park District Settlement Agreement which was the result of a lawsuit after the approval. The plan was being proposed to the RWQCB which had the primary concern that the central drainage was proposed to be rebuilt between lots in a creek corridor.

Alternative C: This alternative (Attachment 1, Figure 15) was proposed in 2008. This alternative is the formerly approved tentative map as modified through the settlement of lawsuits with East Bay Regional Park District and the Sierra Club. The project proponent was actively working with the RWQCB and other agencies to obtain the required permits for construction. Many iterations and alternatives were studied with the RWQCB staff to determine what options may be available that can address both the concerns of the RWQCB and still meet the required project objectives (settlement agreement, specific plan, general plan, substantial conformance, etc.). The primary concerns were:

- Lots too close to the trails at the northwest
- The central drainage channel was between lots and not contiguous to the open space.

Alternative C addressed all of those concerns. In order to achieve this, the size of the single family lots was drastically reduced and located farther to the east to provide a contiguous connection between the rebuilt central drainage channel and the permanent open space. Based on RWQCB input, this plan was processed with the City of San Ramon and was approved in 2008. The intent was to complete the permit process with the RWQCB; however, the market downturn delayed development efforts. Because this alternative resulted in an approved tentative map from the City, a comparison between Alternative "C" and Alternative "E" have been included in Attachment 7 to demonstrate the large reduction of impacts which had been voluntarily implemented by the Applicant in the design of their revised site plan - Maximum Avoidance Pan (2013).

Alternative D: Alternative D (Attachment 1, Figure 16) was designed in 2010. Development entities began to review the Project history and prepared to obtain the required permits for the current City approved Alternative C. After reengaging consultation with the RWQCB and other agencies, it was determined that although inconsistent with Specific Plan and General Plan, an alternative to

connect Faria Preserve Parkway to Deerwood Road and attempt to minimize the impacts to the Eastern Channel would be an important study. Multiple land plans were reviewed and an alternative was prepared. This alternative further significantly reduced the size of the lots and reduced the number of units to 744. Ultimately, this alternative was not submitted to the City since that developer did not proceed with the project; however, this alternative further reduced the environmental impacts and was responsive to the RWQCB preferred development footprint.

4.5 Alternative E – Maximum Avoidance Pan (2013) (Proposed Project)

Summary of Alternative "E" Proposed Project

The following analysis of the Proposed Project serves as the basis for the comparative analysis of the alternatives below. The Proposed Project (Attachment 1, Figure 17) was designed, taking into consideration four previously prepared site plans, to test the practicability of reducing impacts to several drainage channels on the sloped hillside while maintaining a lot count sufficient to make the Project economically feasible. This alternative also includes the addition of stormwater treatment facilities required by the City and RWQCB to treat project run-off. Under this alternative, the central drainage would remain an open channel except for 1,380 feet prior to the channel entering an underground culvert. This alternative results in a significant reduction of developable area form those alternatives originally perused. Under the Proposed Project lot counts have decreased from 786 to 740 and reduced impacts to the central drainage by 56%. This alternative is consistent with the project purpose as it provides a sufficient number of units to make the development an economically feasible project. Between 2010 and 2013 there have been multiple meetings with RWQCB staff regarding the project attempting to find the most environmentally sensitive plan that can still meet all of the project requirements. The proposed plan achieves the following

- Maximum possible retention of linear feet of the existing central drainage and complete retention of the headwaters;
- Preservation of connectivity between the existing central drainage and the natural open space;
- Confinement of development impacts as close as practicable to the existing urban impacts;
- Retention of the minimum 260 open-space acres to the north and west as a conservation easement;
- Maximum practical retention of existing wetlands;
- Retention of significantly more of the existing trees;
- Minimization of the development footprint to retain the eastern channel and jurisdictional "fingers" from the main channel;
- Connection to Deerwood Road as opposed to Purdue Road to minimize the development footprint and not disconnect the Eastern Channel from the discharge point;

- Reduction of the grading footprint to maximize the untouched natural open space.

In order to achieve this, the project significantly reduced the number and size of the units. The following reductions were required:

- Reduce the number of units from the approved 786 to 740;
- Reduce the number of 50'x100' lots from 200 to 121;
- Reduce the number of small-lot, single-family homes from 200 to 135.

The benefits of this alternative can be seen in the table provided at the end of the alternatives analysis. In addition to the environmental benefits described above, from the original plan to the proposed plan, there was a reduction of 1.58 acres of fill of wetlands and a reduction of 10,608 linear feet of waters of the United States which correlates to 67% and 84% decreases, respectively from the original Project site plan.

Additional engineering modifications have been incorporated into the Project design to further reduce impacts to both the central drainage and the eastern or Purdue channel. Modification include the elimination of an outfall structure (RS#4) located between the Land Bridge and the standpipe structure. Both culvert inlets on the central drainage and eastern channel will be fitted with headwalls and reduced riprap resulting in the elimination of 40 feet of impact. The stand pipe will not be constructed with riprap eliminating additional channel impacts. Information associated with these impact reductions has been included in Attachment 2.

Implementation of the Proposed Project would provide a combination of open space, trails, community park, educational use, house of worship, and residential uses. The Proposed Project would result in a total of 740 residential units on a development footprint encompassing approximately 141 acres of the Property, including a combination of single- and multi-family project types. The development plan includes a community park and rose garden, house of worship Property, and areas for quasi-public educational uses. The Project would have a balanced grading plan that would not result in the off-hauling of substantial quantities of material from the Property. This alternative also represents the least amount of jurisdictional impacts while satisfying the Project purpose.

Ability of the Proposed Project to Satisfy the Project Purpose
The Proposed Project satisfies the Project purpose.

Availability of the Proposed Project
The Property for the Proposed Project is currently owned by Applicant and is therefore available.

Cost Factors Regarding the Proposed Project
The Proposed Project satisfies the cost criterion. An Economic Analysis has been included as Attachment 6.

Logistics Factors Regarding the Proposed Project
The Proposed Project satisfies the logistics criterion.

Technological Factors Regarding the Proposed Project
Since the Proposed Project is practicable, no additional technologies need to be considered.

Aquatic Resources Impacts of the Proposed Project
Impacts to waters of the United States from the Proposed Project include 0.07 acres (1,552 linear feet) of ephemeral/intermittent drainage channel habitat and 0.85 acres of seasonal wetlands. These impacts would result from the filling of portions of two canyons in order to engineer stable slopes suitable for the Proposed Project development and to comply with City requirements regarding ridgeline development. Approximately 2.18 acres of wetlands and 3.6 acres (16,791 linear feet) of ephemeral/intermittent drainage channel habitat would be avoided.

Proposed mitigation for jurisdictional impacts includes: (1) setting aside the remainder of the Faria Property as an open space preserve subject to conservation easement; (2) establishment of a riparian and wildlife corridor along the central drainage channel, also protected by a conservation easement; (3) preservation of wetlands and ephemeral/intermittent streambed; (4) creation of wetland habitat along the riparian and wildlife corridor; (5) establishment of riparian habitat along off-site creek channels in the City of San Ramon; (6) restoration of buried creek channel segments in San Ramon; and (7) preservation of two large off-site properties and their aquatic features. These mitigation opportunities are intended to compensate impacts to jurisdictional areas. Attachment 1, Figure 8 identified the general location of on-site mitigation. A complete mitigation proposal is included in Attachment 5.

Other Environmental Impacts of the Proposed Project
The Proposed Project would not result in any other significant environmental impacts.

Summary of Conclusions Regarding the Proposed Project
The Proposed Project is practicable, avoids impacts were possible, minimizes impacts that cannot be avoided, and compensates for any remaining impacts that can neither be avoided nor minimized to an insignificant level while achieving the overall Project purpose. For all of the reasons outlined below and summarized in Table 3 above, the applicant believes the Proposed Project is the least environmentally damaging practicable alternative ("LEDPA").

4.6 Alternative "F" – Balanced Cut/Fill, (Alternative 6)

Summary of Alternative "F"

Under the Balanced Cut/Fill, Single-Family Residential Reduced Footprint Alternative, (Attachment 1, Figure 18) development in the riparian corridor would be avoided, and the Project would have a balanced grading plan. The combination of these two constraints would significantly reduce the number of units in the Project, from 740 to 255. An emergency access public trail and water line easement would be constructed across the riparian corridor, and would be the only connection between the eastern and western portions of the Property. Under this alternative, Neighborhood I would be reduced from 200 to 74 units, Neighborhood II would be reduced from 200 to 92 units, Neighborhood III would remain unchanged, and Neighborhood IV would be eliminated. All of the affordable units would be eliminated. A summary narrative and supporting documentation, including additional exhibits, have been included in Attachment 3.

Alternative "F" is a reduced development scenario which attempts to maximize single-family detached housing within a limited footprint adjoining the westerly and easterly Property access points, off Bollinger Canyon Road and Purdue Road, respectively. A total of 169 single-family homes are identified within redesigned Neighborhoods I and II, in addition to 86 stacked condominium units in Neighborhood III (as per the project). Like the Proposed Project, Alternative "F" balances grading cut and fill volumes, in an effort to avoid the adverse environmental and fiscal effects of off-haul. Alternative "F" avoids impact to the westerly drainage swale by localizing Neighborhoods I and II development in smaller areas, by avoiding circulation connections between the eastern and western portions of the Property, and by eliminating all land-intensive community facilities, such as parks, churches and educational uses. This alternative also results in an approximate 800-foot long bridge across the central drainage. The bridge structure would be over 135 high posing a potential danger to the residence of the proposed development.

Ability of Alternative "F" to Satisfy the Project Purpose

Implementation of Alternative "F" for the Project cannot meet the stated Project purpose, primarily because it does not comply with the policies stated in the General Plan by supplying critically needed housing. The following is a summary of the ways in which Alternative "F" fails to meet the Project purpose.

Implementation of Alternative "F" is considered infeasible because it reduces the aggregate development yield to 255 units. This option has fewer environmental effects, but fails to address the basic Project objectives of: (1) providing a range of housing types as required by the San Ramon General Plan, (2) providing a sufficient number of housing units generating

sales revenues needed to support the substantial cost of infrastructure; and (3) providing community facilities and affordable housing, as mandated by the General Plan. Alternative "F" cannot provide any of the major public facilities called for in the General Plan and identified in the Project, including the community park, educational use, house of worship and public trail system. The extremely condensed development footprint results in elimination of key public facilities identified in the City's General Plan. Ongoing implementation of the General Plan over the past several years has relied upon future development of the Project site to provide critically needed public park, trail, education and related facilities in order to support both current and future residents of the City. Failure to provide these facilities would adversely affect the quality and adequacy of services to local residents, based on defined threshold standards contained in the General Plan and General Plan EIR.

Alternative "F" avoids direct grading impacts within the westerly swale area north of the pedestrian footbridge crossing, but fails to mitigate underlying landslide activity, resulting in continued off-setting of the drainage swale, significant erosion of displaced soils, degradation of water quality and wetland/riparian habitats, and potential resulting risks to existing downstream improvements. Alternative "F" leaves the westerly drainage swale in an unimproved condition, whereby existing active landslides will continue to cause significant erosion and potentially catastrophic impacts on downstream facilities through mudflows, or other slope failures. Existing landslides extend along both the east and west slopes of the interior valley containing the drainage swale. The geotechnical analysis of this area indicates that the visible surface landslides are underlain by deeper, more extensive landslides which extend from the edge of the adjoining ridgelines to below the drainage swale. Avoidance of development within this area, as contemplated in Alternative "F", would forego repair of these landslides. The existing detention basin located at the lower end of this valley could therefore be subject to damage or destruction in the event of a major landslide, as could the utility lines carried over the swale on the pedestrian bridge. Repair costs could exceed $1,500,000 in the event the exposed utility systems and detention basin were severely damaged. Additional ongoing costs are likely to be incurred by the City and/or a localized Geological Hazard Abatement District (GHAD) formed for the purpose of cleaning up slide debris and siltation which will accumulate within the basin. Although difficult to accurately anticipate, these costs could easily approach $20,000 annually. As in the case of major landslide repairs, these maintenance issues would be avoided through implementation of the development- funded slide repair contemplated in the Project.

Alternative "F" has significantly reduced the total number of housing units over which to spread the same total public infrastructure costs, rendering the Project economically infeasible. Alternative "F" would reduce the total number of housing units by two-thirds, from

740 (project) to 255. The smaller number of single-family homes (169) would be insufficient to absorb the substantial cost of public infrastructure required to facilitate development of the Property, including (a) the collector roadway system, (b) the on-site detention basins, (c) the water pumping, storage and delivery system, and (d) the sanitary sewer trunk line improvements. Consequently, the per-unit capital facility cost burden for the Project would increase well beyond the threshold of feasibility.

Alternative "F" cannot provide the range of housing products and aggregate number of affordable units identified in the Housing Element. This reduced development alternative of 255 total units cannot deliver the 213 affordable very-low, low- and moderate-income units identified in the City's Housing Element as needed to meet current and future regional fair share needs within the community. The Housing Element identifies the Project site at its full development potential (740 units, not counting a 10% density bonus) when it identifies Faria as an "Opportunity Property." It is through the Housing Element's identification of these Opportunity sites that the City "demonstrates its ability to provide adequate sites to facilitate and encourage housing development that meets the City's share of the regional housing needs." Housing Element, p.11-69. In a separate section called "Quantified Objectives," the City carries forward its reliance upon the Project site and demonstrates how the affordable housing units proposed on the Property are required to meet the City's fair share of the regional affordable housing need. The City notes that its Quantified Objectives "provide a more realistic estimate of the City's production objectives by year 2006 [the timeframe mandated for the Housing Element] based on realistic pace of development, level of funding resources available, and other resources." Those objectives provide that nearly one-half the units ultimately planned for the Project site (and identified in the Opportunity sites portion of the Housing Element) are being relied upon to come on-line by 2006 in order to make available the number of affordable units required by HCD within that timeframe. The remainder of the Opportunity Property density allocation for the Property will assist the City in meeting the affordable requirements imposed during its next Housing Element update in 2007. Consequently, Alternative "F" would fail to address a significant objective of the project.

Availability of Alternative "F"

The Property for Alternative "F" is currently controlled by Applicant and is therefore available.

Cost Factors Regarding Alternative "F"

Alternative "F" has significantly reduced the total number of housing units over which to spread the same total public infrastructure costs, rendering the Project economically infeasible. Alternative "F" would reduce the total number of housing units by two-thirds, from 740 (project) to 255. The smaller number of single-family homes (169) would be insufficient to absorb the substantial cost of public infrastructure required to facilitate development of the

Property, including (a) the collector roadway system, (b) the on-site detention basins, (c) the water pumping, storage and delivery system, and (d) the sanitary sewer trunk line improvements. Consequently, the per-unit capital facility cost burden for the Project would increase well beyond the threshold of feasibility. A detailed economic analysis has been included in Attachment 6.

Logistics Factors Regarding Alternative "F"

Alternative "F" is not consistent with the goals and policies of the General Plan and therefore would be unlikely to receive necessary local approvals. The same limitations that prevent Alternative "F" from meeting the identified project purpose pose similar logistical constraints with respect to land use planning. As a result of the inconsistencies with the goals and policies of the General Plan, the alternative would be unlikely to receive necessary local approvals.

Alternative "F" would not adequately contribute to satisfying the City's regional housing needs and therefore would be unlikely to receive necessary local approvals. The City's Housing Element identifies the Project site as a critical resource for delivery of targeted "affordable" and market rate housing, as part of its quantified fair share of the defined regional need. In demonstrating compliance with the State housing law to the Department of Housing and Community Development, the Housing Element Analysis relies upon build out of the Project site consistent with the maximum densities allowed under the General Plan. State law therefore precludes the City from reducing zoning below the levels relied upon in the Housing Element unless it makes a showing that the reduction is consistent with the General Plan. For the reasons stated above, the City would be unable to make such a showing. The alternative would fail to provide the amount of housing resources identified for this Property in the Housing Element. The City will be forced to look elsewhere to meet critical housing needs, which, as discussed in the off-site analysis are simply unavailable in the City. As a result, the alternative would be unlikely to receive necessary local approvals.

Alternative "F" fails to address existing Property stability problems. Although Alternative "F" avoids direct grading impacts within the westerly swale area north of the required east-west collector street, it fails to mitigate underlying landslide activity, resulting in continued off-setting of the drainage swale, significant erosion of displaced soils, degradation of water quality and wetland/riparian habitats, and potential resulting risks to proposed and existing downstream improvements. Alternative "F" leaves the westerly drainage swale in an unimproved condition, · whereby existing active landslides will continue to cause significant erosion and potentially catastrophic impacts on downstream facilities through mudflows, or other slope failures. Existing landslides extend along both the east and west slopes of the interior valley containing the drainage swale. The geotechnical analysis of this area indicates that the visible surface landslides are underlain by deeper, more extensive landslides which

extend from the edge of the adjoining ridgelines to below the drainage swale. Avoidance of development within this area, as contemplated in Alternative "F", would forego repair of these landslides. Required roadway improvements just above the existing detention basin at the lower end of this valley could therefore be subject to damage or destruction in the event of a major landslide. As in the case of major landslide repairs, these maintenance issues would be avoided through implementation of the development-funded slide repair contemplated in the Proposed Project.

Alternative "F" would require construction of a new road to provide access to the water storage tanks. Avoidance of development within the area above the westerly swale, as called for in Alternative "F", adversely affects the viability of water delivery for fire-flow, by separating remaining development areas from the designated water reservoir Property. The water delivery system which is required to meet both domestic and fire flow requirements for any development of the Project site consists of one or more pump stations connecting to the existing EBMUD water storage tank located at the southeast corner of the Property, coupled to a set of two new tanks to be located along the westerly ridgeline just above elevation 950. Elimination of residential development within the westerly drainage swale, as contemplated in Alternative "F", requires that a new roadway be constructed either north from Neighborhood B or west from Neighborhood A, which would be cost prohibitive and would also add new visual impacts.

Technological Factors Regarding Alternative "F"

Existing technology cannot resolve the logistical or cost constraints associated with the Project site. There are no currently existing technologies that would allow the practicable construction of Alternative "F" to avoid the logistical and cost constraints identified above, or the other environmental impacts discussed below. The issues cited above reflect the major constraints, including a severely limiting topography and a specific political agenda, that prevent a practicable alternative design for the Project site.

Aquatic Resources Impacts of Alternative "F"

Alternative "F" would reduce the minimal impacts to waters of the United States that would result from the Proposed Project, which would include the filling of 0.004 acres (70 lnft) of ephemeral/intermittent drainage channel habitat and 0.28 acres of seasonal wetlands. This reduction in the impacts to waters of the United States would result from the fact that the alternative would involve only minimal construction in the riparian corridor.

Other Environmental Impacts of Alternative "F"

Alternative "F" would not result in any additional significant impacts as compared to the Project as proposed.

Summary of Conclusions Regarding Alternative "F"

Alternative "F" is not a practicable alternative. It cannot satisfy the Project objectives, cannot feasibly overcome cost, logistic or technological constraints, and, therefore, is not the least environmentally damaging practicable alternative.

4.7 Alternative "G" – Maximum Avoidance Plan 2014 (Land Bridge)

Summary of Alternative "G"

Under the Maximum Avoidance Plan 2014 (Land Bridge) Alternative (Attachment 1, Figure 19), development in the riparian corridor would be reduced by up to 300 linear feet. This scenario would reduce the number of units in the Project, from 740 to 630. Faria Preserve Parkway would be constructed across the riparian corridor atop imported fill, providing the only means of connection between the eastern and western portions of the Property. However, the elimination of fill material would remove the ability to construct units along the top of the land bridge. Under this alternative, Neighborhood 1 would be reduced from 121 to 74 units and Neighborhood III would be eliminated (63 to 0 units), resulting in the total loss of 110 units. This unit loss would also have a negative effect on the number of affordable units. A summary narrative and supporting documentation, including additional exhibits, have been included in Attachment 4.

Alternative "G" is a reduced development scenario which attempts to maximize additional linear footage within the central drainage while eliminating single-family detached housing within a limited footprint adjoining Faria Preserve Parkway across the land bridge feature. A total of 184 single-family homes are identified in the Proposed Project within Neighborhoods I and III. Like the Proposed Project, Alternative "G" was designed with the intent of minimizing impacts to creek channel habitat while balancing grading cut and fill volumes, in an effort to avoid the adverse environmental and fiscal effects of off-haul. Alternative "G" avoids impact to the central drainage by eliminating the placement of approximately 675,000 cy of fill on the north side of Faria Preserve Parkway. However, this action results in the complete elimination of Neighborhood III. The fill material would have been obtained from the area occupied by Neighborhood I resulting in additional units being lost at Neighborhood I due to the inability to grade this site.

Ability of Alternative "G" to Satisfy the Project Purpose

Implementation of Alternative "G" for the Project cannot meet the stated Project purpose, primarily because it does not comply with the policies stated in the General Plan by supplying critically needed housing. The following is a summary of the ways in which Alternative "G" fails to meet the Project purpose.

Implementation of Alternative "G" is considered infeasible because it reduces the aggregate development yield to 630 units. This option has fewer environmental effects, but fails to address the basic Project objectives of: (1) providing a range of housing types as required by the San Ramon General Plan, (2) providing a sufficient number of housing units generating sales revenues needed to support the substantial cost of infrastructure; and (3) providing a balanced cut/fill as mandated by the General Plan.

Alternative "G" reduces direct grading impacts within 300 feet of the central drainage north of Faria Preserve Parkway, but fails to mitigate underlying landslide activity that would be included in grading of Neighborhood I, resulting in continued off-setting of the drainage swale, significant erosion of displaced soils, degradation of water quality and wetland/riparian habitats, and potential resulting risks to existing downstream improvements. Alternative "G" leaves the northeastern hillside above the central drainage in an unimproved condition, whereby existing active landslides will continue to cause significant erosion and potentially catastrophic impacts on downstream facilities through mudflows, or other slope failures. Existing landslides extend along both the east and west slopes of the interior valley containing the central drainage. The geotechnical analysis of this area indicates that the visible surface landslides are underlain by deeper, more extensive landslides which extend from the edge of the adjoining ridgelines to below the drainage swale. Avoidance of development within Neighborhood I, as contemplated in Alternative "G", would forego repair of several of these landslides. The existing detention basin located at the lower end of this valley could therefore be subject to damage or destruction in the event of a major landslide, as could the utility lines carried over the swale on the pedestrian bridge. Repair costs could exceed $1,500,000 in the event the exposed utility systems and detention basin were severely damaged. Additional ongoing costs are likely to be incurred by the City and/or a localized GHAD formed for the purpose of cleaning up slide debris and siltation which will accumulate within the basin. Although difficult to accurately anticipate, these costs could easily approach $20,000 annually. As in the case of major landslide repairs, these maintenance issues would be avoided through implementation of the development- funded slide repair contemplated in the Project.

Alternative "G" has significantly reduced the total number of housing units over which to spread the same total public infrastructure costs, rendering the Project economically infeasible. Alternative "G" would reduce the total number of housing units, from 740 (project) to 630. The smaller number of single-family homes (146) would be insufficient to absorb the substantial cost of public infrastructure required to facilitate development of the Property, including (a) the collector roadway system, (b) the on-site detention basins, (c) the water pumping, storage and delivery system, and (d) the sanitary sewer trunk line improvements. Consequently, the per-unit capital facility cost burden for the Project would increase well beyond the threshold of feasibility.

Alternative "G" cannot provide the range of housing products and aggregate number of affordable units identified in the Housing Element. This reduced development alternative of 630 total units cannot deliver the 213 affordable very-low, low- and moderate-income units identified in the City's Housing Element as needed to meet current and future regional fair share needs within the community. The Housing Element identifies the Project site at its full development potential (740 units, not counting a 10% density bonus) when it identifies Faria as an "Opportunity Property." It is through the Housing Element's identification of these Opportunity sites that the City "demonstrates its ability to provide adequate sites to facilitate and encourage housing development that meets the City's share of the regional housing needs." Housing Element, p.11-69. In a separate section called "Quantified Objectives," the City carries forward its reliance upon the Project site and demonstrates how the affordable housing units proposed on the Property are required to meet the City's fair share of the regional affordable housing need. The City notes that its Quantified Objectives "provide a more realistic estimate of the City's production objectives by year 2006 [the timeframe mandated for the Housing Element] based on realistic pace of development, level of funding resources available, and other resources." Those objectives provide that nearly one-half the units ultimately planned for the Project site (and identified in the Opportunity sites portion of the Housing Element) are being relied upon to come on-line by 2006 in order to make available the number of affordable units required by HCD within that timeframe. The remainder of the Opportunity Property density allocation for the Property will assist the City in meeting the affordable requirements imposed during its next Housing Element update in 2007. Consequently, Alternative "G" would fail to address a significant objective of the project.

Availability of Alternative "G"

The Property for Alternative "G" is currently controlled by the Applicant and is therefore available.

Cost Factors Regarding Alternative "G"

Alternative "G" has significantly reduced the total number of housing units over which to spread the same total public infrastructure costs, rendering the Project economically infeasible. Alternative "G" would reduce the total number of housing units, from 740 (project) to 630. The smaller number of single-family homes (146) would be insufficient to absorb the substantial cost of public infrastructure required to facilitate development of the Property, including (a) the collector roadway system, (b) the on-site detention basins, (c) the water pumping, storage and delivery system, and (d) the sanitary sewer trunk line improvements. Consequently, the per-unit capital facility cost burden for the Project would increase well beyond the threshold of feasibility. A detailed economic analysis has been included in Attachment 6.

Logistics Factors Regarding Alternative "G"

Alternative "G" is not consistent with the goals and policies of the General Plan and therefore would be unlikely to receive necessary local approvals. The same limitations that prevent Alternative "G" from meeting the identified project purpose pose similar logistical constraints with respect to land use planning. As a result of the inconsistencies with the goals and policies of the General Plan, the alternative would be unlikely to receive necessary local approvals.

Alternative "G" would not adequately contribute to satisfying the City's regional housing needs and therefore would be unlikely to receive necessary local approvals. The City's Housing Element identifies the Project site as a critical resource for delivery of targeted "affordable" and market rate housing, as part of its quantified fair share of the defined regional need. In demonstrating compliance with the State housing law to the Department of Housing and Community Development, the Housing Element Analysis relies upon build out of the Project site consistent with the maximum densities allowed under the General Plan. State law therefore precludes the City from reducing zoning below the levels relied upon in the Housing Element unless it makes a showing that the reduction is consistent with the General Plan. For the reasons stated above, the City would be unable to make such a showing. The alternative would fail to provide the amount of housing resources identified for this Property in the Housing Element. The City will be forced to look elsewhere to meet critical housing needs, which, as discussed in the off-site analysis are simply unavailable in the City. As a result, the alternative would be unlikely to receive necessary local approvals.

Alternative "G" fails to address existing Property stability problems. Although Alternative "G" avoids direct grading impacts within an additional 300-foot segment of the central drainage, it fails to mitigate underlying landslide activity, resulting in continued off-setting of the drainage swale, significant erosion of displaced soils, degradation of water quality and wetland/riparian habitats, and potential resulting risks to proposed and existing downstream improvements. Alternative "G" leaves the northeastern hillside in an unimproved condition, whereby existing active landslides will continue to cause significant erosion and potentially catastrophic impacts on downstream facilities through mudflows, or other slope failures. Existing landslides extend along both the east and west slopes of the interior valley containing the drainage swale. The geotechnical analysis of this area indicates that the visible surface landslides are underlain by deeper, more extensive landslides which extend from the edge of the adjoining ridgelines to below the drainage swale. Avoidance of development within this area, as contemplated in Alternative "G", would forego repair of these landslides. Required roadway improvements just above the existing detention basin at the lower end of this valley could therefore be subject to damage or destruction in the event of a major landslide. As in the case of major landslide repairs, these maintenance issues would be avoided through implementation of the development-funded slide repair contemplated in the Proposed Project.

Technological Factors Regarding Alternative "G"

Existing technology cannot resolve the logistical or cost constraints associated with the Project site. There are no currently existing technologies that would allow the practicable construction of Alternative "G" to avoid the logistical and cost constraints identified above, or the other environmental impacts discussed below. The issues cited above reflect the major constraints, including a severely limiting topography and a specific political agenda, that prevent a practicable alternative design for the Project site.

Aquatic Resources Impacts of Alternative "G"

Alternative "G" would reduce the minimal impacts to waters of the United States that would result from the Proposed Project, which would include the filling of 0.06 acres (1,252 lnft) of ephemeral/intermittent drainage channel habitat and 0.7 acres of seasonal wetlands. This reduction in the impacts to waters of the United States would result from the fact that the alternative would involve reduced construction in the riparian corridor.

Other Environmental Impacts of Alternative "G"

Alternative "G" would not result in any additional significant impacts as compared to the Project as proposed.

Summary of Conclusions Regarding Alternative "G"

Alternative "G" is not a practicable alternative. It cannot satisfy the Project objectives, cannot feasibly overcome cost, logistic or technological constraints, and, therefore, is not the least environmentally damaging practicable alternative.

4.8 Evaluation of On-Site Alternatives

In summary, through the alternatives analysis review process, the Applicant has made every effort to achieve the following:

Avoidance of impacts to the maximum extent practicable - With the Proposed Project, impacts to the eastern drainage have been avoided with the exception of the Purdue access road. As compared to the original site plan (Alternative A) which only avoided 23% of existing on-site wetlands, the preferred alternative (Proposed Project) avoids 80% of existing jurisdictional wetlands. For linear features, the final Proposed Project avoids impacts to 95.9% of all on-site jurisdictional waters compared to only 36% avoided under the original plan. Avoidance of jurisdictional impacts have resulted in site plan modifications which show a steady and significant reduction over the last 13 years (see Table 4 below).

Minimization of Impacts to Waters of the State of California and the United States to the maximum extent practicable where unavoidable - In areas where impacts are unavoidable, such as the central drainage feature, the Project has reduced impacts to approximately 1,380 linear feet. Impacts on the eastern drainage have been reduced to 120 linear feet. Over 68 linear feet of additional channel habitat impacts have been eliminated with engineering modifications (see Attachment 2). All other alternatives (A-D) would have impacted the entire 3,142 linear feet of this drainage feature. Further reduction of impacts in this area, such as an alternative with no fill in the central drainage feature, would require elimination of Project design elements which would either make the Project economically unviable or would not provide elements specifically included in the voter-approved Specific and General Plans for the development area by the City of San Ramon.

Mitigation of Unavoidable Impacts to Waters of the State of California and the United States – Mitigation consisting of wetland creation, channel creation, riparian enhancement and restoration are provided in the Applicants' mitigation proposal included in Attachment 5.

It is our opinion that based on the avoidance of aquatic features and minimization of impacts in areas where avoidance is not practical, the Proposed Project meets the Least Environmentally Damaging Practicable Alternative (LEDPA) for the project in conformance with U.S. Environmental Protection Agency's (EPA) CWA 404 (b)(1) Guidelines.

Proposed Project Compliance with Sequencing- The Proposed Project has included the review of various alternatives to avoid and reduce or minimize impacts to wetland/waters on the Project site. The Proposed Project contained in this submittal is the result of this review. The Project as proposed has demonstrated extensive avoidance of jurisdictional wetlands/water. Approximately 3.94 acres of jurisdictional fill were originally proposed in 2000. The development Project has been modified with the specific intent of reducing jurisdictional impacts. The current Proposed Project would only result in 0.92 acres of total fill.

A Corps delineation performed on the Property in April 2012 and later amended in November of 2013, identified 6.7 acres (18,343 linear feet) of jurisdictional wetland/waters. Of this total, only 0.92 acre (1,552 linear feet) is to be affected as a result of Project construction and implementation. The development Project has been pushed to the southern extent of the Property eliminating impacts to a large portion of the central drainage. The vast majority of the Project site will be placed in a conservation easement. Alternatives to the Proposed Project were analyzed during the planning process and the Proposed Project represents the LEDPA; taking into account: the local zoning constraints of the City of San Ramon ("City"); the effective avoidance of 89 percent of total jurisdictional wetlands/waters on the 456-acre Property; and the considerably reduced development envelope of 180 acres from the originally proposed 225± acres. We have provided a summary in Table 4 depicting jurisdictional impacts associated with the four past and three currently proposed alternative site plans that were considered during the 13 year planning process.

Table 4 Summary of On-Site Alternatives Jurisdictional Impacts		
Alternative	**Wetland/Water Impact Acreage**	**Avoided Wetland/Water Acreage**
A	3.94	2.77
B	1.38	5.33
C	1.35	5.36
D	1.28	5.43
E Preferred Project	**0.92**	**5.78**
F	0.28	6.42
G	0.76	5.94

It is clear that the Project proponent invested a great deal of time and resources during the planning process and has greatly reduced impacts to jurisdictional wetlands/waters. As shown in Table 4, the Proposed Project represents the LEDPA.

The development Project has been reduced to the current site in order to limit the amount of grassland, riparian and channel habitat being impacted when compared to other proposed alternatives. Pre-construction surveys will be performed immediately prior to construction. The inclusion of construction mitigation measures will minimize additional biological impacts. A setback buffer would be identified in the areas surrounding the non-impacted creek channel. Orange construction fencing would define the work area and buffer. A worker education program would be utilized to educate the work crews on the sensitive nature of the creek and seasonal wetland habitat. Work will be conducted during the dry part of the year, to ensure a minimum amount of water will be present on the site during construction. If water is present within the wetland drainage swales at the time construction commences, it may be necessary to install standard u-shaped sandbag cofferdams with a pvc pipe bypass to retain a dry construction area. Should it be required, temporary diversion and/or dewatering activities will result in minimal volumes of additional fill. All temporary fills will be removed at the end of construction and pre-construction contours will be restored.

Erosion and siltation controls will be used and maintained during and after construction to prevent fill and sediments from entering the unimpacted wetlands and drainage channels located within the Project site. Straw rolls or other approved erosion control measures will be placed adjacent to the channels to prevent sediment from entering any waterways during construction. To prevent erosion and siltation from occurring, all exposed soils will be permanently stabilized following construction.

Soil stabilization measures will likely include installing silt fencing and reseeding the construction area after all earth work is completed.

Mitigation for permanent development impacts to 0.07 acres of ephemeral channel habitat (1,552 linear feet) and 0.85 acres of seasonal wetland habitat will be satisfied within a 260-acre on-site mitigation area located on the lands surrounding the Project (Attachment 1, Figure 8). The mitigation area contains several existing seep wetland features and ephemeral drainages surrounded by oak woodland. Additional off-site mitigation locations have also been identified for mitigation purposes.

5.0 CONCLUSION

For all of the reasons outlined above and summarized in the Table 5 below and, taking into consideration cost, existing technology, and logistics in light of overall Project purposes, the applicant believes there are no practicable on-site or off-site alternatives that would result in less adverse impacts to aquatic resources.

Of the off-site alternatives reviewed, all potentially meet the logistical criteria as they are zoned for residential development and are sited adjacent to existing residential communities. All of the off-site alternative sites are also potentially available for purchase. Development on two of the three off-site alternative properties (Alternative #1 and #2) would result in jurisdictional impacts which appear to exceed those of the Proposed Project. While the properties are located in similar terrain having comparable biological resources Alternatives #1 and #2 are considerably smaller parcels than the Proposed Project resulting in the development of the entire parcels to attain the acreage needed to support a medium size development project. Alternative #3 also appears to have jurisdictional impacts which exceed to those of the Proposed Project. However, these impacts could be reduced if development could be designed to avoid portions of the jurisdictional features due to the larger size of the available parcel. Alternative Site #2 and Site #3 would also require development of a second point of access due to terrain constraints adding to the cost of land acquisition and construction. None of the off-site alternatives would be considered practicable due primarily to the additional costs associated with mitigation as all species, wetland and drainage mitigation would have to be provided off-site. Therefore, it was determined that none of the off-site alternatives are practicable.

The four on-site alternatives (A-D) reviewed for this evaluation were all considered prior to the development of the Proposed Project. In fact, they were instrumental in developing a site plan which scaled back development off of the portion of the Property which extends up the hillside and eliminated development for the eastern portion of the Property. Revision in the site plan resulted in substantial reductions to jurisdictional wetland and drainage features which have been presented in Table 5 below. Alternatives "A" through "D" would involve a considerable amount of off-hauling of excavated dirt, which would result in substantial environmental impacts during the construction period, and which would add an unaffordable expense to the development of the Project. These alternatives do not allow for a balanced cut/fill. All of the project alternatives that would reduce the number of proposed units (Alternatives A- D) would fail to meet the Project purpose, would result in greater impacts to jurisdictional wetland and drainage features, and would be impracticable due to the inability to support the required infrastructure costs from the reduced overall Project revenues associated with the reduction in units.

Alternative "F", eliminates all but 70 feet of channel fill and has a substantial reduction in wetland impact while allowing for a balanced cut/fill. However, the resulting site plan results

in a significant reduction in the number of units (loss of 485). All of the City required affordable units would be eliminated. This alternative would result in the construction of a bridge structure spanning 800 feet long and over 135 feet high. This would create a major safety concern within the community and would not be supported by the City. As stated above, Alternative F would be impracticable due to the inability to support the required infrastructure costs from the reduced overall Project revenues associated with the large reduction in units.

Alternative "G" would also result in less impacts to jurisdictional wetland and drainage features than the Proposed Project. However, the gain of 300 linear feet of channel results in the loss of over 110 units. This alternative would involve a substantial reduction of available area to accommodate generated fill material from excavation activities elsewhere on the Project site. Approximately 675,000 cubic yards of excavated dirt would need to be absorbed within the project, adding an unaffordable expense to the development of the Project. This alternative does not allow for a balanced cut/fill and would be impracticable due to the inability to support the required infrastructure costs from the reduced overall Project revenues associated with the reduction in units.

Table 5: Assumed Jurisdictional Impacts by Alternative

Alternative	Wetland/Waters Impacts (Acres)	Liner Feet of Channel
On-Site Alternative A	3.94	12,698
On-Site Alternative B	1.38	5,923
On-Site Alternative C	1.35	5,555
On-Site Alternative D	1.28	4,883
On-Site Alternative E (Proposed Project)	**0.92**	**1,552**
On-Site Alternative F	0.28	70
On-Site Alternative G	0.76	1,252
Off-Site Alternative 1*	1.5	5,800
Off-Site Alternative 2*	2	9,500
Off-Site Alternative 3*	1.9	8,300

*All values for off-site alternatives are estimated based on aerial photo interpretation and general measurement and do not reflect the actual acreage amounts.

The Applicant believes that there are no practicable off-site or on-site alternatives that would result in less adverse impacts to aquatic resources then those presented by the Proposed Project. The Proposed Project (Alternative "E") is the only practicable alternative for accomplishing the overall Project purpose while following the identified criteria used to evaluate alternative on-site designs for the Project. The Proposed Project resulted in significantly less impacts to waters of the United States when compared to all other alternatives, without having other significant environmental consequences while attaining the overall Project purpose. Therefore the Proposed Project is determined to be the LEDPA.

6.0 COMPLIANCE WITH OTHER 404(b)(1) REQUIREMENTS

In addition to demonstrating that the Proposed Project represents the LEDPA, the Applicant must show that the proposed discharge is not prohibited under the standards set forth in 40 CFR § 230.10(b), (c), and (d). Pursuant to the 404(b)(1) Guidelines, this alternative analysis also takes into consideration the other factors listed in 40 CFR § 230.10 (b) and (c) in identifying the LEDPA. The Proposed Project, including the proposed mitigation, is not likely to cause or contribute to any of the following:

- violations of any applicable toxic effluent standard or prohibition;
- jeopardy to any federally-listed threatened or endangered species or destruction or adverse modification of designated critical habitat;
- violations of any applicable state water quality standard; or degradation of waters of the United States.

This section demonstrates compliance with these standards.

6.1 State Water Quality Standards (§230.10(b)(1-2)

Construction activities associated with Proposed Project development could produce increased levels of sedimentation in runoff to surface waters. In addition, materials associated with construction equipment, such as fuels, oils; antifreeze, coolants, and other substances could adversely affect water quality if released to surface waters. The required NPDES General Permit for Storm Water Discharges Associated with Construction Activity would mandate:

- Development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which would include erosion and sediment controls
- Reduction of the potential for release of hazardous materials in water courses, and
- Implementation of Best Management Practices to meet state water quality standards by the applicant.

As a County condition, the applicant is required to submit the SWPPP to the County prior to the start of construction.

6.2 Endangered Species Act of 1973 (§ 230.10(b)(3))

As outlined in the Section 404 Individual Permit application dated June 2014, Project development may affect but is not likely to adversely affect the Alameda Whipsnake and California red-legged frog. As outlined in the Corps of Engineers Individual Permit Application dated June 2014, the Applicant has proposed mitigation measures that would minimize impacts to the Alameda whipsnake and California red-legged frog. Additionally, the Applicant, throught the Corps, has requested consultation with the USFWS for potential impacts to the Alameda whipsnake and

California red-legged frog and requested a conference with the USFWS for potential impacts to the proposed Alameda whipsnake critical habitat. Upon completion of the consultation process and for all the reasons outlined above, the Applicant believes the Proposed Project will not jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, or result in the likelihood of the destruction or adverse modification of critical habitat. For additional information please refer to the Section 404 Individual Permit application June 2014.

6.3 Marine Sanctuary (§230.10(b)(4))

The Proposed Project is not located within any marine sanctuaries designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972. For additional information please refer to the Section 404 Individual Permit application dated June 2014.

6.4 Degradation to Waters of the U.S. (§ 230.10(c)(1-4)

The Proposed Project will not cause or contribute to significant degradation of the waters of the U.S. For additional information please refer to section the Section 404 Individual Permit application dated June 2014.

6.5 Minimize Standard (§ 230.10(d))

The Proposed Project will incorporate all appropriate and practicable steps to minimize potential adverse impacts of the discharge on the aquatic ecosystem. The Applicant has developed a mitigation plan to offset unavoidable impacts to aquatic resources, developed a Storm Water Pollution Prevention Plan, and will implement Best Management Practices to meet state water quality standards. For additional information please refer to the Section 404 Individual Permit application dated June 2014.

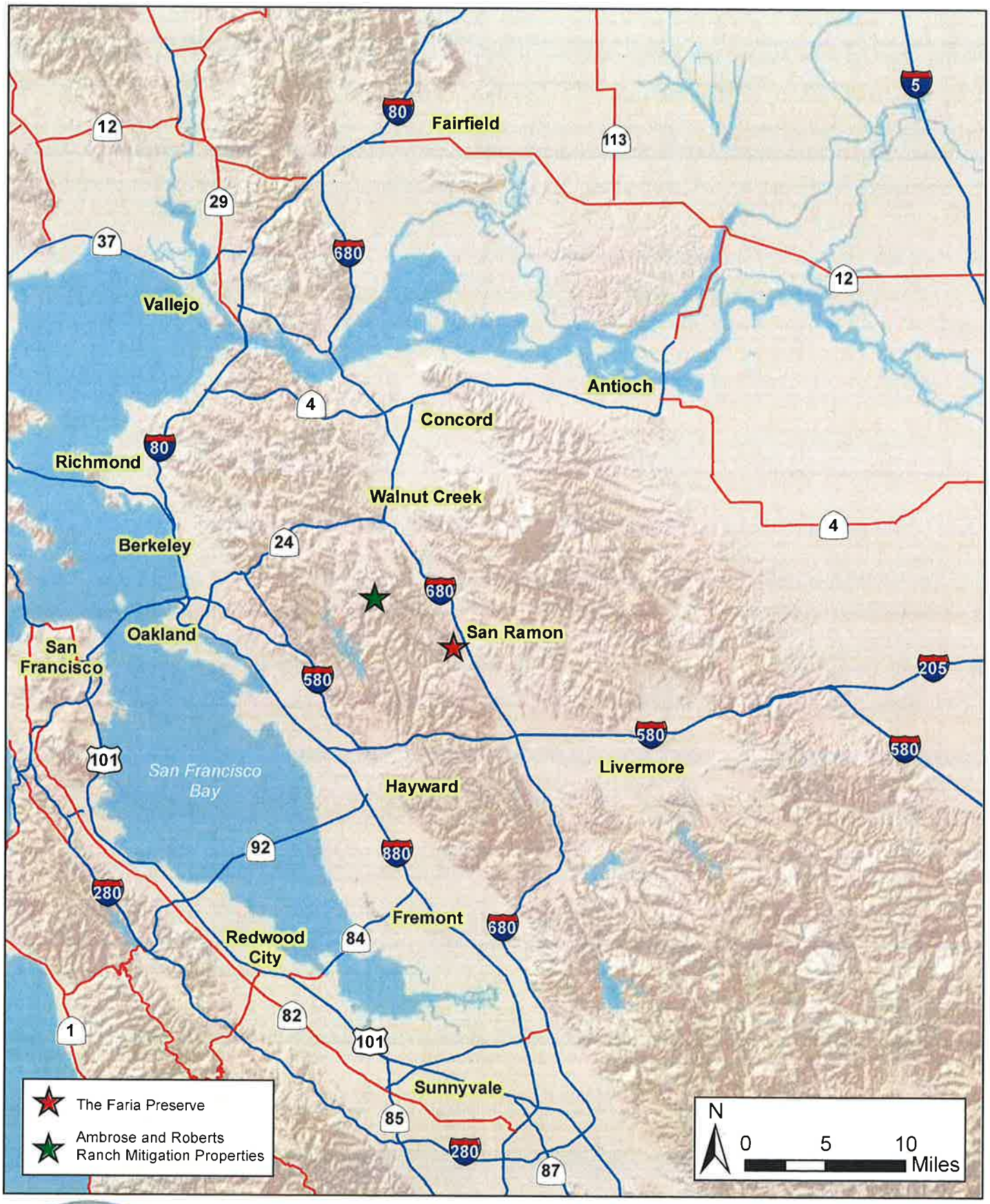
6.6 Conclusion

In conclusion, the Applicant believes that the Proposed Project (Alternative "E") represents the LEDPA, and that the proposed discharge is not prohibited under the standards set forth in 40 CFR §§ 230.10(b), (c), and (d).

ATTACHMENTS

ATTACHMENT 1
FIGURES

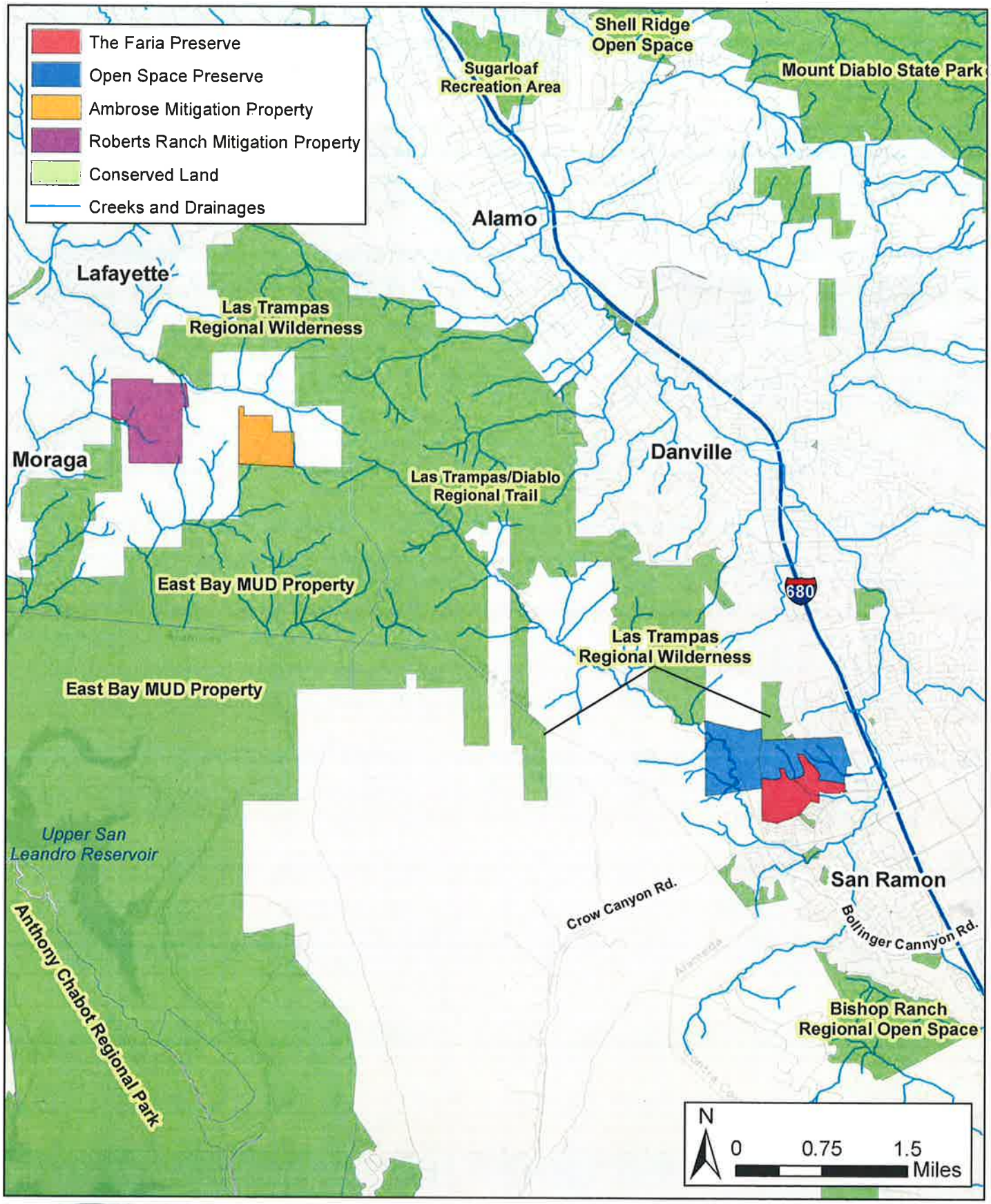
Figure 1
Regional Map



193 Blue Ravine Rd., Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Figure 1: Regional Map
The Faria Preserve

Figure 2
Vicinity Map



193 Blue Ravine Rd., Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Figure 2: Project Vicinity
The Faria Preserve

Figure 3
USGS Quadrangle Map

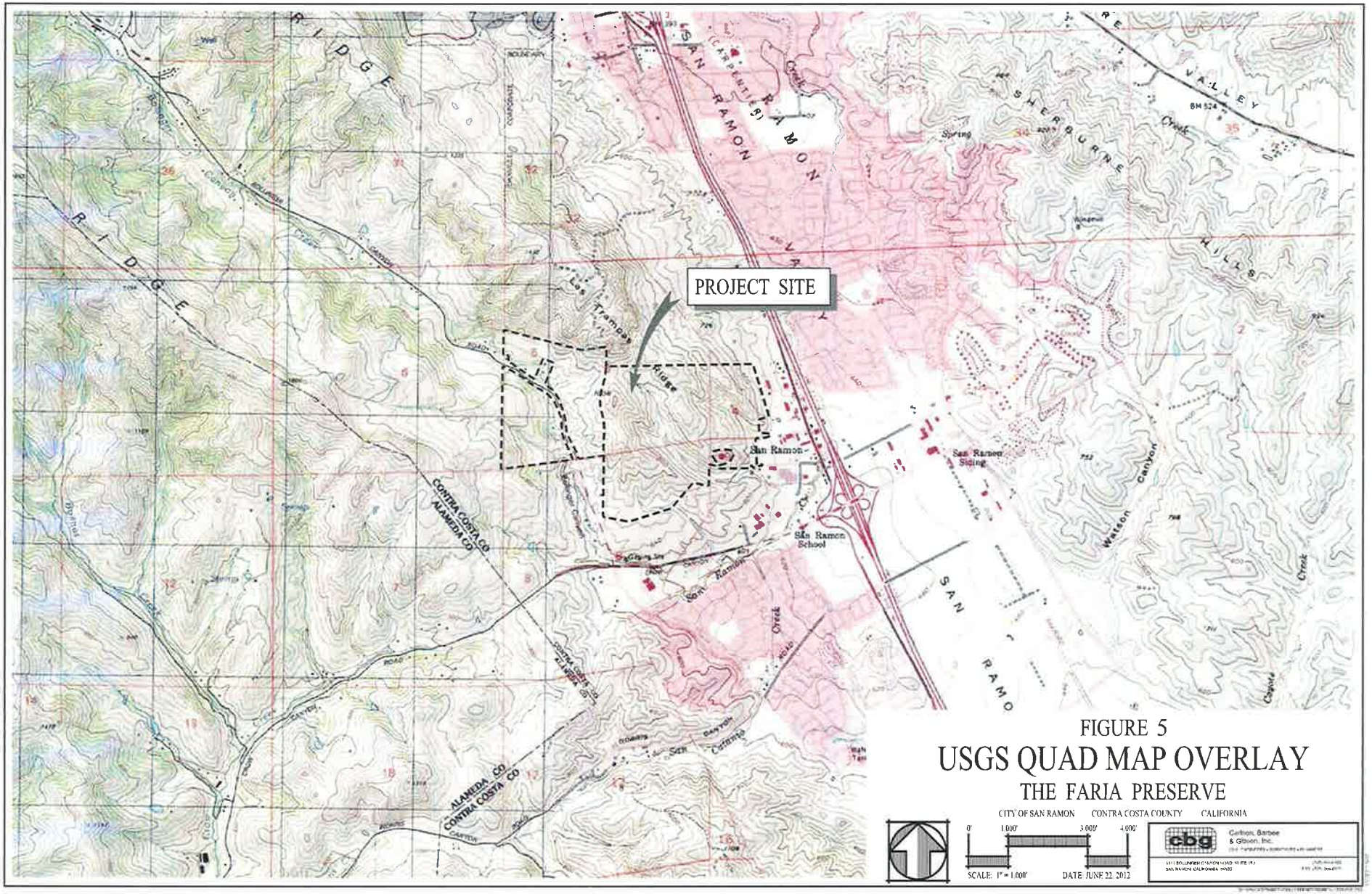


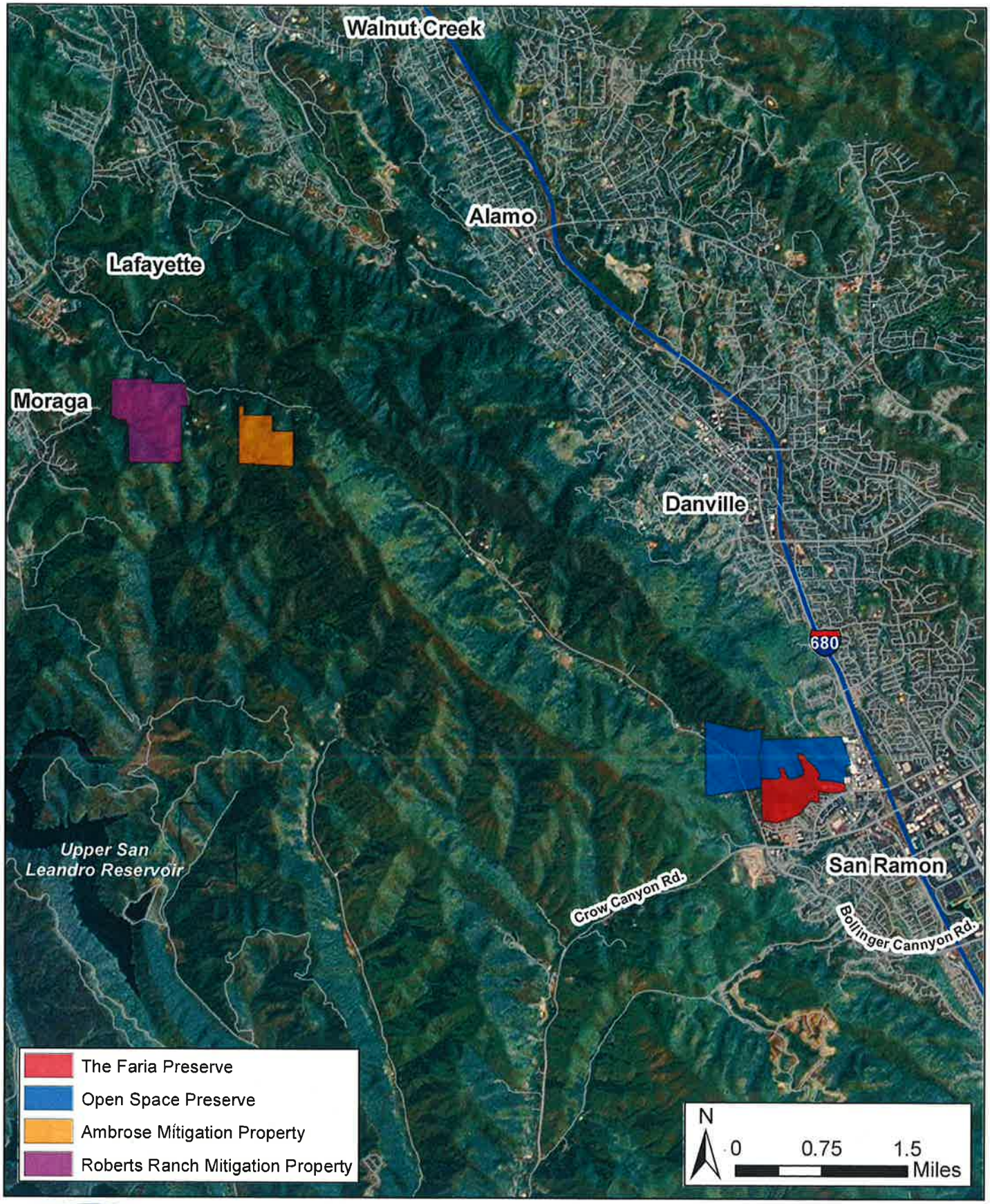
FIGURE 5

USGS QUAD MAP OVERLAY

THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

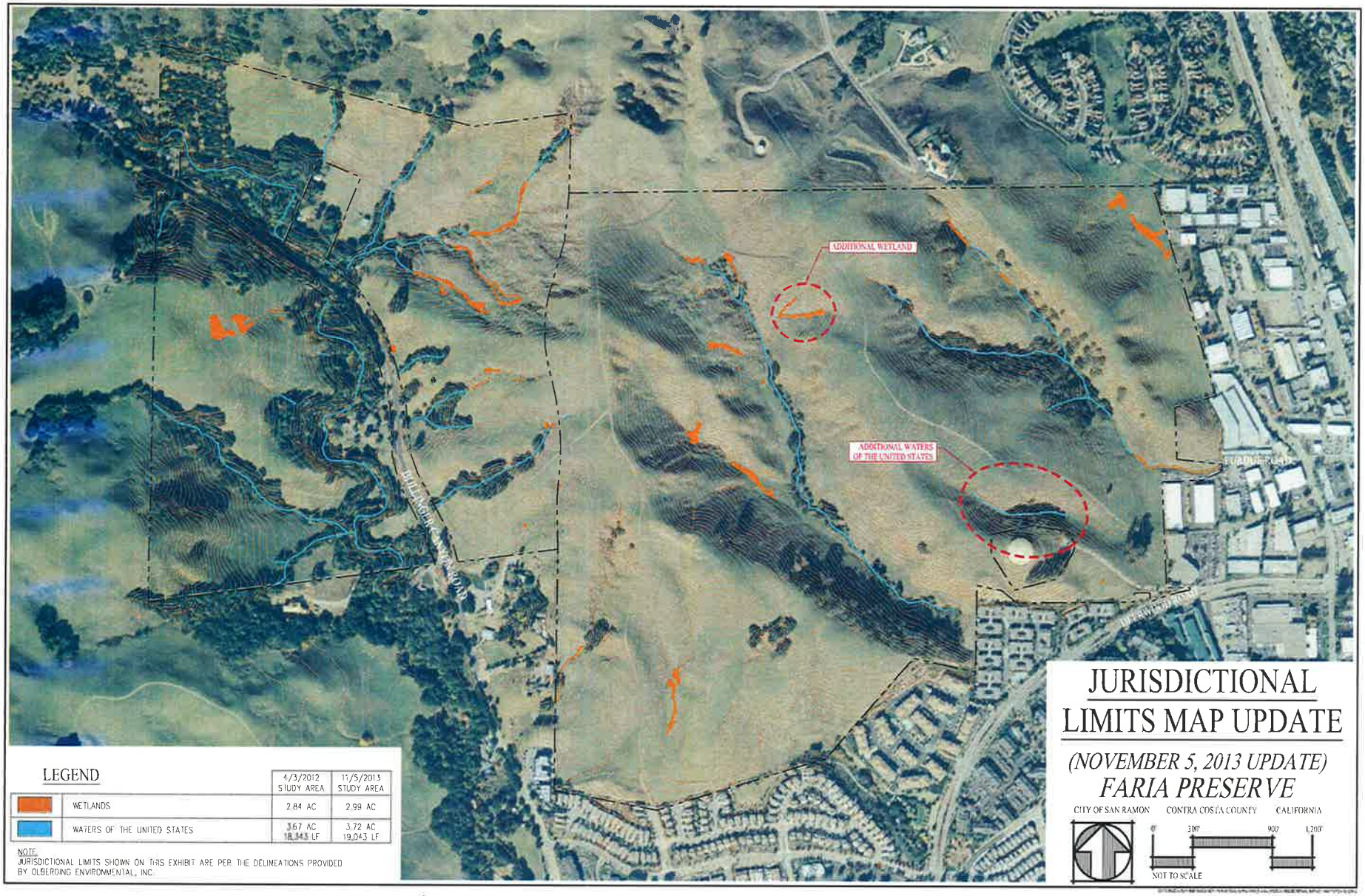
Figure 4
Aerial Photograph



193 Blue Ravine Rd., Ste. 165
Folsom, CA 95630
Phone: (916) 985-1188

Figure 4: Aerial Map
The Faria Preserve

Figure 5
Jurisdictional Delineation Map



JURISDICTIONAL LIMITS MAP UPDATE

(NOVEMBER 5, 2013 UPDATE)

FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 300' 900' 1,200'

NOT TO SCALE

LEGEND

		1/3/2012 STUDY AREA	11/5/2013 STUDY AREA
	WETLANDS	2.84 AC	2.99 AC
	WATERS OF THE UNITED STATES	3.67 AC 18,343 LF	3.72 AC 19,043 LF

NOTE:
JURISDICTIONAL LIMITS SHOWN ON THIS EXHIBIT ARE PER THE DELINEATIONS PROVIDED BY OLBERDING ENVIRONMENTAL, INC.

Figure 6
Development Site Plan (Preferred Alternative)

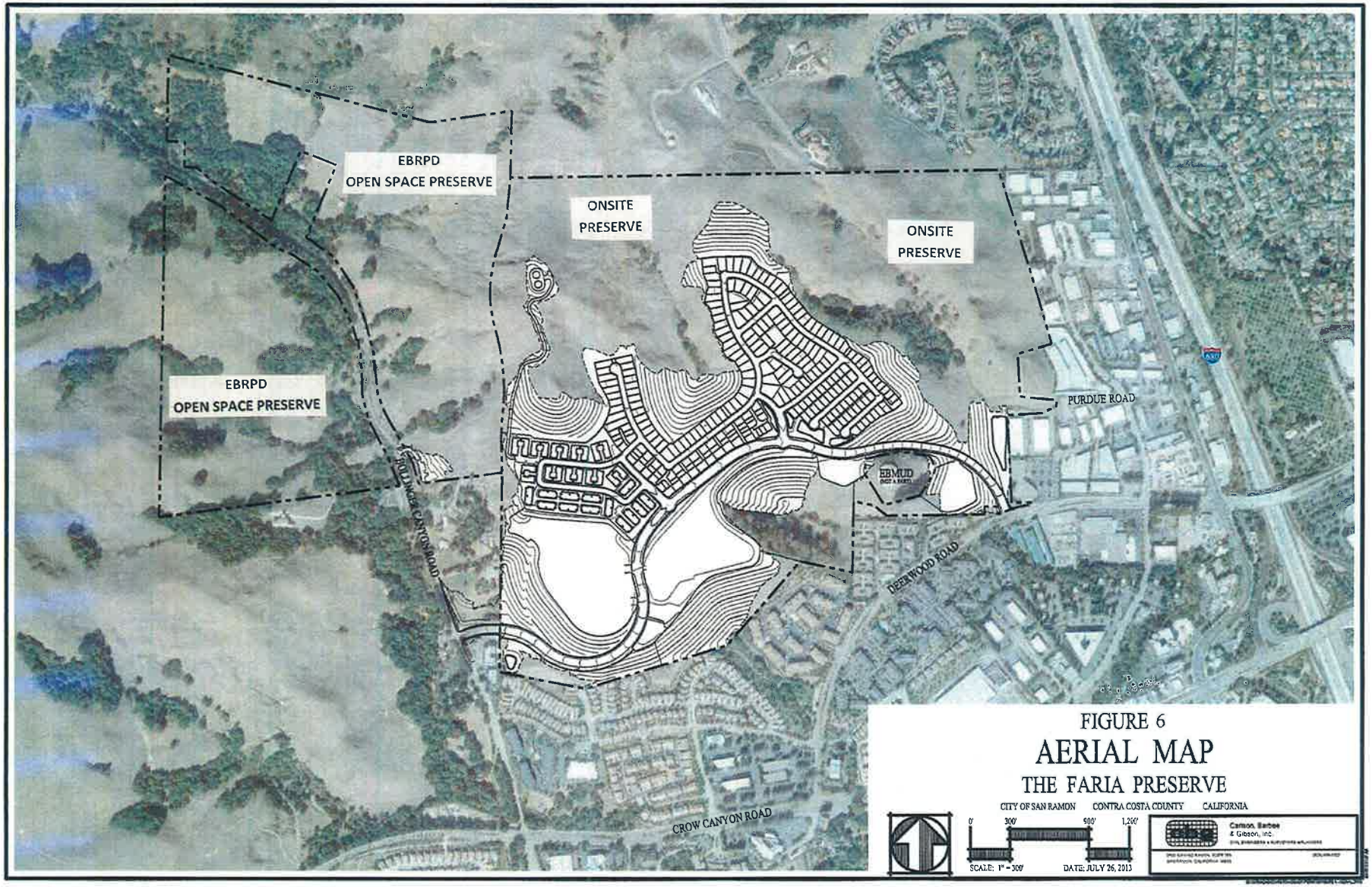


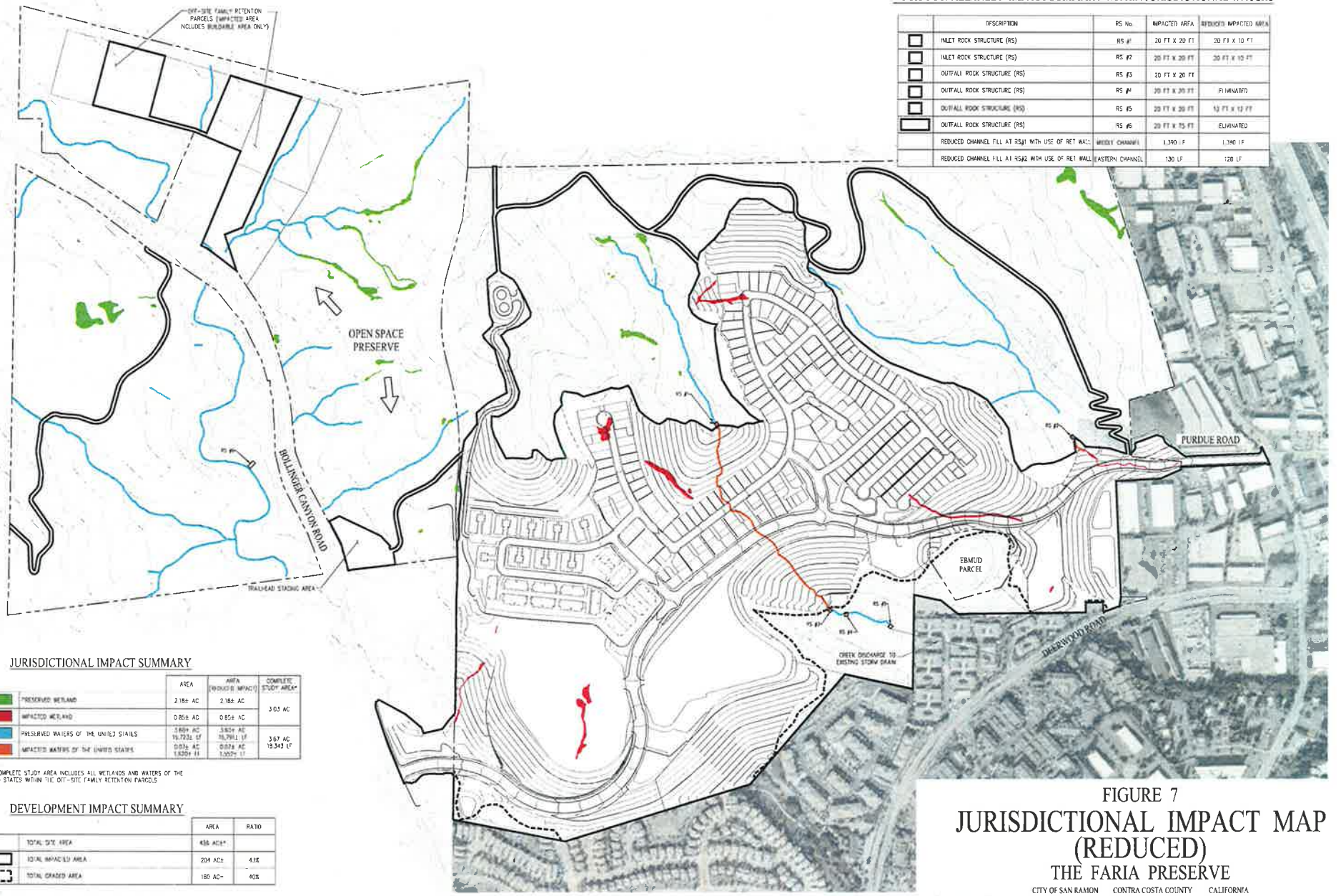
FIGURE 6

AERIAL MAP

THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

Figure 7
Site Impact Map



ROCK OUTFALL/INLET IMPACT SUMMARY WITHIN JURISDICTIONAL WATERS

	DESCRIPTION	RS No.	IMPACTED AREA	REDUCED IMPACTED AREA
	INLET ROCK STRUCTURE (RS)	RS #1	20 FT X 20 FT	20 FT X 10 FT
	INLET ROCK STRUCTURE (RS)	RS #2	20 FT X 20 FT	20 FT X 10 FT
	OUTFALL ROCK STRUCTURE (RS)	RS #3	20 FT X 20 FT	
	OUTFALL ROCK STRUCTURE (RS)	RS #4	20 FT X 20 FT	ELIMINATED
	OUTFALL ROCK STRUCTURE (RS)	RS #5	20 FT X 20 FT	12 FT X 12 FT
	OUTFALL ROCK STRUCTURE (RS)	RS #6	20 FT X 15 FT	ELIMINATED
	REDUCED CHANNEL FILL AT RS#1 WITH USE OF RET WALL	WESTERN CHANNEL	1,390 LF	1,390 LF
	REDUCED CHANNEL FILL AT RS#2 WITH USE OF RET WALL	EASTERN CHANNEL	130 LF	120 LF

JURISDICTIONAL IMPACT SUMMARY

		AREA	AREA (REDUCED IMPACT)	COMPLETE STUDY AREA*
	PRESERVED WETLAND	2.18± AC	2.18± AC	3.01 AC
	IMPACTED WETLAND	0.85± AC	0.85± AC	
	PRESERVED WATERS OF THE UNITED STATES	3.60± AC 16,733± LF	3.63± AC 16,791± LF	3.67 AC 19,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.03± AC 1,620± LF	0.07± AC 1,007± LF	

*NOTE
THE COMPLETE STUDY AREA INCLUDES ALL WETLANDS AND WATERS OF THE UNITED STATES WITHIN THE OFF-SITE FAMILY RETENTION PARCELS

DEVELOPMENT IMPACT SUMMARY

		AREA	RATIO
	TOTAL SITE AREA	436 AC±*	
	TOTAL IMPACTED AREA	20± AC±	4.5%
	TOTAL GRADED AREA	180 AC±	40%

*NOTE
TOTAL SITE AREA INCLUDES THE 3.6 AC± EBMUD PARCEL AND OFF-SITE IMPACTED AREAS

FIGURE 7
JURISDICTIONAL IMPACT MAP (REDUCED)
THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 800'

SCALE: 1" = 200' DATE: DECEMBER 2, 2014

cbg Carlson, Barbee & Gibson, Inc

Figure 8
Conceptual Mitigation Map

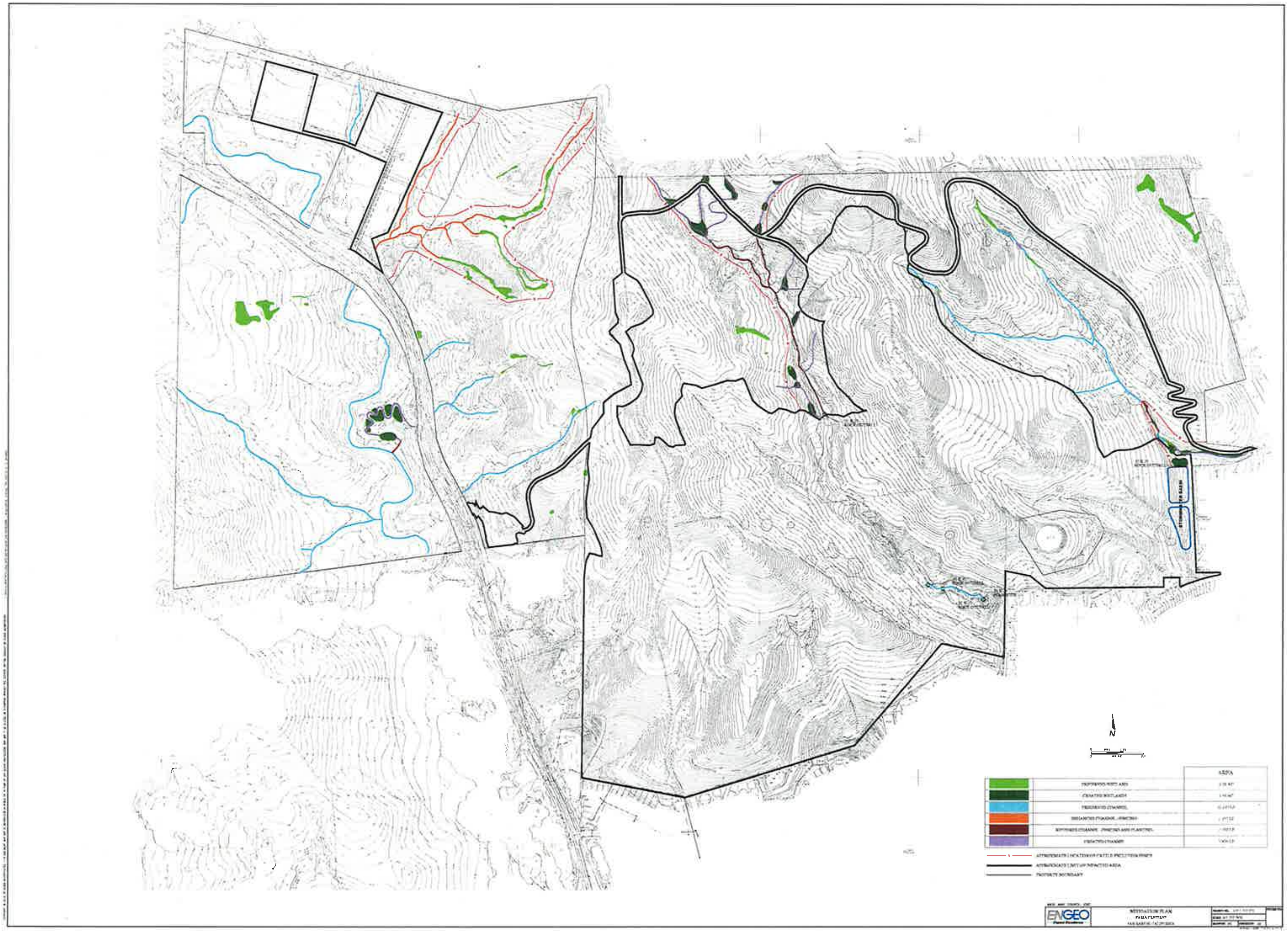
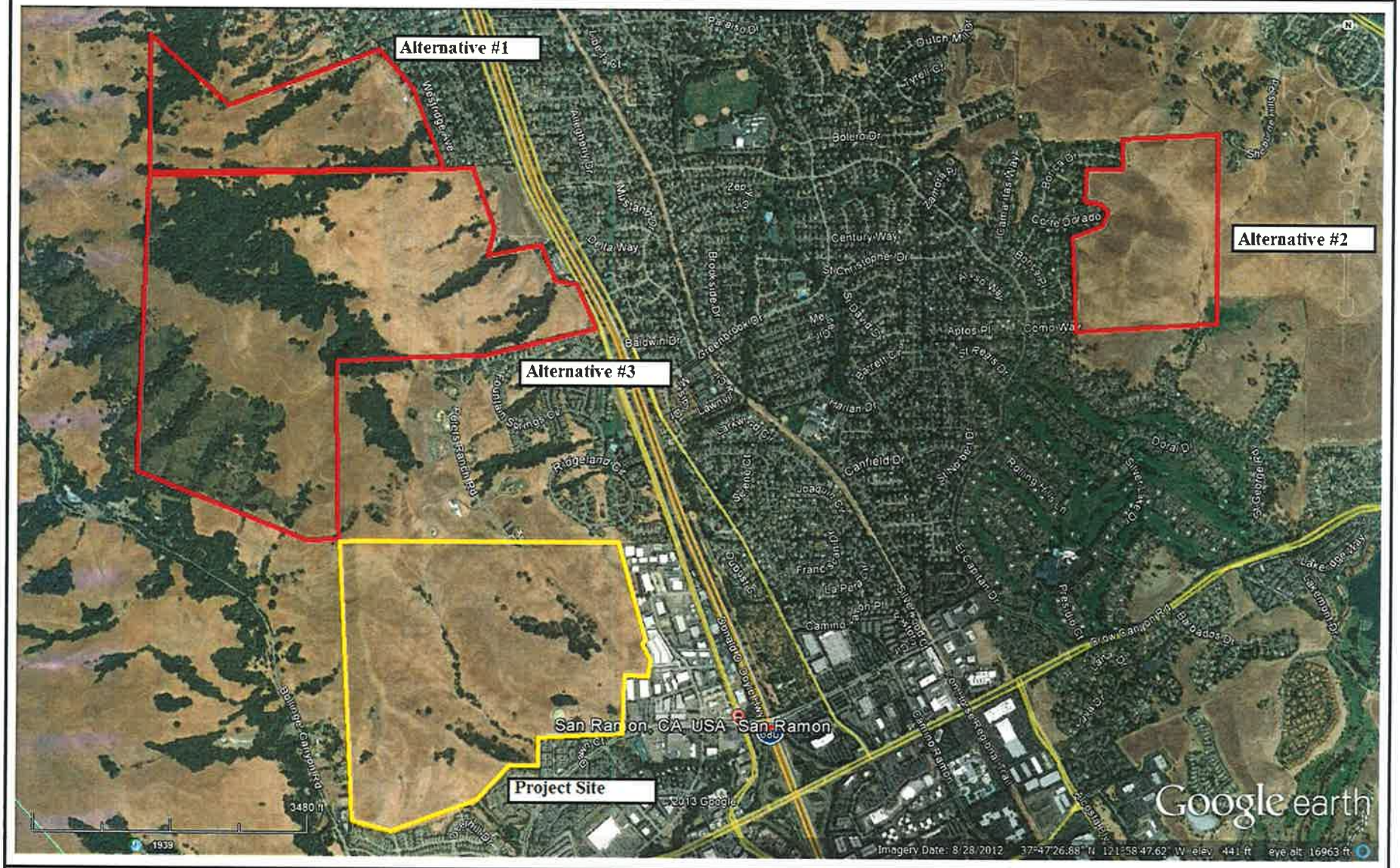

N
AREA
PRESERVED WETLANDS
CREATED WETLANDS
PRESERVED CHANNEL
ENHANCED CHANNEL (FENCING)
RESTORED CHANNEL (FENCING AND PLANTING)
CREATED CHANNEL
APPROXIMATE LOCATION OF CATTLE EXCLUSION FENCE
APPROXIMATE LIMIT OF IMPACTED AREA
PROPERTY BOUNDARY
ENGEO
MITIGATION PLAN
FARIA PRESERVE
SAN RAMON, CALIFORNIA

Figure 9
Off-Site Alternative Locations

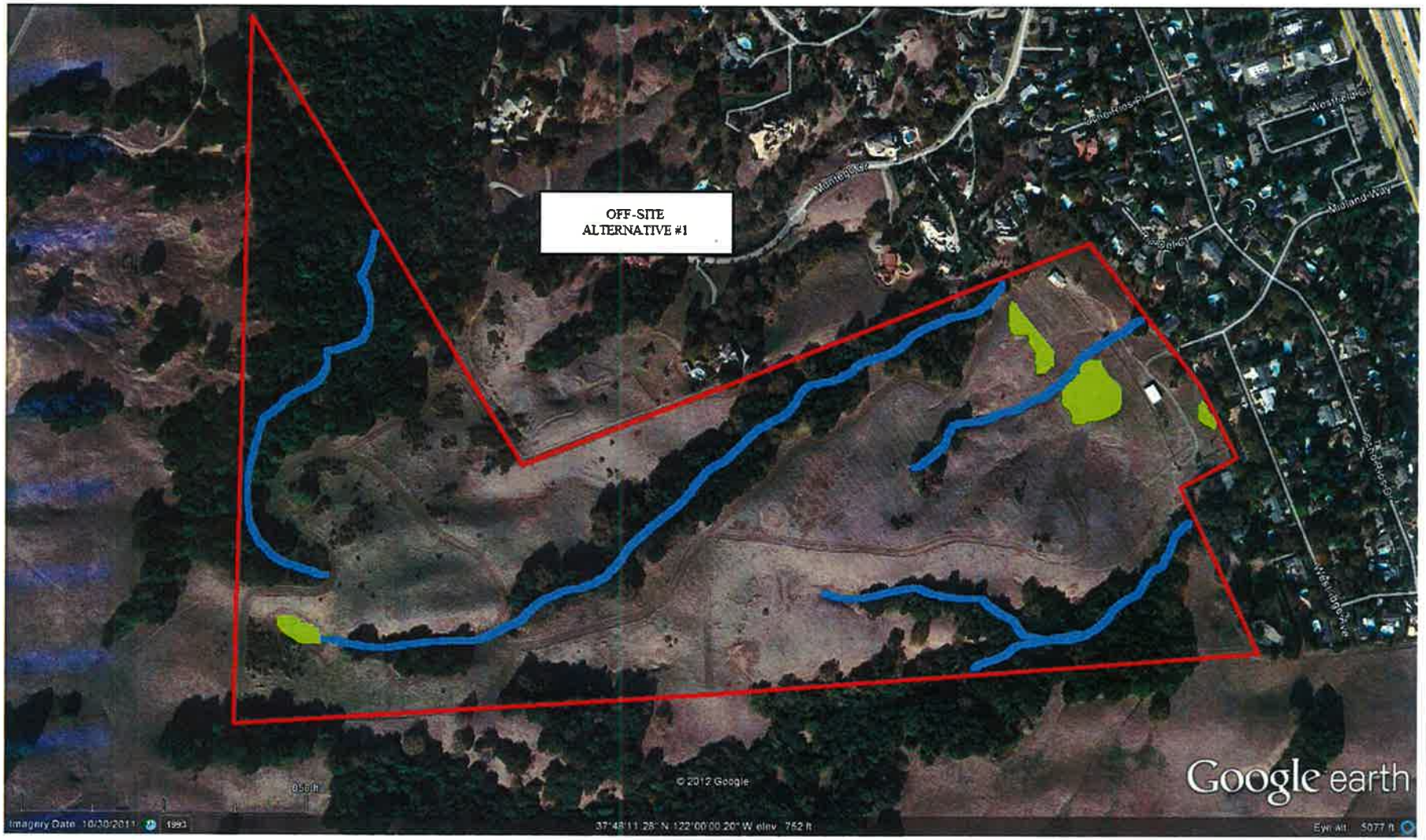


Olberding Environmental, Inc.
3170 Crow Canyon Place, Suite 260
San Ramon, California 94523
Phone: (925) 7406-2111

This document is not intended for detail design work.

Figure 9
Off-Site Alternative Locations for the Faria Preserve Property
Contra Costa County, California

Figure 10
Off-Site Alternative #1



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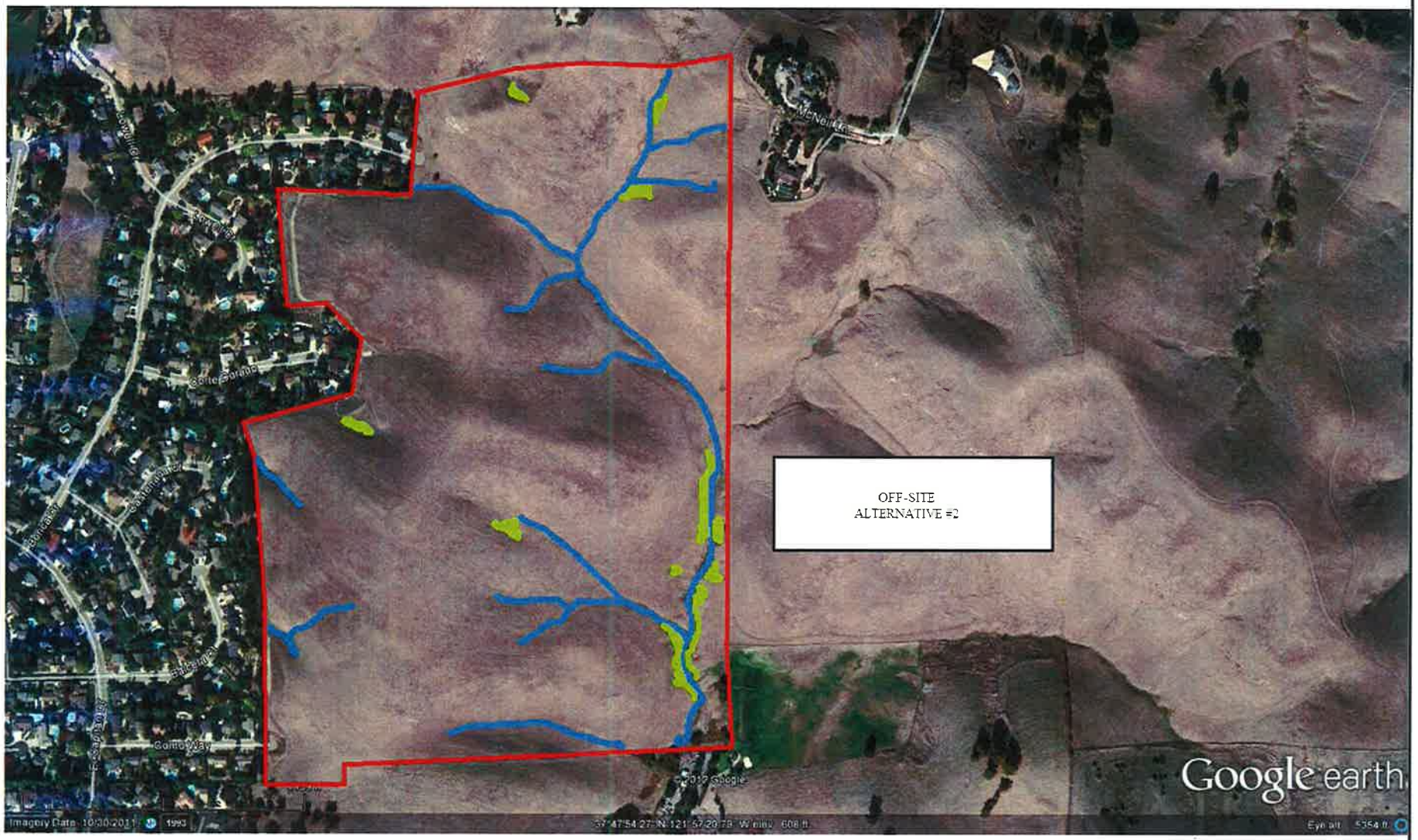
3170 Crow Canyon Place, Suite 260
San Ramon, California 94523
Phone: (925) 7406-2111

This document is not intended for detail design work nor does it represent a depiction of the extent of Corps regulated waters/wetlands.

Figure 10
Off-Site Alternative #1
Contra Costa County, California

Figure 11
Off-Site Alternative #2



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3170 Crow Canyon Place, Suite 260
San Ramon, California 94523
Phone: (925) 7406-2111

This document is not intended for detail design work nor does it represent a depiction of the extent of Corps regulated waters/wetlands.

Figure 11
Off-Site Alternative #2
Contra Costa County, California

Figure 12
Off-Site Alternative #3

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3170 Crow Canyon Place, Suite 260
San Ramon, California 94523
Phone: (925) 7406-2111

This document is not intended for detail design work nor does it represent a depiction of the extent of Corps regulated waters/wetlands.

Figure 192
Off-Site Alternative #3
Contra Costa County, California

Figure 13
Alternative A

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	0.64 AC	3.03 AC
	IMPACTED WETLAND	2.39 AC	
	PRESERVED WATERS OF THE UNITED STATES	2.13 AC 6,345 LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	1.54 AC 11,998 LF	

ALTERNATIVE A

INITIAL FARIA LAND PLAN (2000)

ENTIRE PROPERTY DEVELOPMENT PLAN

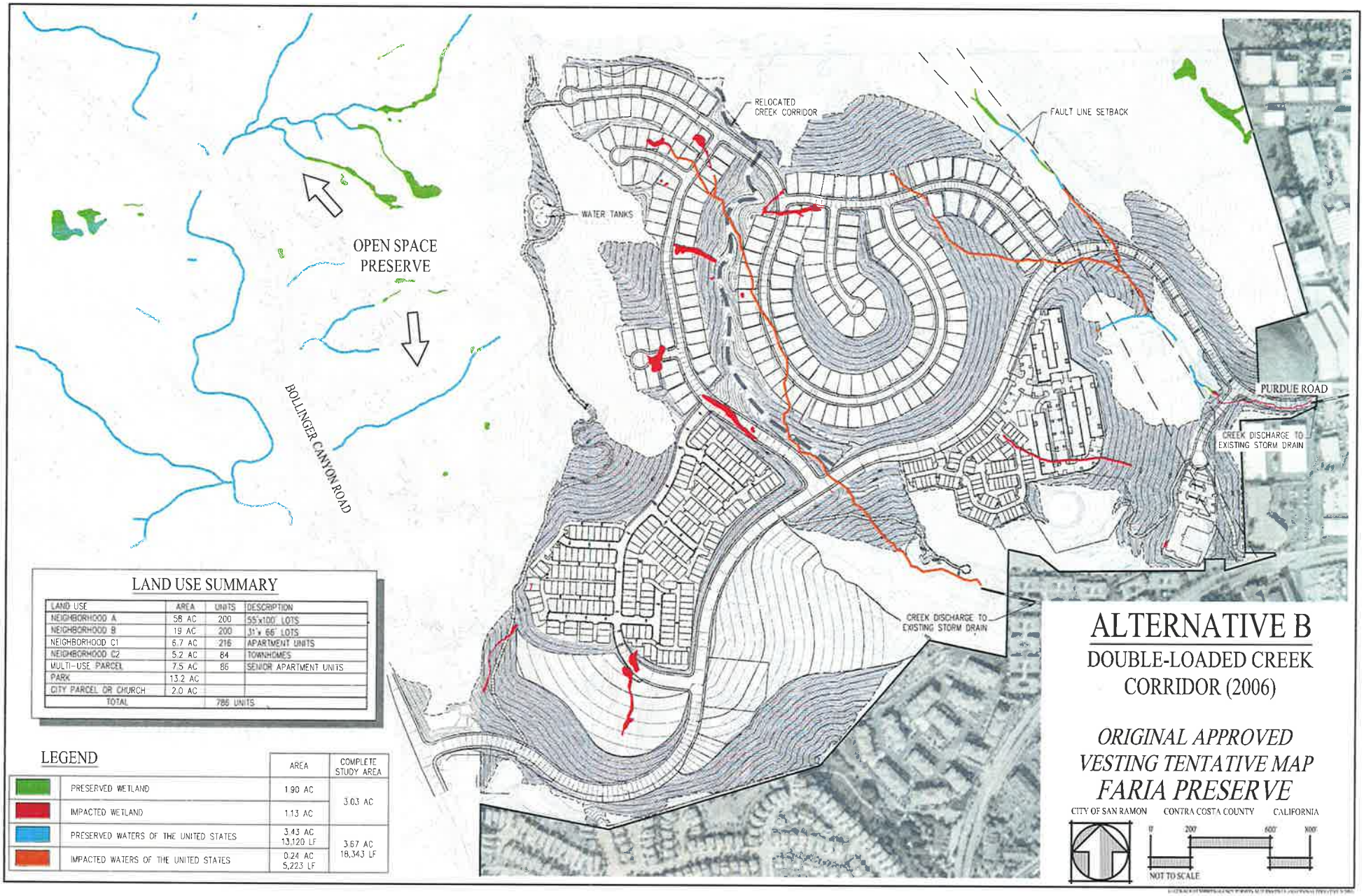
FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 300' 900' 1,200'

NOT TO SCALE

Figure 14
Alternative B



LAND USE SUMMARY

LAND USE	AREA	UNITS	DESCRIPTION
NEIGHBORHOOD A	58 AC	200	55'x100' LOTS
NEIGHBORHOOD B	19 AC	200	31'x 66' LOTS
NEIGHBORHOOD C1	6.7 AC	216	APARTMENT UNITS
NEIGHBORHOOD C2	5.2 AC	84	TOWNHOMES
MULTI-USE PARCEL	7.5 AC	86	SENIOR APARTMENT UNITS
PARK	13.2 AC		
CITY PARCEL OR CHURCH	2.0 AC		
TOTAL		786 UNITS	

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	1.90 AC	3.03 AC
	IMPACTED WETLAND	1.13 AC	
	PRESERVED WATERS OF THE UNITED STATES	3.43 AC 13,120 LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.24 AC 5,223 LF	

ALTERNATIVE B

DOUBLE-LOADED CREEK CORRIDOR (2006)

ORIGINAL APPROVED VESTING TENTATIVE MAP

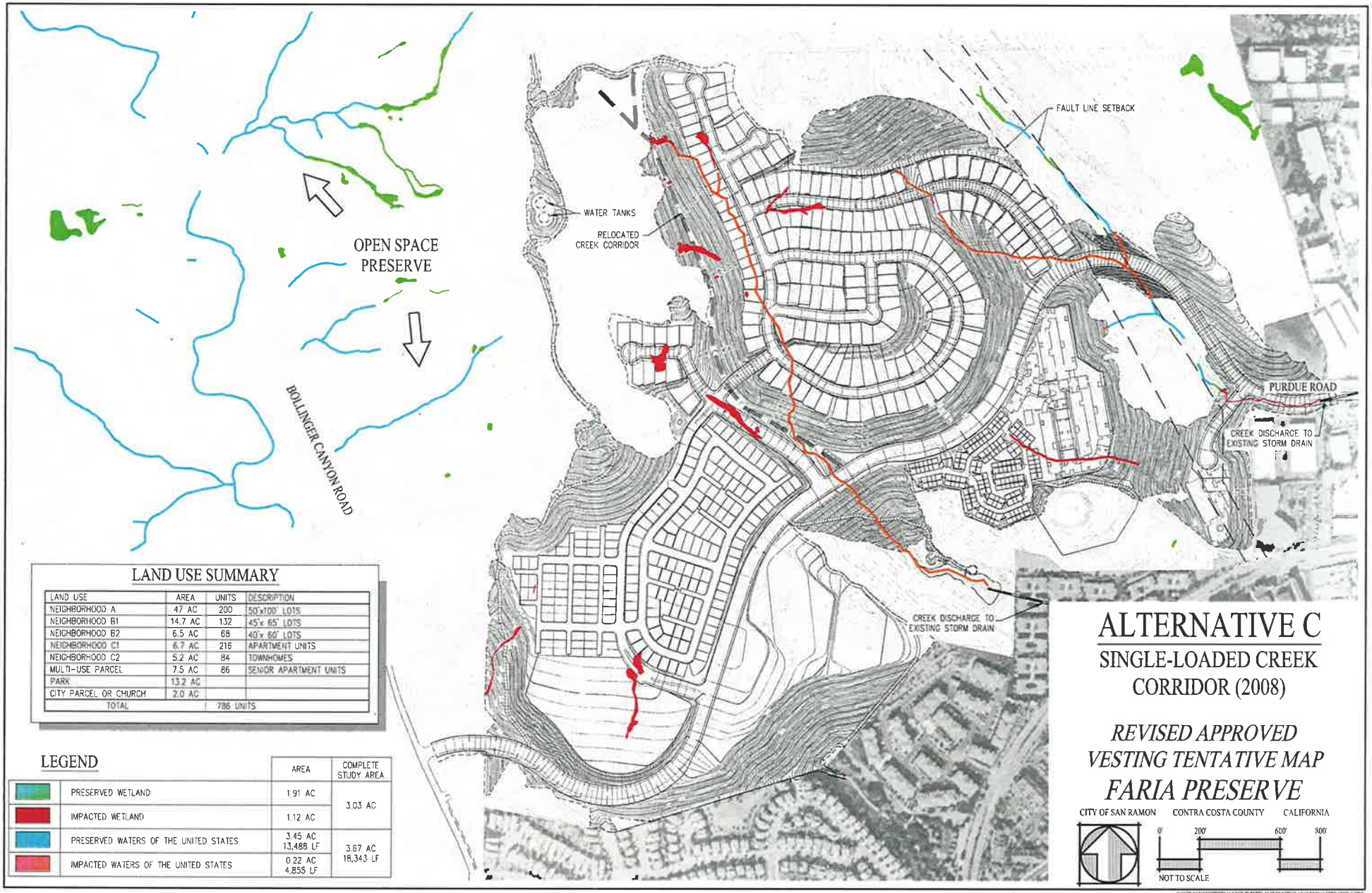
FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 1000'

NOT TO SCALE

Figure 15
Alternative C



LAND USE SUMMARY

LAND USE	AREA	UNITS	DESCRIPTION
NEIGHBORHOOD A	47 AC	200	50'x100' LOTS
NEIGHBORHOOD B1	14.7 AC	132	45'x 65' LOTS
NEIGHBORHOOD B2	6.5 AC	68	40'x 60' LOTS
NEIGHBORHOOD C1	6.7 AC	216	APARTMENT UNITS
NEIGHBORHOOD C2	5.2 AC	84	TOWNHOMES
MULTI-USE PARCEL	7.5 AC	86	SENIOR APARTMENT UNITS
PARK	13.2 AC		
CITY PARCEL OR CHURCH	2.0 AC		
TOTAL		786 UNITS	

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	1.91 AC	3.03 AC
	IMPACTED WETLAND	1.12 AC	
	PRESERVED WATERS OF THE UNITED STATES	3.45 AC 13,488 LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.22 AC 4,855 LF	

ALTERNATIVE C

SINGLE-LOADED CREEK CORRIDOR (2008)

REVISED APPROVED VESTING TENTATIVE MAP

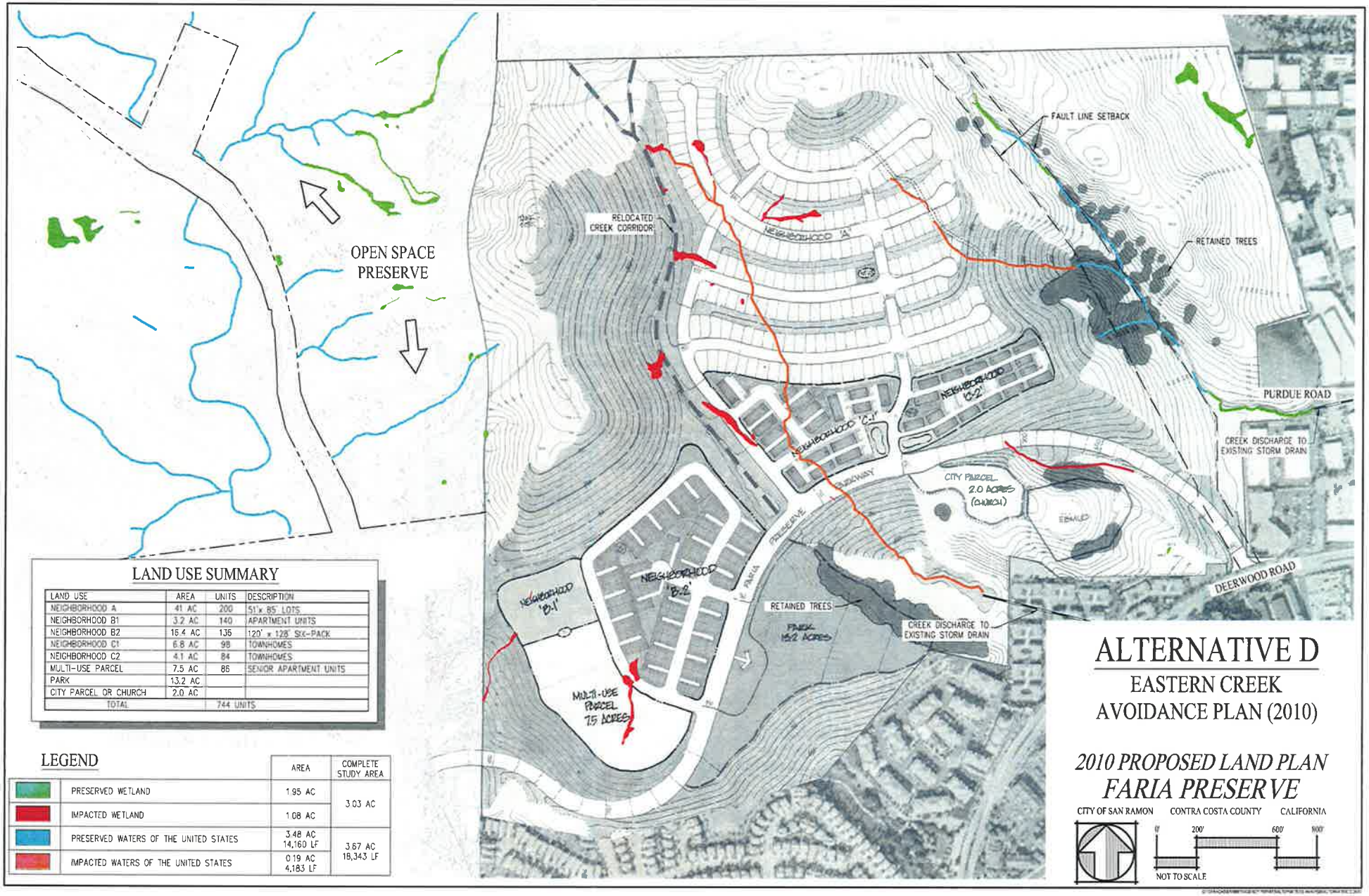
FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 800'

NOT TO SCALE

Figure 16
Alternative D



LAND USE SUMMARY

LAND USE	AREA	UNITS	DESCRIPTION
NEIGHBORHOOD A	41 AC	200	51'x 85' LOTS
NEIGHBORHOOD B1	3.2 AC	140	APARTMENT UNITS
NEIGHBORHOOD B2	16.4 AC	136	120' x 128' SIX-PACK
NEIGHBORHOOD C1	6.8 AC	98	TOWNHOMES
NEIGHBORHOOD C2	4.1 AC	84	TOWNHOMES
MULTI-USE PARCEL	7.5 AC	86	SENIOR APARTMENT UNITS
PARK	13.2 AC		
CITY PARCEL OR CHURCH	2.0 AC		
TOTAL		744 UNITS	

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	1.95 AC	3.03 AC
	IMPACTED WETLAND	1.08 AC	
	PRESERVED WATERS OF THE UNITED STATES	3.48 AC 14,160 LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.19 AC 4,183 LF	

ALTERNATIVE D

EASTERN CREEK AVOIDANCE PLAN (2010)

2010 PROPOSED LAND PLAN

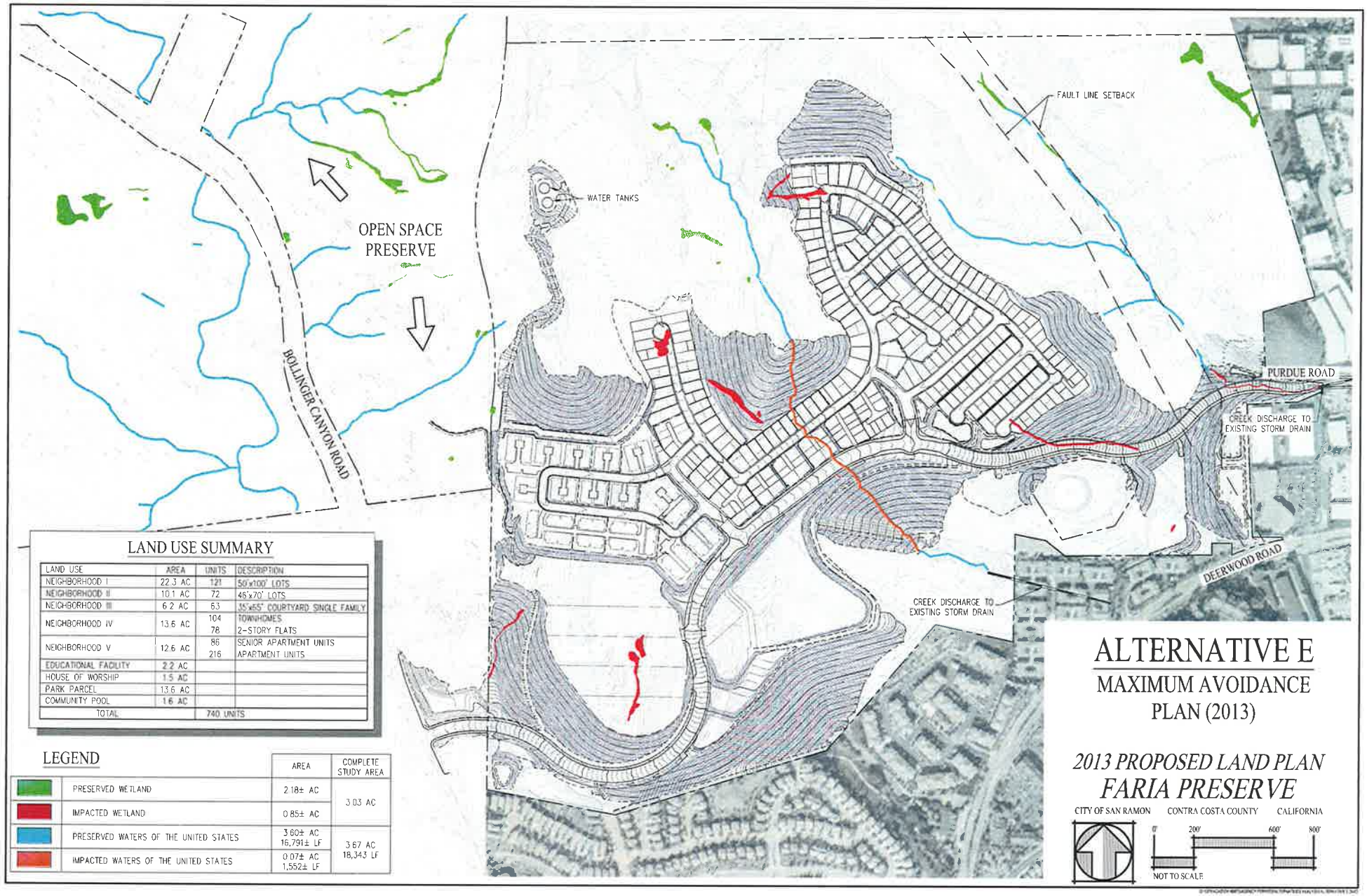
FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 1000'

NOT TO SCALE

Figure 17
Alternative E



LAND USE SUMMARY

LAND USE	AREA	UNITS	DESCRIPTION
NEIGHBORHOOD I	22.3 AC	121	50'x100' LOTS
NEIGHBORHOOD II	10.1 AC	72	46'x70' LOTS
NEIGHBORHOOD III	6.2 AC	53	35'x55' COURTYARD SINGLE FAMILY
NEIGHBORHOOD IV	13.6 AC	104	TOWNHOMES
		78	2-STORY FLATS
NEIGHBORHOOD V	12.6 AC	86	SENIOR APARTMENT UNITS
		216	APARTMENT UNITS
EDUCATIONAL FACILITY	2.2 AC		
HOUSE OF WORSHIP	1.5 AC		
PARK PARCEL	13.6 AC		
COMMUNITY POOL	1.6 AC		
TOTAL		740 UNITS	

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	2.18± AC	3.03 AC
	IMPACTED WETLAND	0.85± AC	
	PRESERVED WATERS OF THE UNITED STATES	3.60± AC 16,791± LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.07± AC 1,552± LF	

ALTERNATIVE E

MAXIMUM AVOIDANCE PLAN (2013)

2013 PROPOSED LAND PLAN

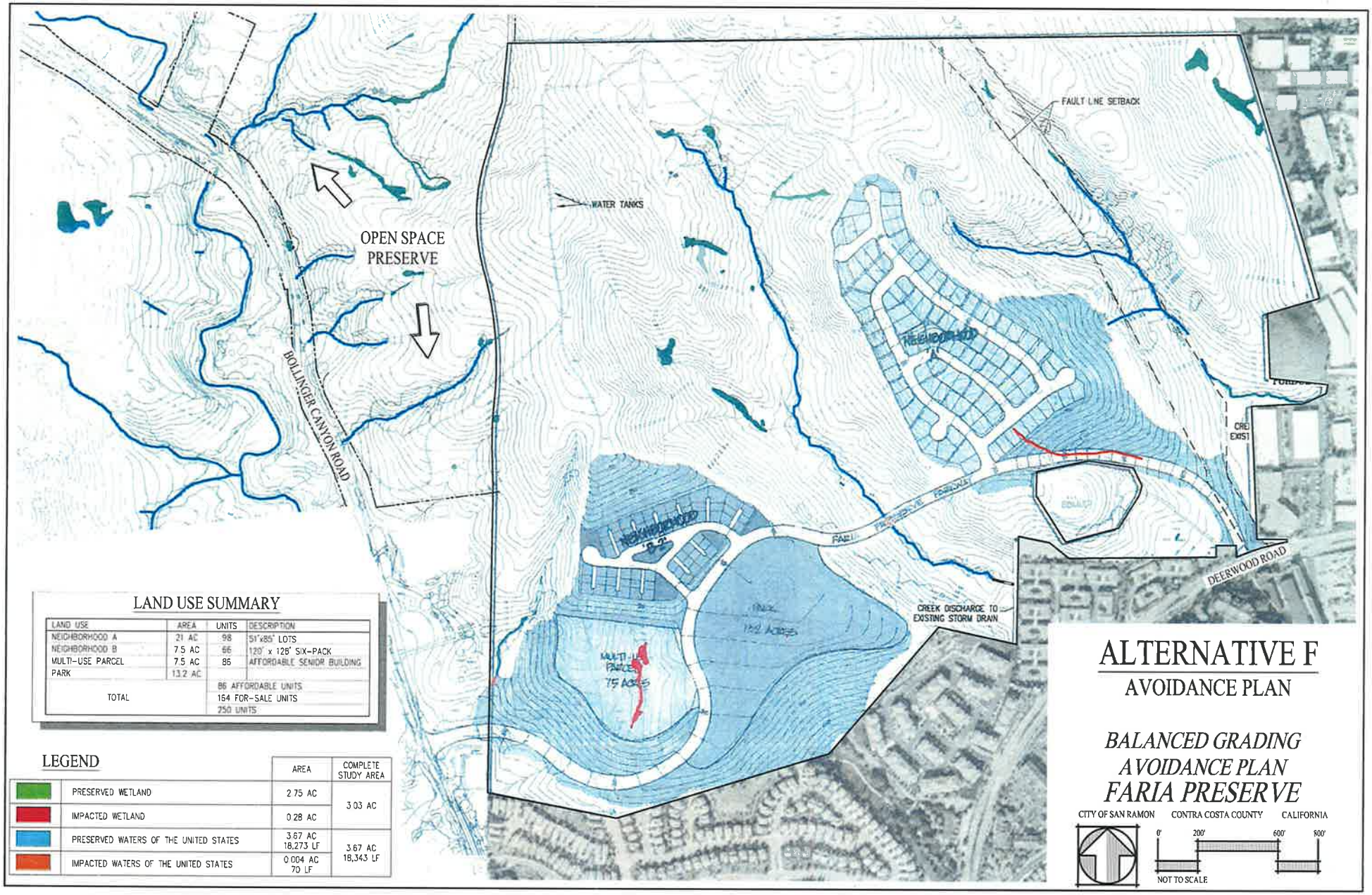
FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 800'

NOT TO SCALE

Figure 18
Alternative F



LAND USE SUMMARY

LAND USE	AREA	UNITS	DESCRIPTION
NEIGHBORHOOD A	21 AC	98	51'x85' LOTS
NEIGHBORHOOD B	7.5 AC	66	120' x 126' SIX-PACK
MULTI-USE PARCEL	7.5 AC	86	AFFORDABLE SENIOR BUILDING
PARK	13.2 AC		
TOTAL		86 AFFORDABLE UNITS 154 FOR-SALE UNITS 250 UNITS	

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	2.75 AC	3.03 AC
	IMPACTED WETLAND	0.28 AC	
	PRESERVED WATERS OF THE UNITED STATES	3.67 AC 18,273 LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.004 AC 70 LF	

ALTERNATIVE F

AVOIDANCE PLAN

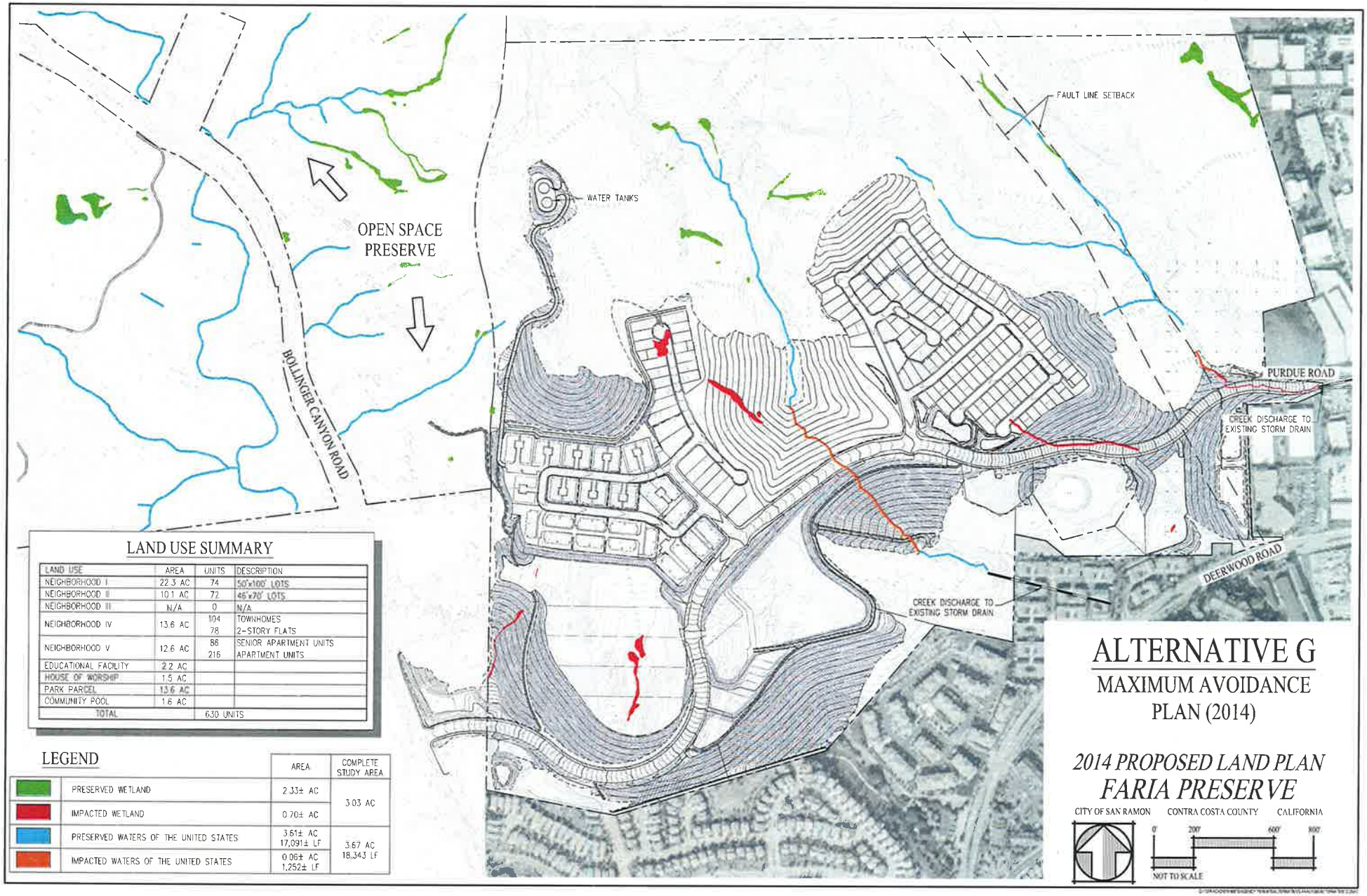
BALANCED GRADING
AVOIDANCE PLAN
FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 800'

NOT TO SCALE

Figure 19
Alternative G



LAND USE SUMMARY

LAND USE	AREA	UNITS	DESCRIPTION
NEIGHBORHOOD I	22.3 AC	74	50'x100' LOTS
NEIGHBORHOOD II	10.1 AC	72	45'x70' LOTS
NEIGHBORHOOD III	N/A	0	N/A
NEIGHBORHOOD IV	13.6 AC	104	TOWNHOMES
		78	2-STORY FLATS
NEIGHBORHOOD V	12.6 AC	86	SENIOR APARTMENT UNITS
		216	APARTMENT UNITS
EDUCATIONAL FACILITY	2.2 AC		
HOUSE OF WORSHIP	1.5 AC		
PARK PARCEL	13.6 AC		
COMMUNITY POOL	1.6 AC		
TOTAL		630 UNITS	

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	2.33± AC	3.03 AC
	IMPACTED WETLAND	0.70± AC	
	PRESERVED WATERS OF THE UNITED STATES	3.61± AC 17,091± LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.06± AC 1,252± LF	

ALTERNATIVE G

MAXIMUM AVOIDANCE PLAN (2014)

2014 PROPOSED LAND PLAN

FARIA PRESERVE

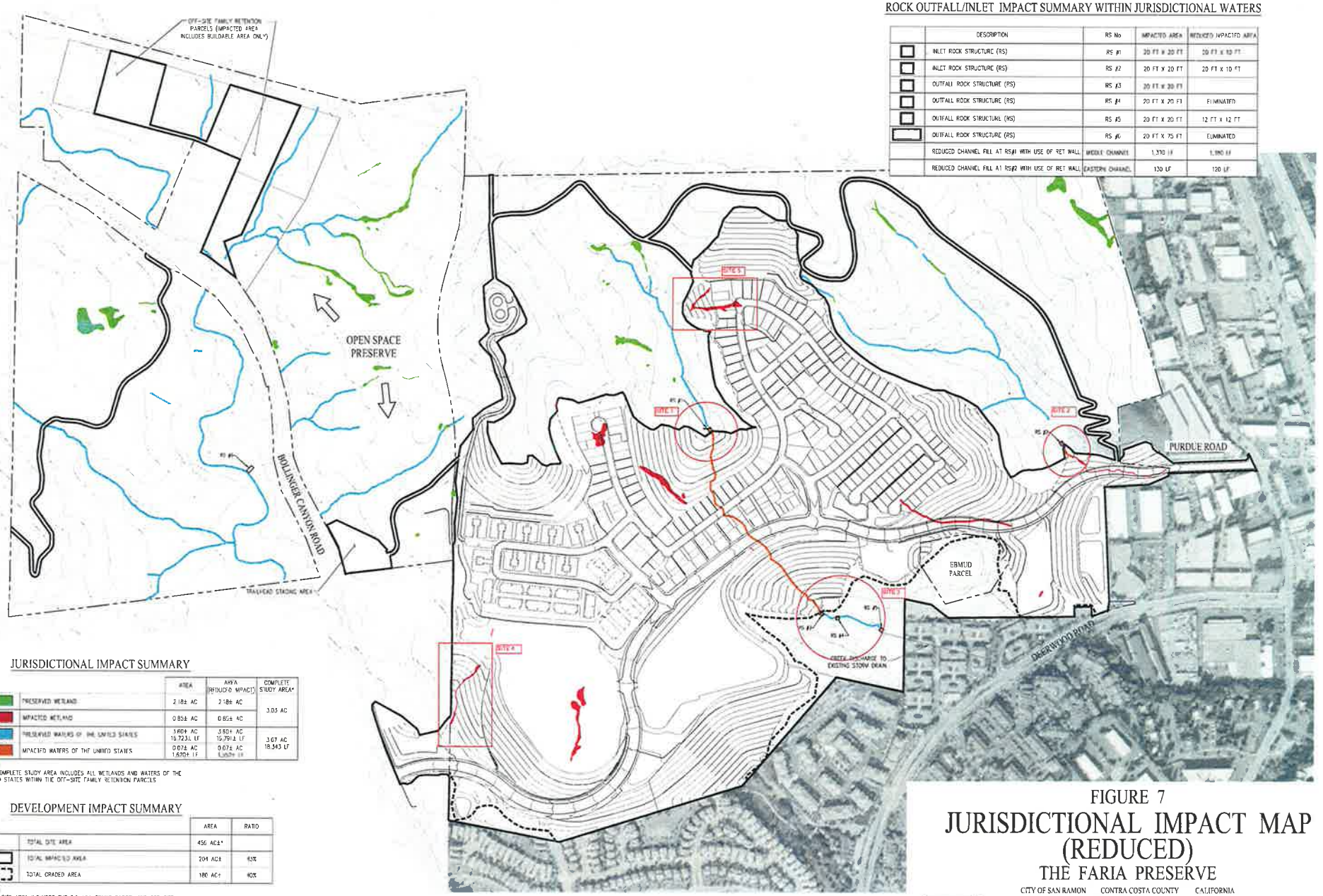
CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 800'

NOT TO SCALE

ATTACHMENT 2

ALTERNATIVE "E" NARRATIVE AND SUPPLEMENTAL EXHIBITS



ROCK OUTFALL/INLET IMPACT SUMMARY WITHIN JURISDICTIONAL WATERS

	DESCRIPTION	RS No	IMPACTED AREA	REDUCED IMPACTED AREA
	INLET ROCK STRUCTURE (RS)	RS #1	20 FT X 20 FT	20 FT X 10 FT
	INLET ROCK STRUCTURE (RS)	RS #2	20 FT X 20 FT	20 FT X 10 FT
	OUTFALL ROCK STRUCTURE (RS)	RS #3	20 FT X 20 FT	
	OUTFALL ROCK STRUCTURE (RS)	RS #4	20 FT X 20 FT	ELIMINATED
	OUTFALL ROCK STRUCTURE (RS)	RS #5	20 FT X 20 FT	12 FT X 12 FT
	OUTFALL ROCK STRUCTURE (RS)	RS #6	20 FT X 75 FT	ELIMINATED
	REDUCED CHANNEL FILL AT RS#1 WITH USE OF RET WALL	MIDDLE CHANNEL	1,330 LF	1,190 LF
	REDUCED CHANNEL FILL AT RS#2 WITH USE OF RET WALL	EASTERN CHANNEL	120 LF	120 LF

JURISDICTIONAL IMPACT SUMMARY

		AREA	AREA (REDUCED IMPACT)	COMPLETE STUDY AREA*
	PRESERVED WETLAND	2.18± AC	2.18± AC	3.03 AC
	IMPACTED WETLAND	0.85± AC	0.85± AC	
	PRESERVED WATERS OF THE UNITED STATES	3.60± AC 16,723± LF	3.60± AC 15,791± LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.07± AC 1,620± LF	0.07± AC 1,620± LF	

*NOTE:
THE COMPLETE STUDY AREA INCLUDES ALL WETLANDS AND WATERS OF THE UNITED STATES WITHIN THE OFF-SITE FAMILY RETENTION PARCELS

DEVELOPMENT IMPACT SUMMARY

		AREA	RATIO
	TOTAL SITE AREA	456 AC±*	
	TOTAL IMPACTED AREA	204 AC±	45%
	TOTAL GRADED AREA	180 AC±	40%

*NOTE:
TOTAL SITE AREA INCLUDES THE 3.6 AC± EBMUD PARCEL AND OFF-SITE IMPACTED AREAS

FIGURE 7

JURISDICTIONAL IMPACT MAP (REDUCED)

THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 800'

SCALE: 1" = 200' DATE: DECEMBER 2, 2014

cbg Carlson, Barbee & Gibson, Inc

RETAINING WALL SPECIFICATIONS:

WALL LENGTH	=	100'±
AVERAGE WALL HEIGHT	=	5'±
EXPOSED FACE OF WALL = AREA (AREA WALL IS RETAINING)		500± SF

ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST:

ESTIMATED COST=500 SF x $65/SF = $32,500±

ESTIMATED COST PER LF OF CREEK = $32,500/20 LF
=$1,625/LF OF CREEK

OFF-SITE CREEK MITIGATION COSTS:

ESTIMATED COST PER LF OF CREEK IS $800/LF

FEASIBLE

(SITE 1) RETAINING WALL @ CENTER STREAM

FARIA PRESERVE

VTM SUBDIVISION 9342

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 40' 120' 160'

SCALE: 1" = 40' DATE: OCTOBER 29, 2014

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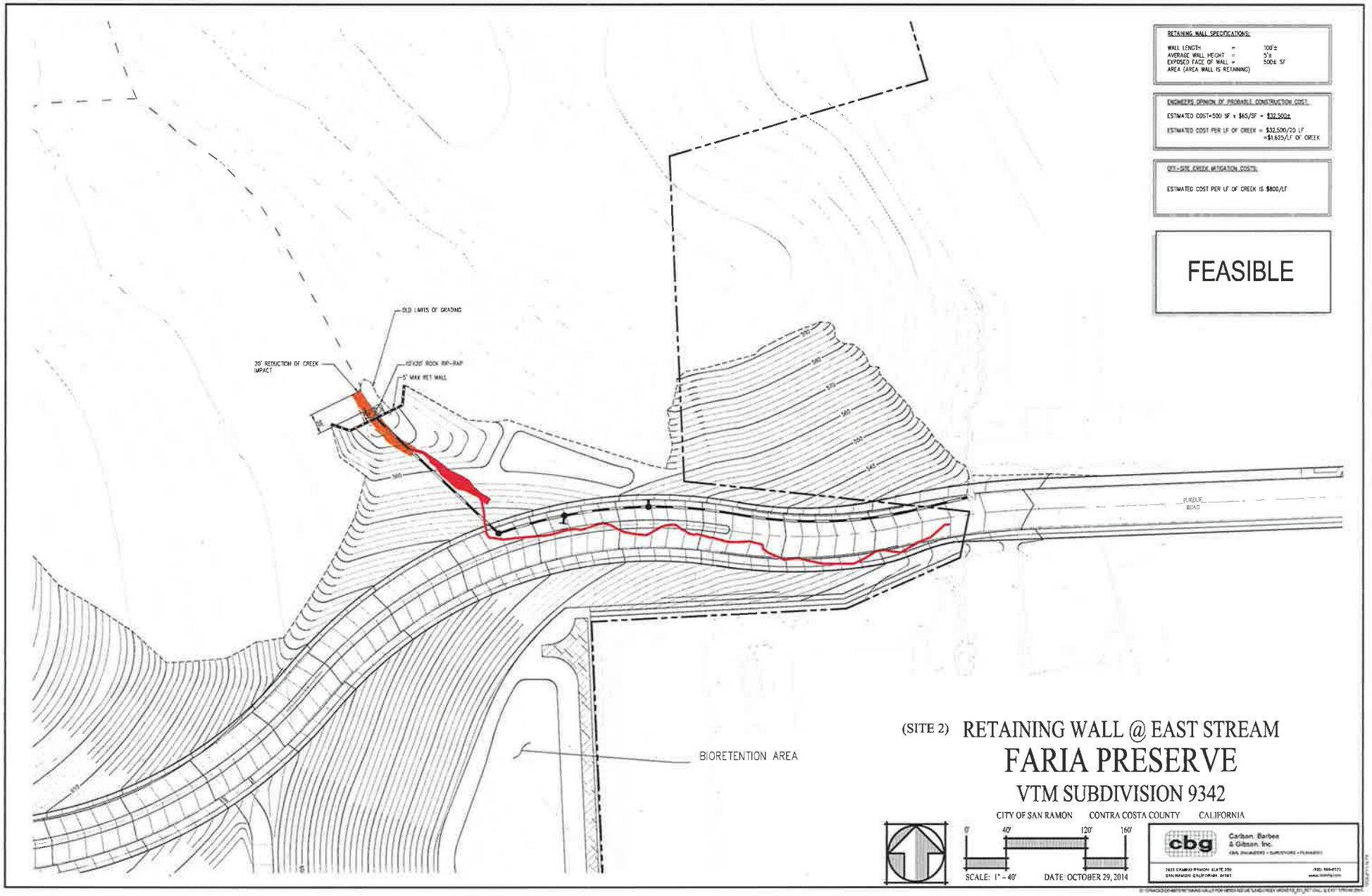
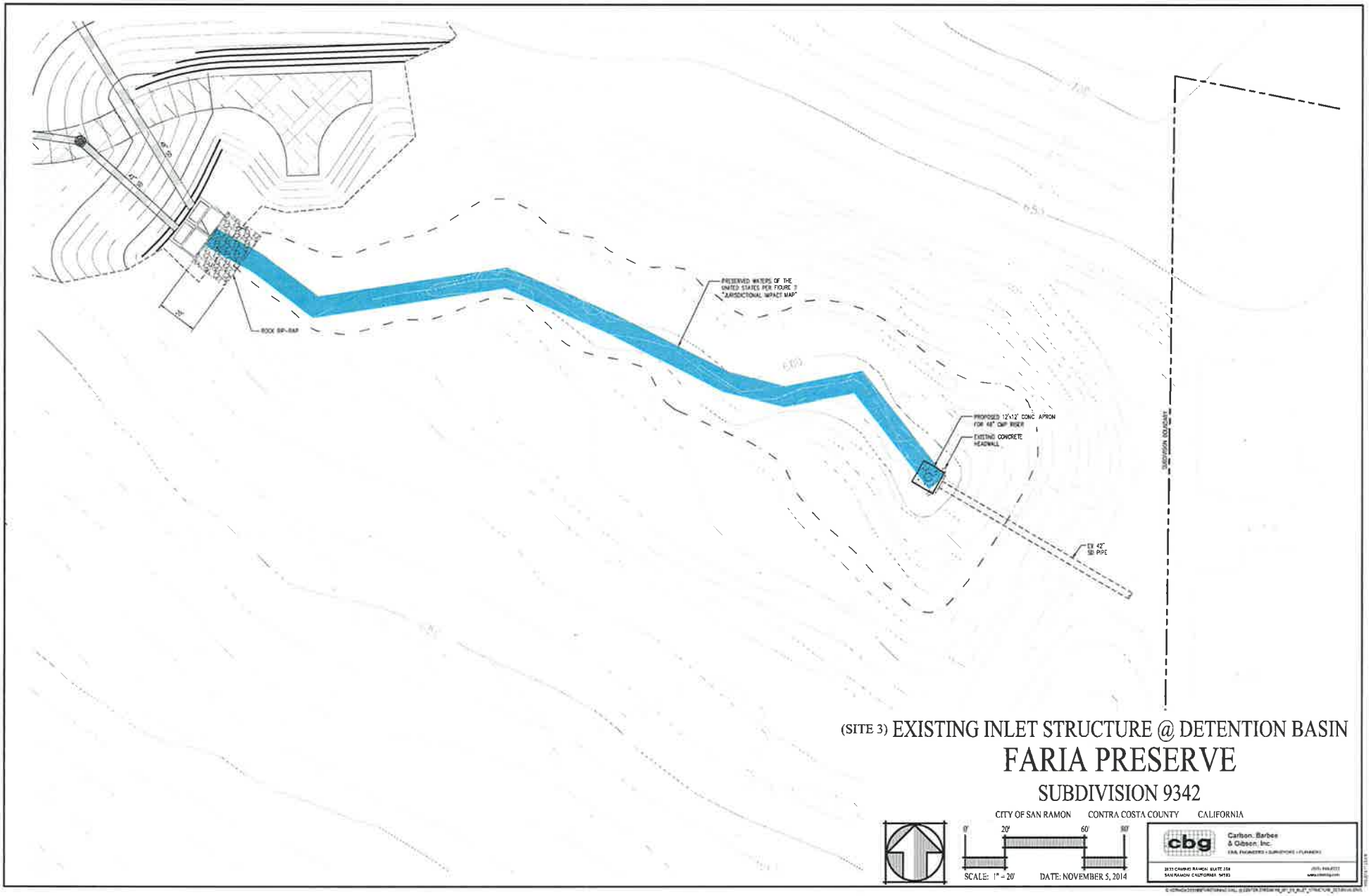
SAN RAMON, CALIFORNIA 94583


RETAINING WALL SPECIFICATIONS:
WALL LENGTH = 100'±
AVERAGE WALL HEIGHT = 5'±
EXPOSED FACE OF WALL = 500± SF
AREA (AREA WALL IS RETAINING)
ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST:
ESTIMATED COST=500 SF x $65/SF = $32,500±
ESTIMATED COST PER LF OF CREEK = $32,500/20 LF
=$1,625/LF OF CREEK
OFF-SITE CREEK MITIGATION COSTS:
ESTIMATED COST PER LF OF CREEK IS $800/LF
FEASIBLE
OLD LIMITS OF GRADING
20' REDUCTION OF CREEK IMPACT
15'±OF ROCK RIP-RAP
5' MAX RET WALL
PURDUE ROAD
BIORETENTION AREA
(SITE 2) RETAINING WALL @ EAST STREAM
FARIA PRESERVE
VTM SUBDIVISION 9342
CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA
0' 40' 120' 160'
SCALE: 1" = 40'
DATE: OCTOBER 29, 2014
cbg
Carlson, Barbee & Gibson, Inc.



(SITE 3) EXISTING INLET STRUCTURE @ DETENTION BASIN

FARIA PRESERVE

SUBDIVISION 9342

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 20' 60' 80'

SCALE: 1" = 20' DATE: NOVEMBER 5, 2014

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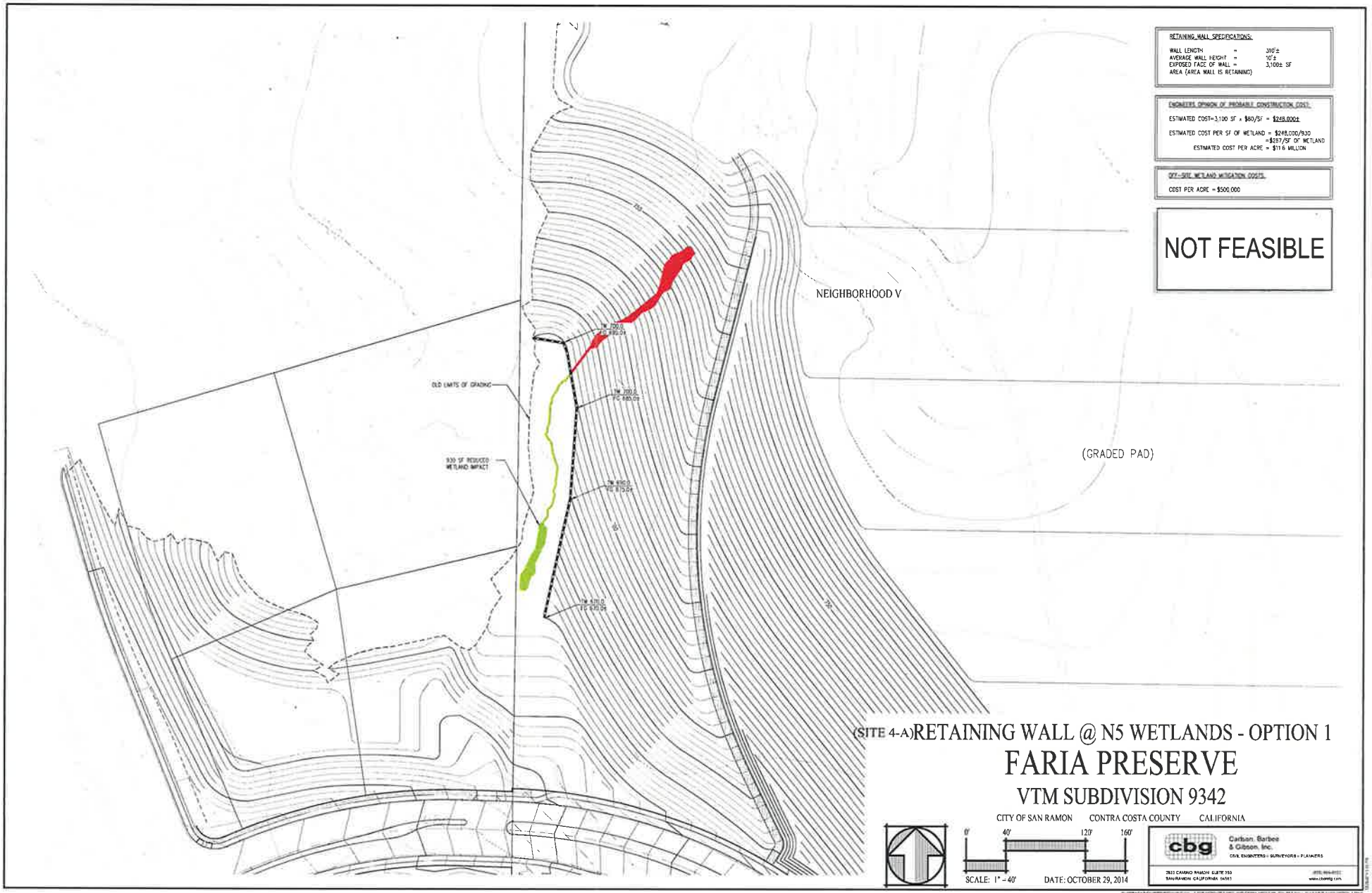

RETAINING WALL SPECIFICATIONS:

WALL LENGTH	=	310'±
AVERAGE WALL HEIGHT	=	10'±
EXPOSED FACE OF WALL = AREA (AREA WALL IS RETAINING)	=	3,100± SF

ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST:

ESTIMATED COST=3,100 SF x $80/SF = $248,000±

ESTIMATED COST PER SF OF WETLAND = $248,000/930
=$267/SF OF WETLAND

ESTIMATED COST PER ACRE = $11.6 MILLION

OFF-SITE WETLAND MITIGATION COSTS:

COST PER ACRE = $500,000

NOT FEASIBLE

(SITE 4-A)RETAINING WALL @ N5 WETLANDS - OPTION 1

FARIA PRESERVE

VTM SUBDIVISION 9342

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 40' 120' 160'

SCALE: 1" = 40' DATE: OCTOBER 29, 2014

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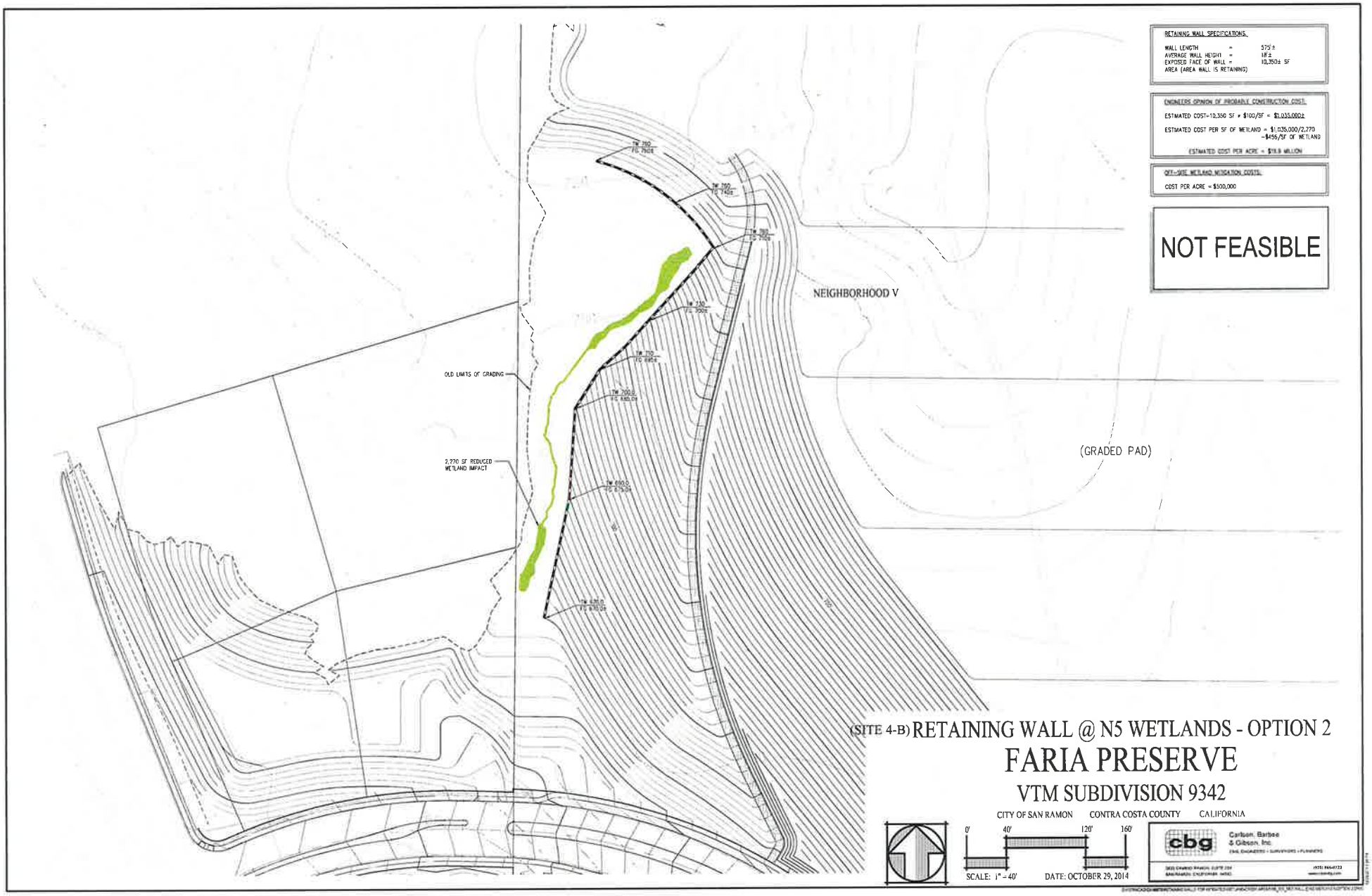
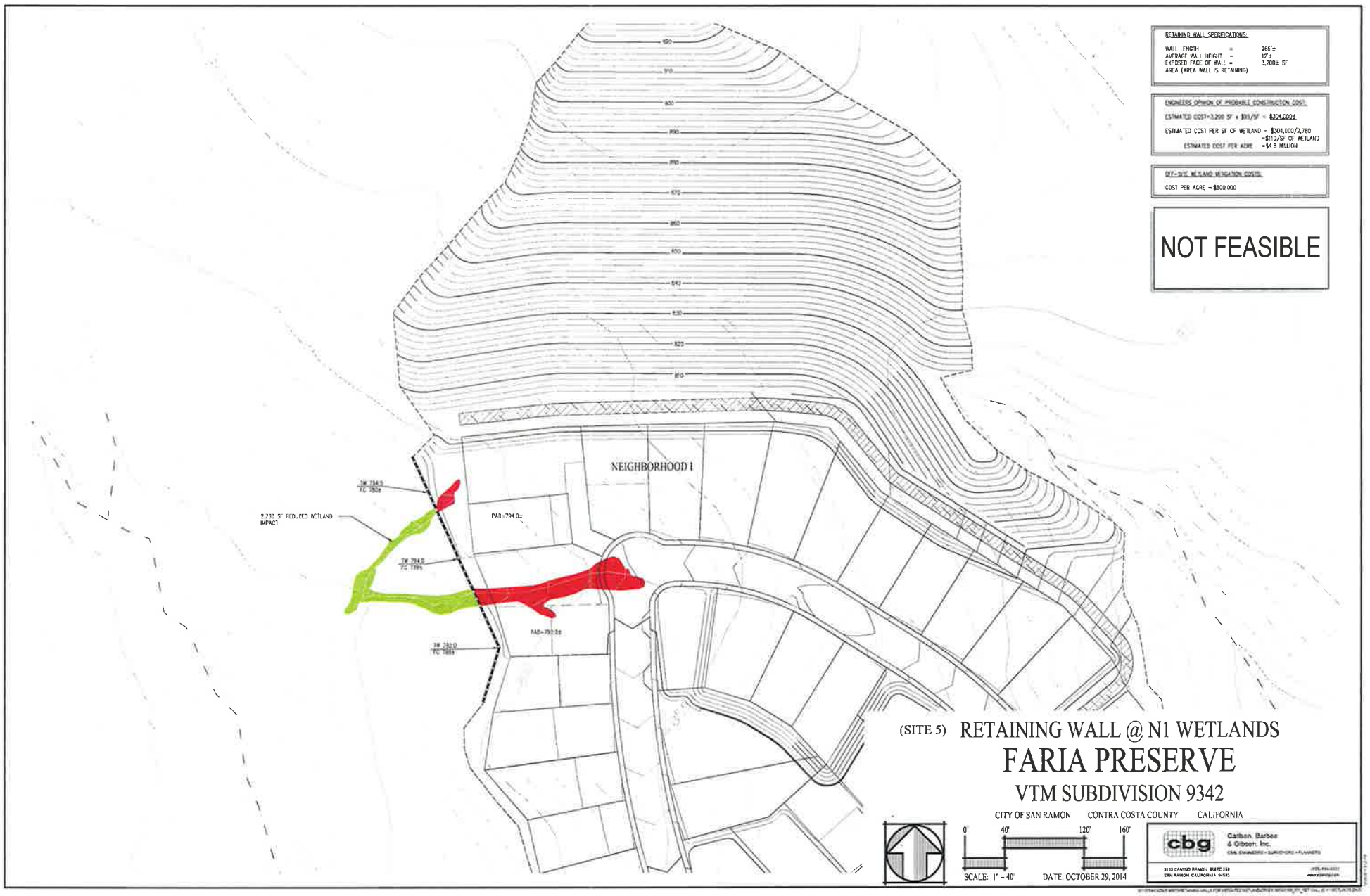

RETAINING WALL SPECIFICATIONS:
WALL LENGTH = 575±
AVERAGE WALL HEIGHT = 18±
EXPOSED FACE OF WALL = 10,350± SF
AREA (AREA WALL IS RETAINING)
ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST:
ESTIMATED COST=10,350 SF x $100/SF = $1,035,000±
ESTIMATED COST PER SF OF WETLAND = $1,035,000/2,270
=$456/SF OF WETLAND
ESTIMATED COST PER ACRE = $19.9 MILLION
OFF-SITE WETLAND MITIGATION COSTS:
COST PER ACRE = $500,000
NOT FEASIBLE
NEIGHBORHOOD V
(GRADED PAD)
OLD LIMITS OF GRADING
2,270 SF REDUCED WETLAND IMPACT
(SITE 4-B) RETAINING WALL @ N5 WETLANDS - OPTION 2
FARIA PRESERVE
VTM SUBDIVISION 9342
CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA
0' 40' 120' 160'
SCALE: 1" = 40'
DATE: OCTOBER 29, 2014
cbg
Carlson, Barbee & Gibson, Inc.



RETAINING WALL SPECIFICATIONS:

WALL LENGTH	=	266'±
AVERAGE WALL HEIGHT	=	12'±
EXPOSED FACE OF WALL = AREA (AREA WALL IS RETAINING)		3,200± SF

ENGINEERS OPINION OF PROBABLE CONSTRUCTION COST:

ESTIMATED COST=3,200 SF x $95/SF = $304,000±

ESTIMATED COST PER SF OF WETLAND = $304,000/2,780
=$110/SF OF WETLAND

ESTIMATED COST PER ACRE =$4.8 MILLION

OFF-SITE WETLAND MITIGATION COSTS:

COST PER ACRE = $500,000

NOT FEASIBLE

(SITE 5) RETAINING WALL @ N1 WETLANDS

FARIA PRESERVE

VTM SUBDIVISION 9342

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 40' 120' 160'

SCALE: 1" = 40' DATE: OCTOBER 29, 2014

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SAN RAMON, CALIFORNIA 94583

ATTACHMENT 3

ALTERNATIVE "F" NARRATIVE AND SUPPLEMENTAL EXHIBITS

Carlson, Barbee
& Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS

November 25, 2014

FARIA PRESERVE
RWQCB Incomplete Notice (dated August 8, 2014)
Alternative 6 Responses

I. Attachments:

a. Exhibit I – Enlarged Scale of Alternative 6 showing 10 foot grading contours, 15% street grade and section call outs.
b. Exhibit II – Bridge Profile showing extremely high bridge abutments.
c. Section A-A – Village C
d. Section B-B (1) – Typical street profile for Village B, showing building pads and required retaining walls at each property line.
e. Section B-B (2) – Typical street profile for Village B, showing building pads and required 3:1 slope.

II. Responses:

The following are responses to RWQCB "Incomplete Letter" dated August 8, 2014:

Comment A. "Prohibitively high abutments and wing walls for a bridge over central stream channel, and possibly elevation differences within building areas and road grades."

Response: *See attached Exhibit II:*

- *New bridge profile, depicts the high abutments required to build the bridge.*
- *The City conditions of approval do not allow the street grades to exceed 15% and therefore the road cannot get any lower than what is already shown in the profile.*
- *A 20% road grade can lower the road by roughly 40' but as stated above is not permitted for public streets.*

Comment B. "Documentation of the findings noted in CBG Memo."

Response: *See attachments a-e and responses below.*

Comment 1. "A larger scale map showing the civil grading scheme that was explored by CBG, and anticipated expanded grading area that would be required to address land instability."

Response: *See attached Exhibit II:*

Job No. 1378-090

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This exhibit is enlarged to 100 scale VS the 200 scale Alternative 6 drawing. Exhibit II shows the grading contours based on standard engineering practice, as described in the Memo, "Engineering Analysis of 2006 Alternative 6-Balanced Earthwork and Avoidance of the Central Drainage", dated 11/29/12.

Comment 2. "Anticipated contours for graded area should be provided and to the extent feasible, cross-sections of grading scheme for various villages, and estimated elevations for critical areas."

Response: *See attached Exhibit I:*

- *Exhibit I shows the generated contours for the grading of Villages A & B to achieve a balance and conform to the existing topography.*
- *The resultant usable area for Village A is 28 acres and 23 acres for Village B.*
- *Cross Sections A-A and B-B are provided in order to show critical areas of the grading, as described below. Estimated elevations are shown on these cross sections.*

Comment 3. "Concept drawing showing the differential that is referred to for Village B and Village C that would result in 15% grade on the roads, and across Village C. Are there any options for addressing this besides the use of retaining walls, such as an alternative grading plan."

Response: *See attached Exhibit I and Section A-A:*

- *At the northerly tip of Village B the cul-de-sac is at elevation 870 to conform to the existing topography and the existing elevation at Purdue Road is 600, with roughly 1,800 linear feet of street, which produces a street grade of 15%.*
- *There are no other alternate grading plans to reduce the 15% grade without the use of retaining walls.*
- *Section A-A shows the cross section through Village C. The site currently is on a 15%-33% existing ground slope. As shown in the cross section there are two alternatives to build a pad for Village C:*
    - *Alternative 1:*
        - *40' high retaining wall to create a 240' wide pad . The use of a 40' high retaining wall is not practical.*
    - *Alternative 2:*
        - *Grade a 3:1 slope to create a 140' wide pad. This alternative is not practical because the slope takes up 65% of the buildable parcel.*

Comment 4. "Conceptual drawing of retaining wall locations for Village B, to provide a general sense of the overall nature if the work."

Response: *See attached Cross-Sections B-B (1) and B-B(2):*

- *Section B-B (1) depicts the required retaining walls that would be necessary to construct a typical 70' wide lot along a 15% sloping street.*
    - *The high side of the pad (right side) matches street grade and therefore the opposite side (left side) will be minimum 10' higher than the adjacent lot pad elevation, requiring a 10' minimum high wall.*
- *Section B-B (2) depicts the 3:1 slope required to take up the difference in pad elevations between lots.*
    - *As described above the adjacent lots have a pad elevation differential of roughly 10' and therefore the 3:1 slope between the lots would be 35' wide including overbuild and setbacks. Therefore, 1/3 of the lots would be eliminated from Village B and would not be economically feasible.*

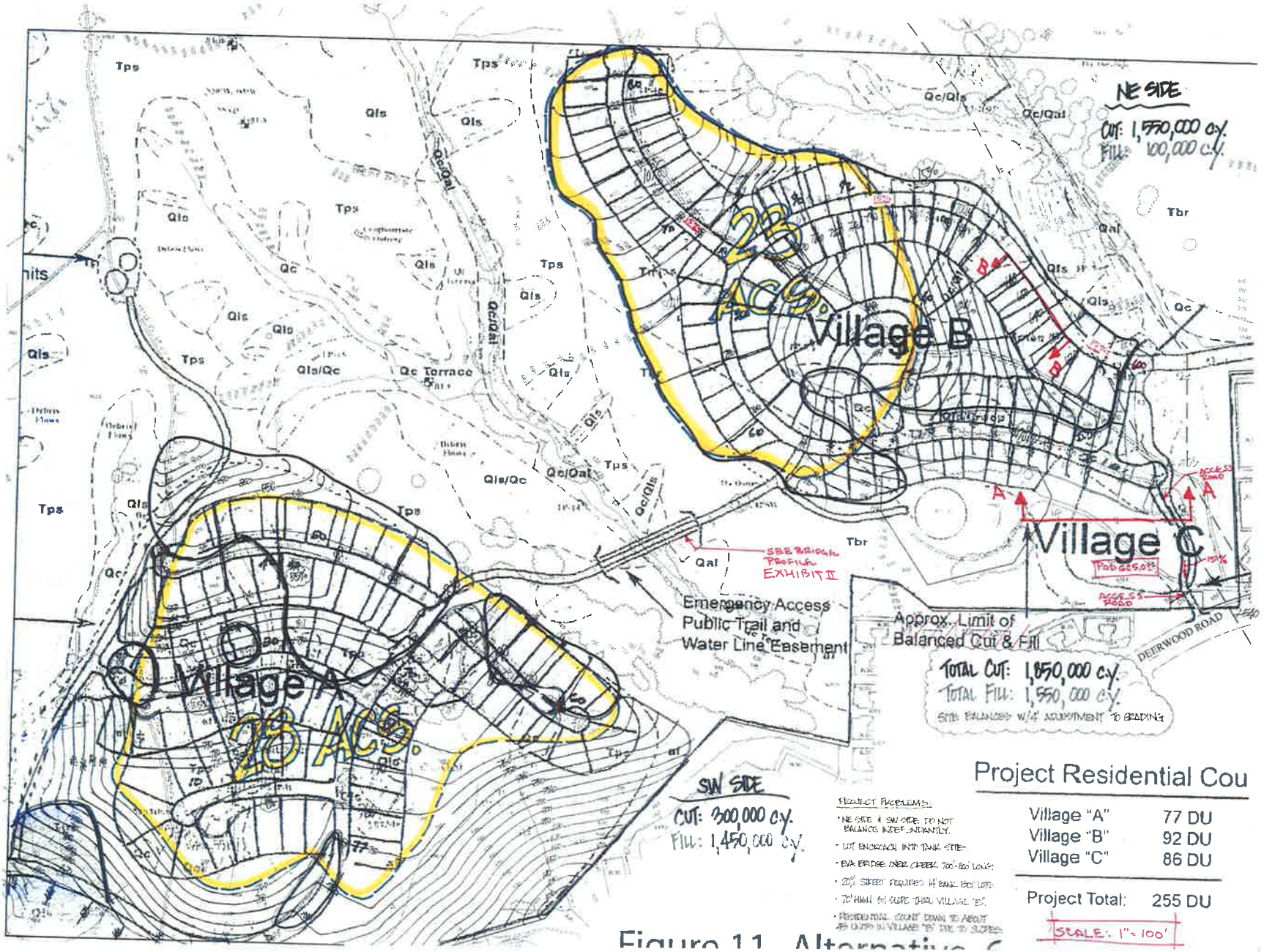


Figure 11 Alternative C

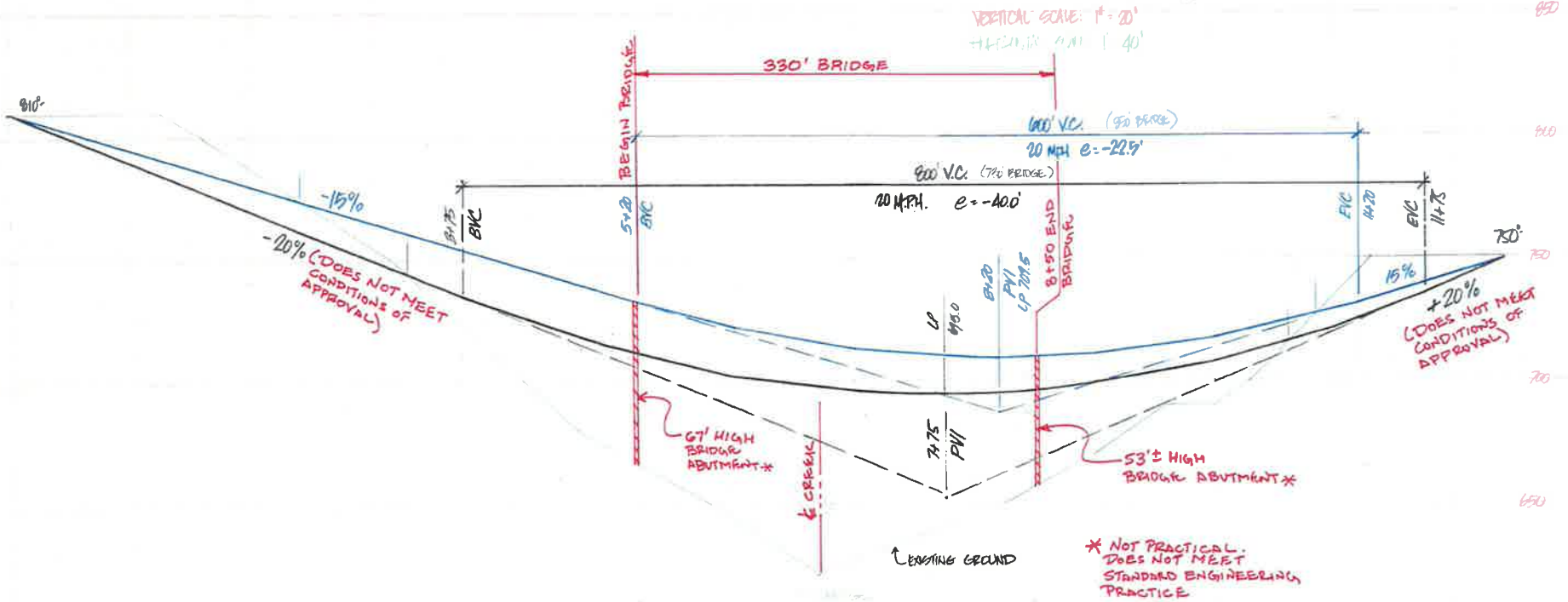
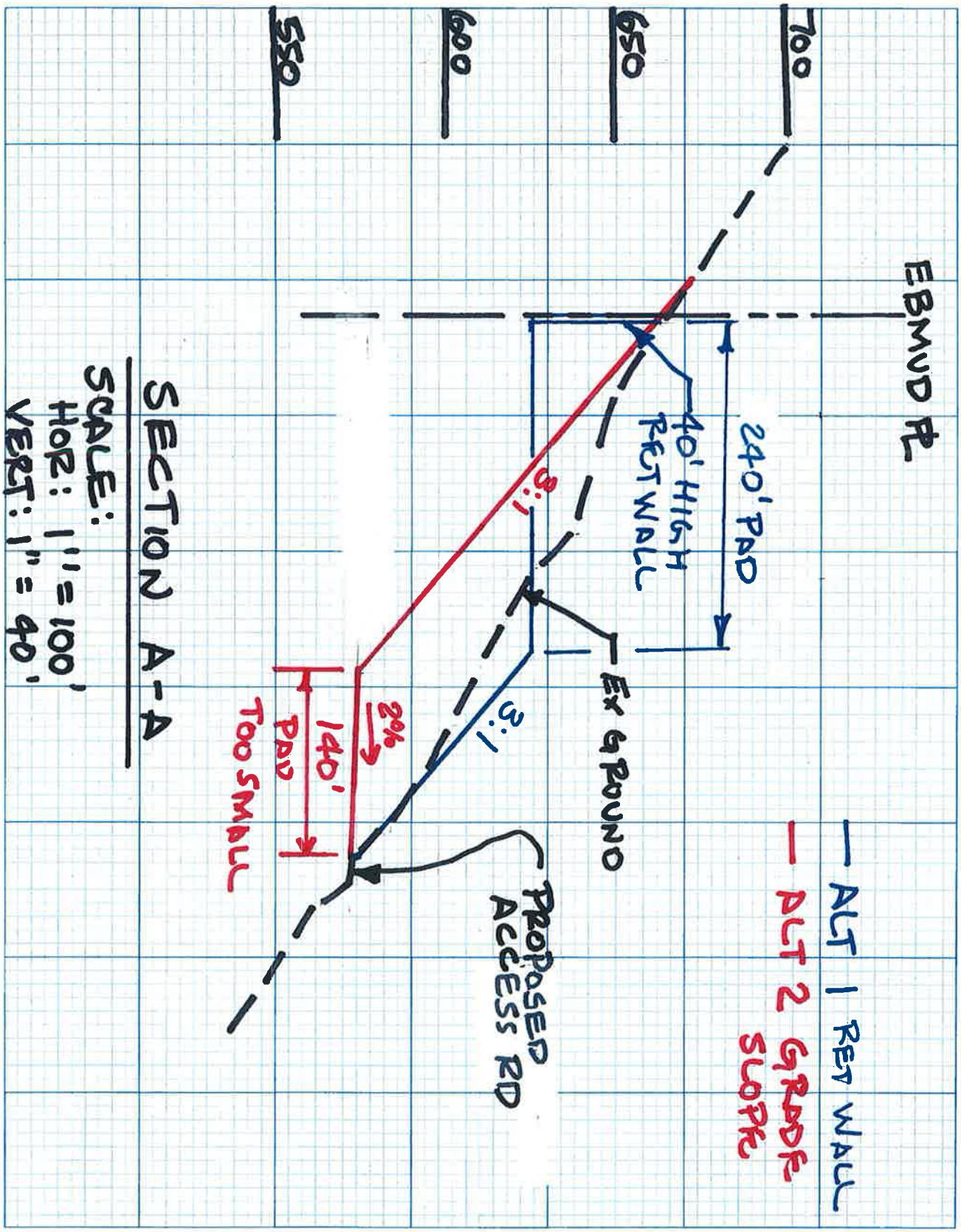


EXHIBIT II
BRIDGE PROFILE

Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS

Project: _____
Job #: _____
Date: _____
By: _____



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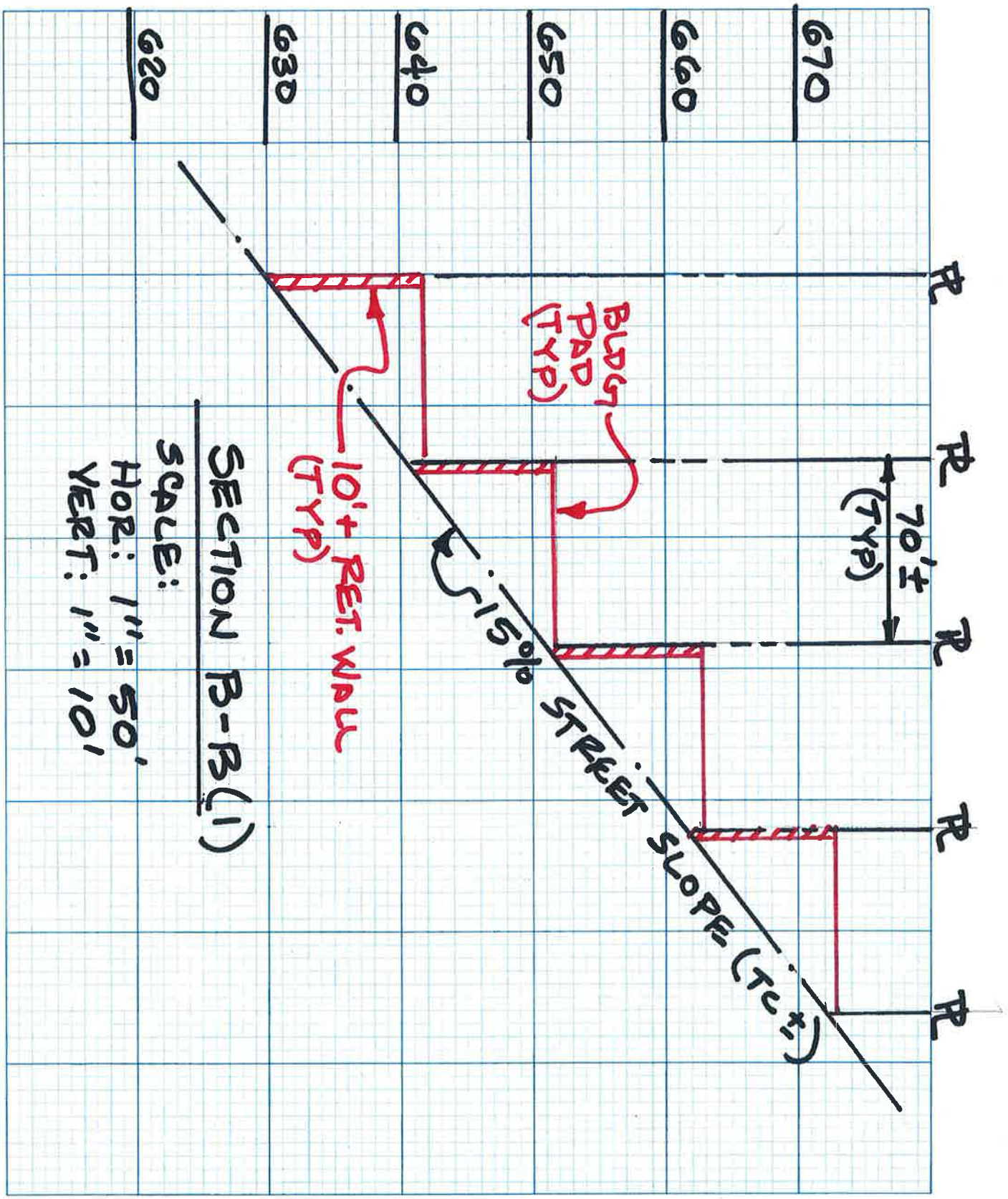
Project: _____
Job #: _____
Date: _____
By: _____



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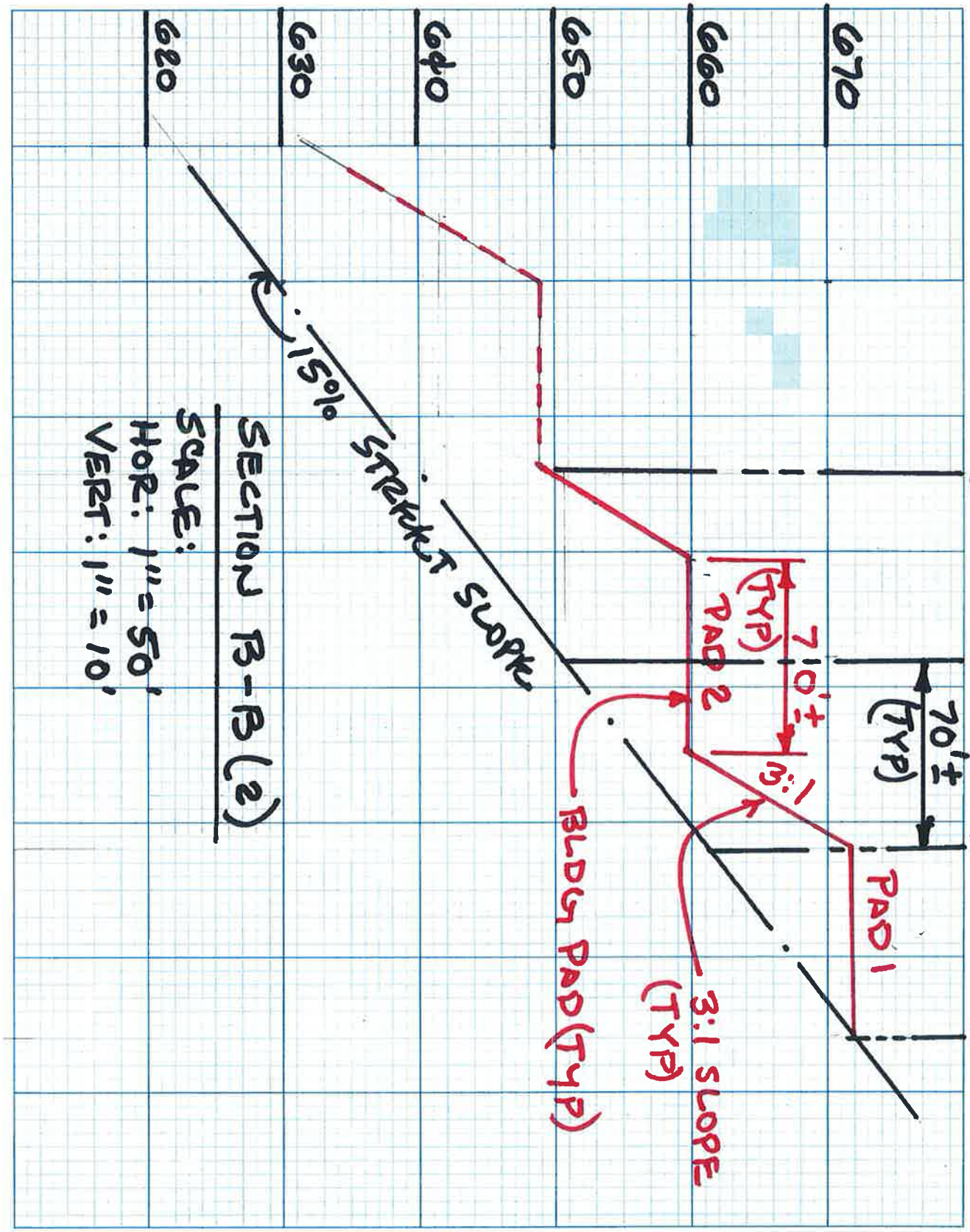
Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS

Project: _____
Job #: _____
Date: _____
By: _____



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ATTACHMENT 4

ALTERNATIVE "G" NARRATIVE AND SUPPLEMENTAL EXHIBITS

Carlson, Barbee & Gibson, Inc.
CIVIL ENGINEERS • SURVEYORS • PLANNERS

November 24, 2014

ALTERNATIVE 'G"
FARIA PRESERVE
LAND BRIDGE NARRATIVE

I. Introduction:

Regional Water Quality Control Board has requested that a study be done to reduce the fill north of Faria Preserve Parkway in order to reduce the impact to the existing central stream (creek). In order to do this, three (3) rows of houses and a residential street would need to be eliminated and this would reduce the creek impact by roughly 220 to 300 linear feet of creek. Refer to Exhibits I-A, I-B and Exhibit II.

The current approved Vesting Tentative Map (VTM) for this project has a balanced earthwork volume and is to remain balanced as a City condition of approval.

II. Summary (Current Tentative Map design):

Exhibit I-A:

Exhibit I-A shows the VTM grading for Neighborhoods 1 and 3. The green area is the area of study. The green area, as shown, will utilize roughly 1.175 million cubic yards (cys) of fill.

Exhibit I-B Option 1 (220' of creek preservation):

Exhibit I-B shows the reduced slope by eliminating 15 lots in Neighborhood 1 and 37 lots in Neighborhood 3 and the residential street between them. This alternative, to move the toe of slope roughly 220 +/- feet south allowing 220 linear feet of less impact to the creek. The fill volume for this area would reduce to 680,000 cys of fill and therefore requiring approximately 500,000 cys to be placed elsewhere on the project site, or find an area to reduce the cut by 500,000 cys. Option I X-sections N3-1, N3-2 and Option I Profile depict the difference in the fill areas.

Exhibit II (300' of creek preservation):

Exhibit II shows the reduced slope by eliminating 23 lots in Neighborhood 1 and 37 lots in Neighborhood 3 and the residential street between them. This alternative, to move the toe of slope roughly 300 +/- feet south allowing 300 linear feet of less impact to the creek. The fill volume for this area would reduce to 500,000 cys of fill and therefore requiring approximately 675,000 cys to be placed elsewhere on the project site, or find an area to reduce the cut by 578,000 cys. Option II X-sections N3-1, N3-2 and Option II Profile depict the difference in the fill areas.

Exhibit III-A & B (Reduction in cut area):

Job No. 1378-090

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Exhibit III-A & B is located at the northern tip of Neighborhood 1 and is a cut area. The cut volume for this area is roughly 400,000 cys, which would not be enough to offset the loss of fill area. This reduction in cut area results in a loss of an additional 31 Neighborhood I lots. Additional minor grading adjustments would be required to achieve the additional reduction in cut. Therefore any reduction in fill to minimize the creek impacts would require an equal decrease in cut at some other location within the project site. Exhibit III Cut Section depicts the difference in the cut areas.

III. Additional Design Alternatives:

The surplus fill (500,000-675,000 cys) could be placed onto Neighborhood V or within the sports park. This would require raising Neighborhood V by 25-35 +/- feet or split the difference between Neighborhood V and the sports park and raise them both by roughly 15-25 feet. Both of these scenarios are not feasible because the reduced buildable areas, due to raising the pads, would not allow the required buildings in Neighborhood V and the required facilities in the sports park to be built.

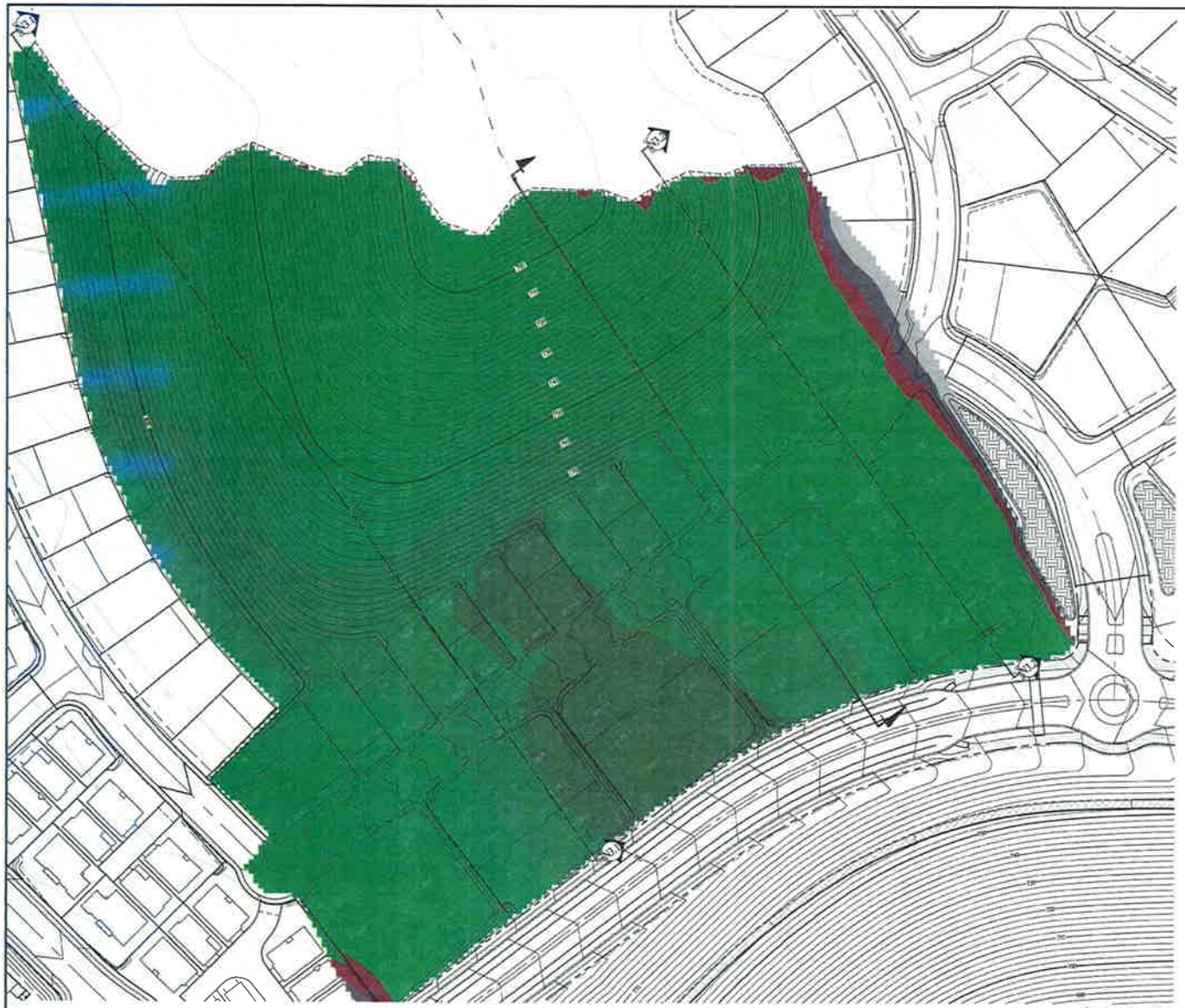
IV. Conclusion:

The only viable option is to reduce the cut in Neighborhood 1, as shown in Exhibit III-B, and balance the remaining surplus between Neighborhood V and the Sports Park.

The combined project impact will be the following:

Exhibit I-B Option 1: Preserve 220' of creek and eliminate 83 lots total.
Exhibit II Option 2: Preserve 300' of creek and eliminate 91 Lots total.

Therefore the elimination of fill for the preservation of 220-300 +/- linear of creek is not feasible.



ELEVATIONS TABLE

NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	AREA (AC)	COLOR
1	-25.00	-20.00	0.0±	
2	-20.00	-15.00	0.0±	
3	-15.00	-10.00	0.1±	
4	-10.00	-5.00	0.1±	
5	-5.00	0.00	0.2±	
6	0.00	5.00	0.3±	
7	5.00	10.00	0.6±	
8	10.00	15.00	0.8±	
9	15.00	20.00	0.8±	
10	20.00	25.00	0.7±	
11	25.00	30.00	0.6±	
12	30.00	35.00	0.5±	
13	35.00	40.00	0.5±	
14	40.00	45.00	0.4±	
15	45.00	50.00	0.4±	
16	50.00	55.00	0.4±	
17	55.00	60.00	0.4±	
18	60.00	65.00	0.4±	
19	65.00	70.00	0.5±	
20	70.00	75.00	0.5±	
21	75.00	80.00	0.5±	
22	80.00	85.00	0.6±	
23	85.00	90.00	0.7±	
24	90.00	95.00	0.7±	
25	95.00	100.00	0.4±	
26	100.00	105.00	0.3±	
27	105.00	110.00	0.4±	
28	110.00	115.00	0.4±	
29	115.00	120.00	0.5±	
30	120.00	125.00	0.1±	
31	125.00	130.00	0.1±	
32	130.00	135.00	0.0±	
33	135.00	140.00	0.0±	

VOLUME:

FILL VOLUME 1,175,000 CYS

EXHIBIT I-A

FARIA PRESERVE

NEIGBORHOOD III

EARTHWORK VOLUME EXHIBIT

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 50' 150' 200'

SCALE: 1" = 50' DATE: NOV 11, 2014

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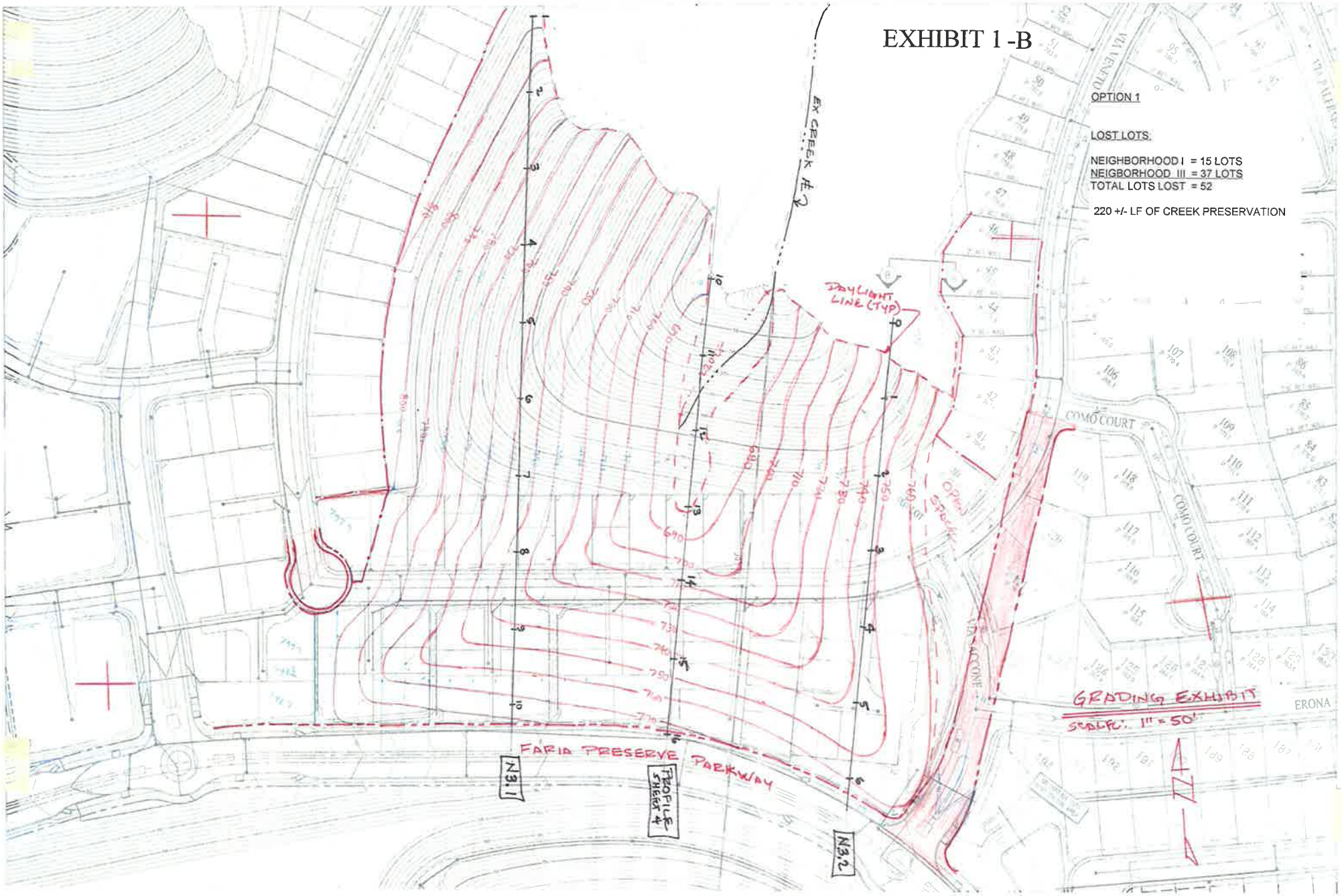
EXHIBIT 1 -B



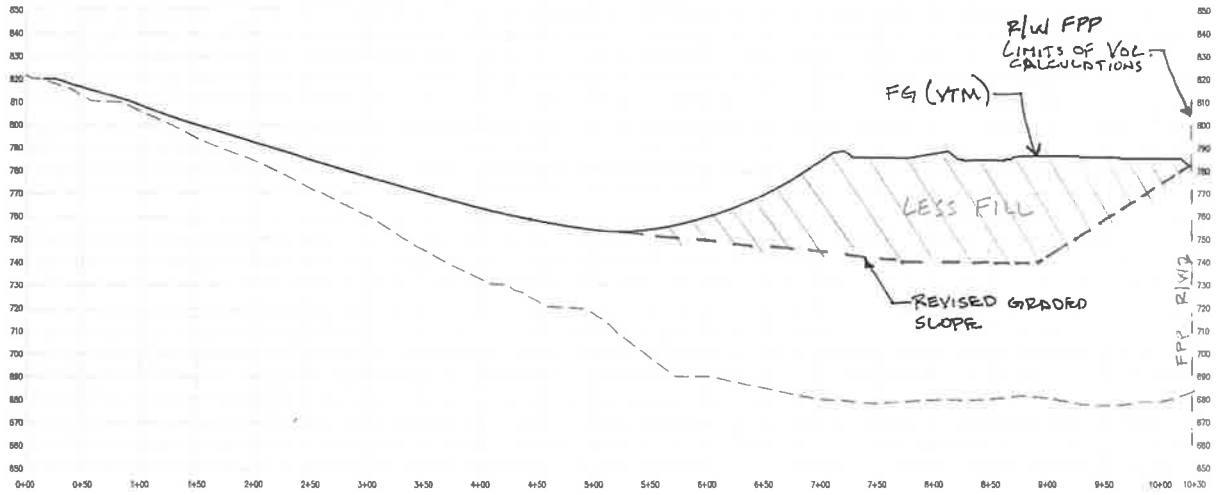
OPTION 1

LOST LOTS

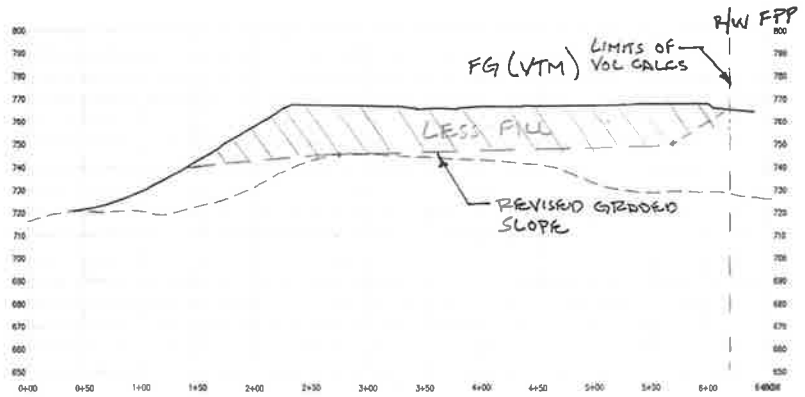
NEIGHBORHOOD I = 15 LOTS
NEIGBORHOOD III = 37 LOTS
TOTAL LOTS LOST = 52

220 +/- LF OF CREEK PRESERVATION

OPTION I



N3-1
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 25'



N3-2
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 26'

FARIA PRESERVE
NEIGBORHOOD I
EARTHWORK VOLUME EXHIBIT

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 50' 150' 200'
SCALE: 1" = 50'

DATE: NOV 11, 2014

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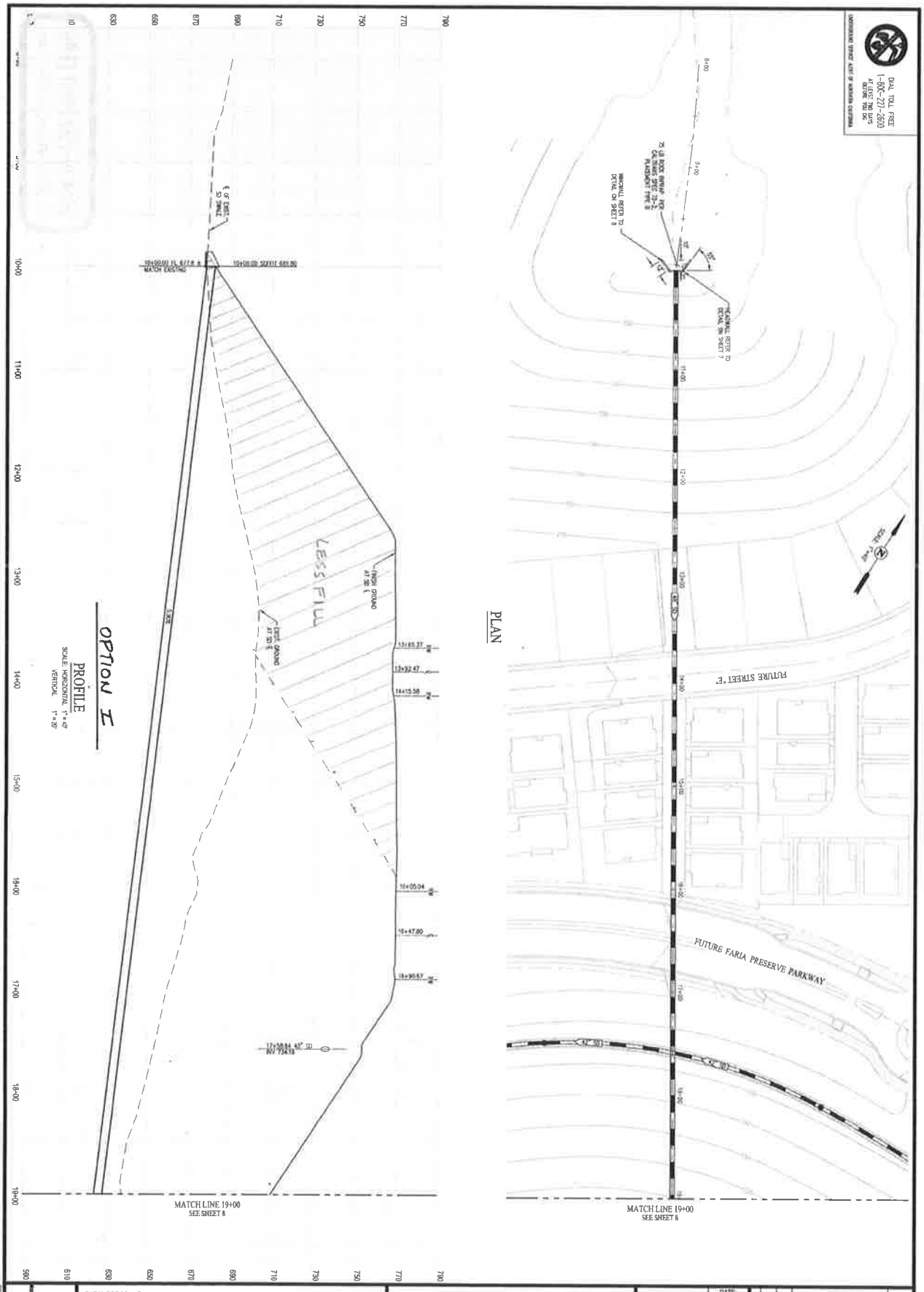

FARIA PRESERVE — SUBDIVISION 9342

STORM DRAIN CENTER STREAM

IMPROVEMENT PLAN & PROFILE

CITY OF SAN RAMON — CALIFORNIA

Carlson, Barbee & Gibson, Inc.
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925-866-0322
www.cbandg.com

DATE: OCT. 22, 2014
DRAWN BY: BF
PROJ. ENGR.: PNB
PROJ. MGR.: LR

NO. | BY | DATE | REVISIONS

JOB NUMBER 1378-090
SHEET NUMBER 4 OF 9

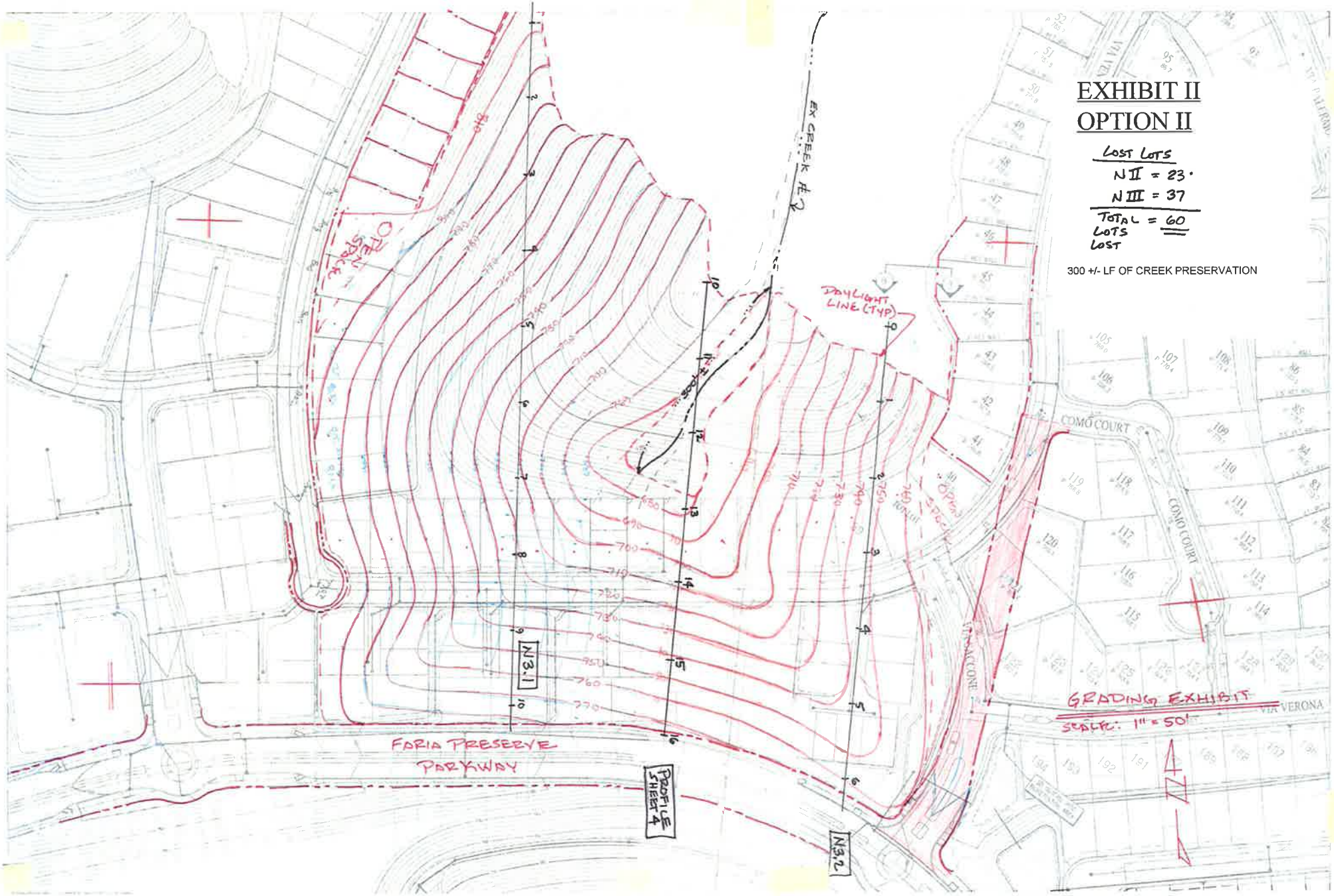
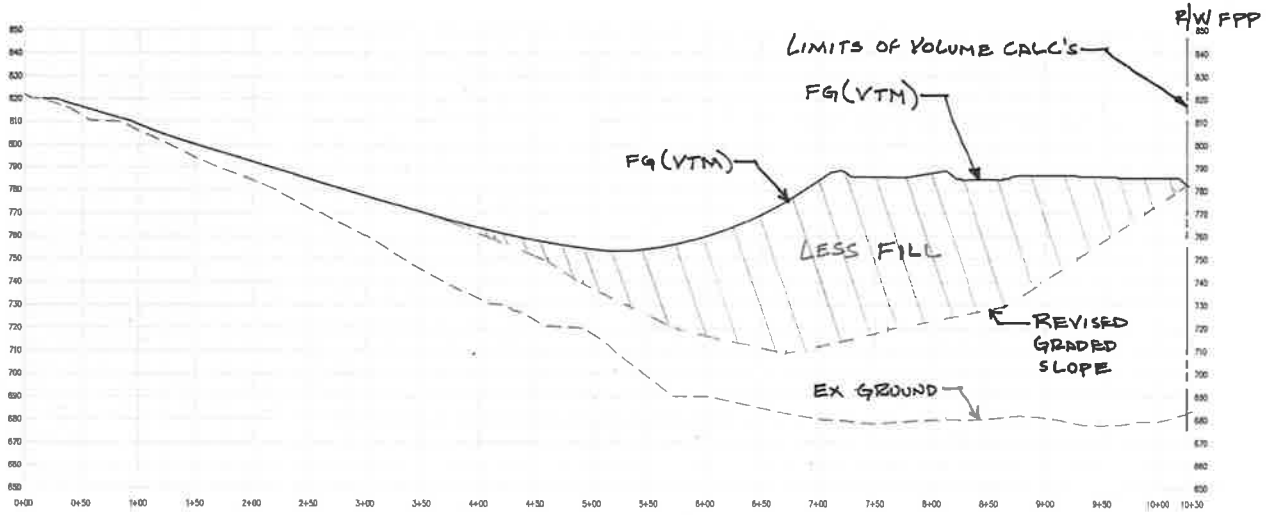


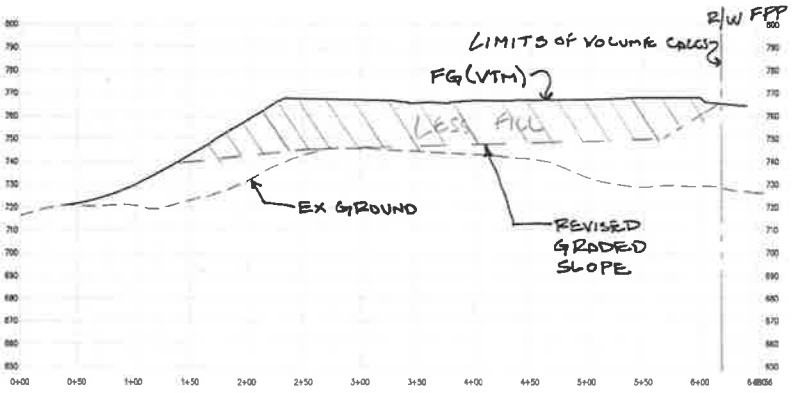
EXHIBIT II
OPTION II
LOST LOTS
NII = 23
NIII = 37
TOTAL LOTS LOST = 60
300 +/- LF OF CREEK PRESERVATION
EX CREEK
DAYLIGHT LINE (TYP)
COMO COURT
VIA VERONA
FORIA PRESERVE PARKWAY
PROFILE SHEET 4
N3.1
N3.2
GRADING EXHIBIT
SCALE: 1" = 50'



N3-1

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 25'

OPTION II



N3-2

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 25'

FARIA PRESERVE

NEIGBORHOOD I

EARTHWORK VOLUME EXHIBIT

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 50' 150' 200'

SCALE: 1" = 50'

DATE: NOV 11, 2014

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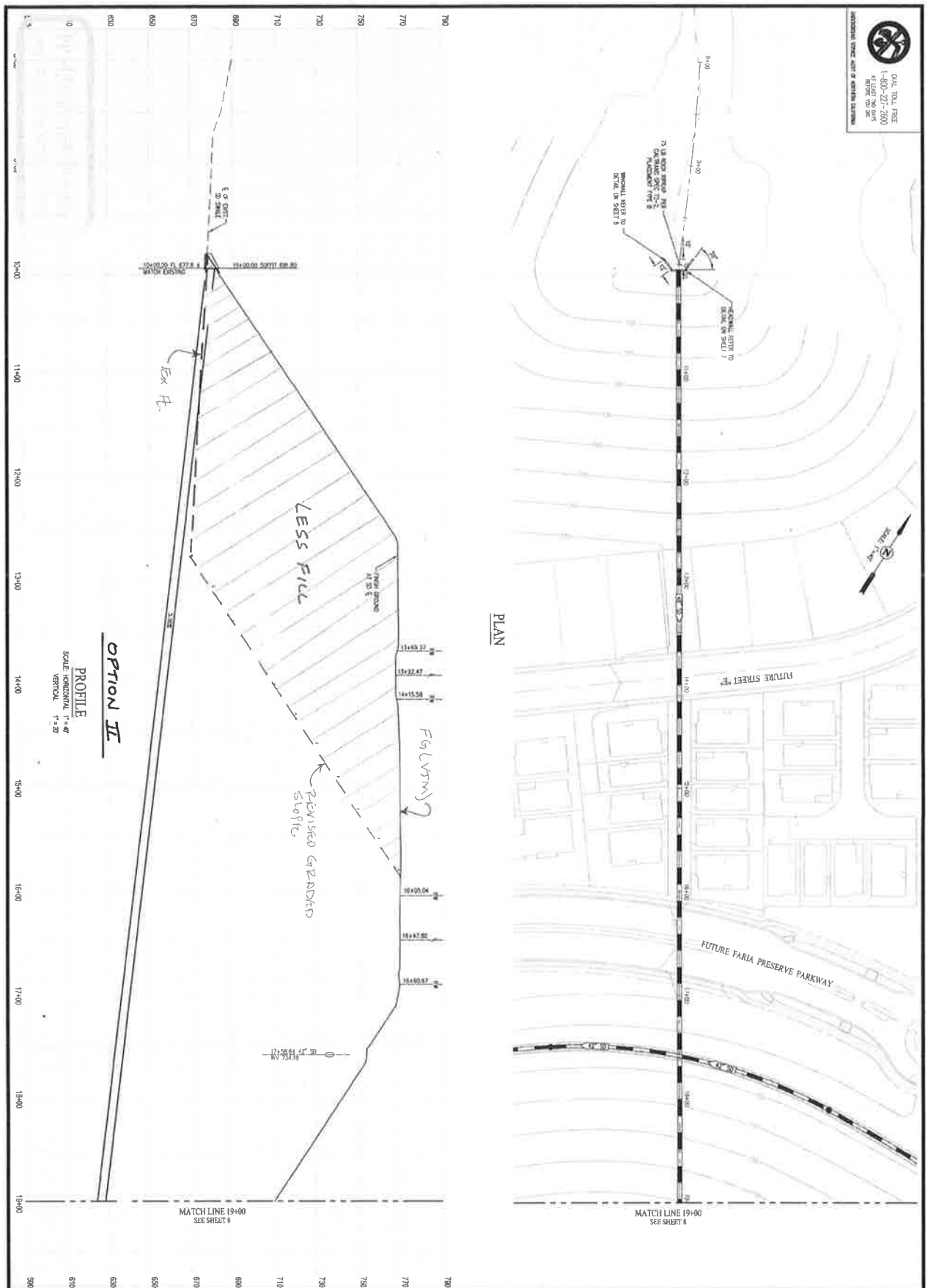

FARIA PRESERVE — SUBDIVISION 9342

STORM DRAIN CENTER STREAM

IMPROVEMENT PLAN & PROFILE

CITY OF SAN RAMON — CALIFORNIA

SHEET NUMBER 4 OF 9

JOB NUMBER 1378-090

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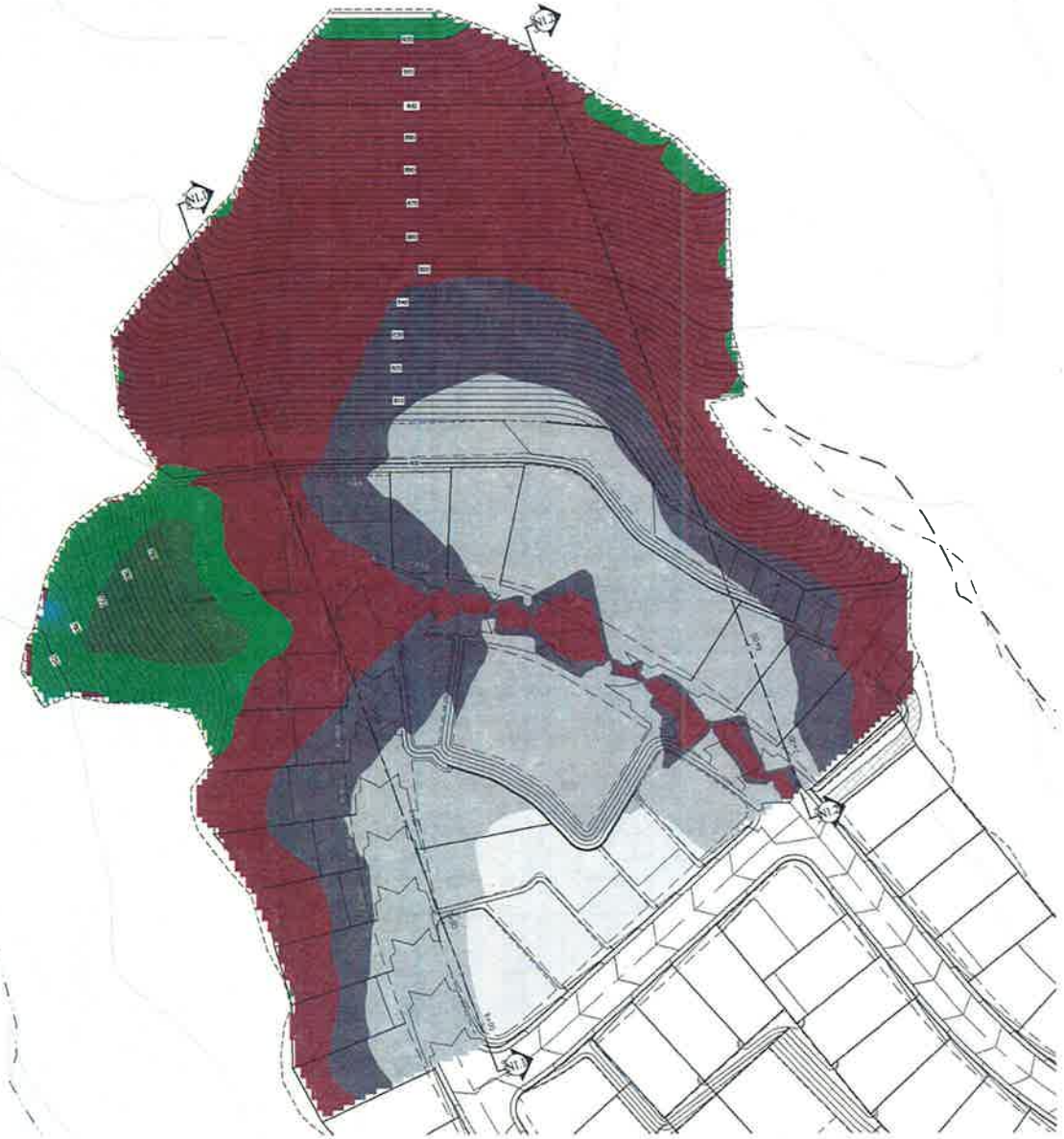
DATE: OCT. 22, 2014
DRAWN BY: BF
PROJ. ENGR: PNB
PROJ. MGR: LR

NO.	BY	DATE	REVISIONS	APP'D



ELEVATIONS TABLE				
NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	AREA (AC)	COLOR
1	-110.00	-100.00	0.3±	
2	-100.00	-90.00	0.3±	
3	-90.00	-80.00	0.4±	
4	-80.00	-70.00	0.5±	
5	-70.00	-60.00	1.0±	
6	-60.00	-50.00	1.0±	
7	-50.00	-40.00	0.9±	
8	-40.00	-30.00	1.0±	
9	-30.00	-20.00	1.4±	
10	-20.00	-10.00	1.8±	
11	-10.00	0.00	1.7±	
12	0.00	10.00	0.7±	
13	10.00	20.00	0.3±	

VOLUME:

CUT VOLUME 625,000 CYS

EXHIBIT III-A

FARIA PRESERVE

NEIGBORHOOD I

EARTHWORK VOLUME EXHIBIT

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 50' 150' 200'

SCALE: 1" = 50'

DATE: NOV 11, 2014

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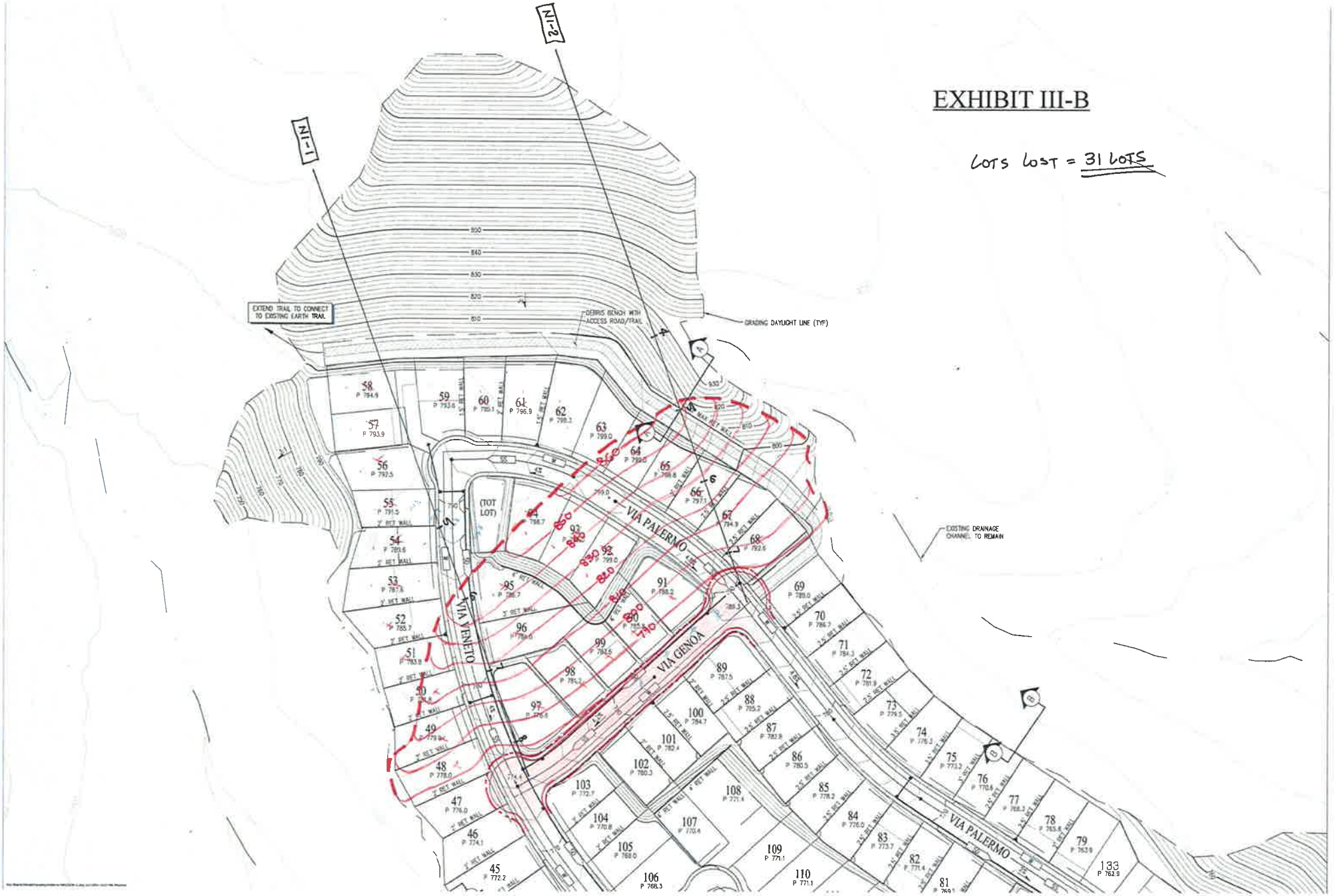
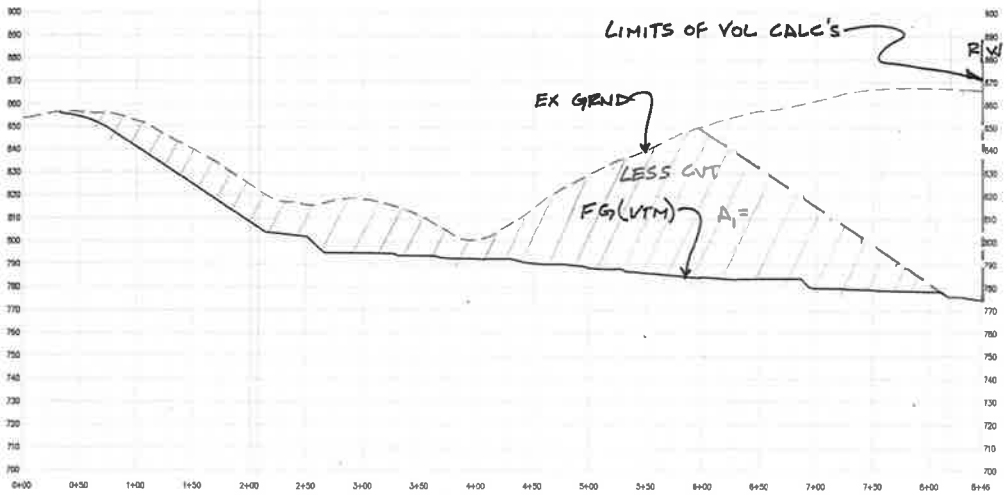
EXHIBIT III-B

LOTS LOST = 31 LOTS





N1-1

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 25'

N1-2

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 25'

EXHIBIT III
CUT SECTION

FARIA PRESERVE

NEIGBORHOOD I

EARTHWORK VOLUME EXHIBIT

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 50' 150' 200'

SCALE: 1" = 50'

DATE: NOV 11, 2014

cbg
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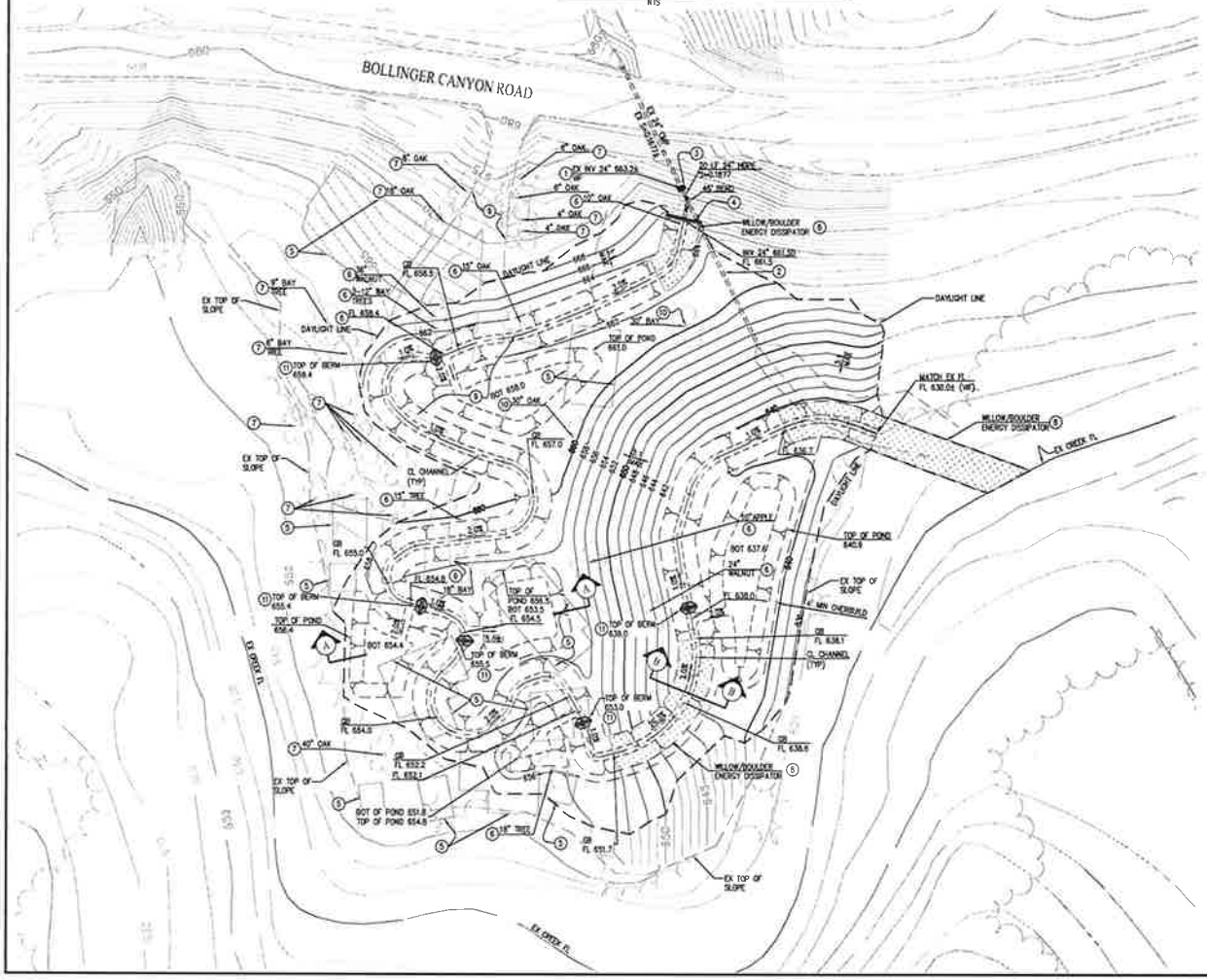
ATTACHMENT 5

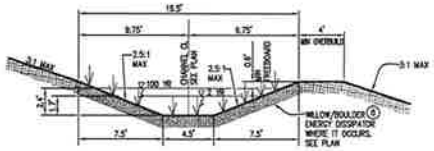
MITIGATION PROPOSAL

Attachment 5A

Bollinger Canyon Mitigation Area Preliminary Grading Plan and Illustrative Plan

SECTION A-A
CHANNEL/WETLAND CROSS SECTION
NTS





SECTION B-B
CHANNEL CROSS SECTION
NTS

CONSTRUCTION NOTES:

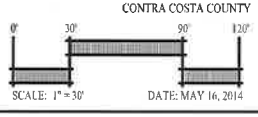
1. CONTRACTOR TO POTHOLE EXISTING STORM DRAIN PIPE TO VERIFY LOCATION AND INVERT PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO CUT AND REMOVE EXISTING STORM DRAIN PIPE. BACKFILL VOID PER GEOTECH RECOMMENDATIONS.
3. INSTALL CONCRETE COLLAR.
4. INSTALL CONCRETE HEADWALL, DESIGN BY OTHERS.
5. DEMOLISH EXISTING STRUCTURE.
6. REMOVE EXISTING TREE.
7. EXISTING TREE PROTECT IN PLACE.
8. PLANT WILLOWS WITHIN 1 TON BOULDERS TO ACT AS ENERGY DISSIPATOR.
9. DEMOLISH EXISTING AC PAVEMENT.
10. INSTALL REDWOOD RETAINING WALLS TO PROTECT EXISTING TREES.
11. 1' HIGH MAX BERM FOR BACKWATER FLOW INTO WETLAND PONDS. BERMS TO BE PLACED JUST DOWN STREAM OF WETLAND POND INLET.

CONCEPTUAL MITIGATION PLAN

PRELIMINARY GRADING PLAN

THE FARIA PRESERVE

CONTRA COSTA COUNTY CALIFORNIA



SCALE: 1" = 30'

DATE: MAY 16, 2014

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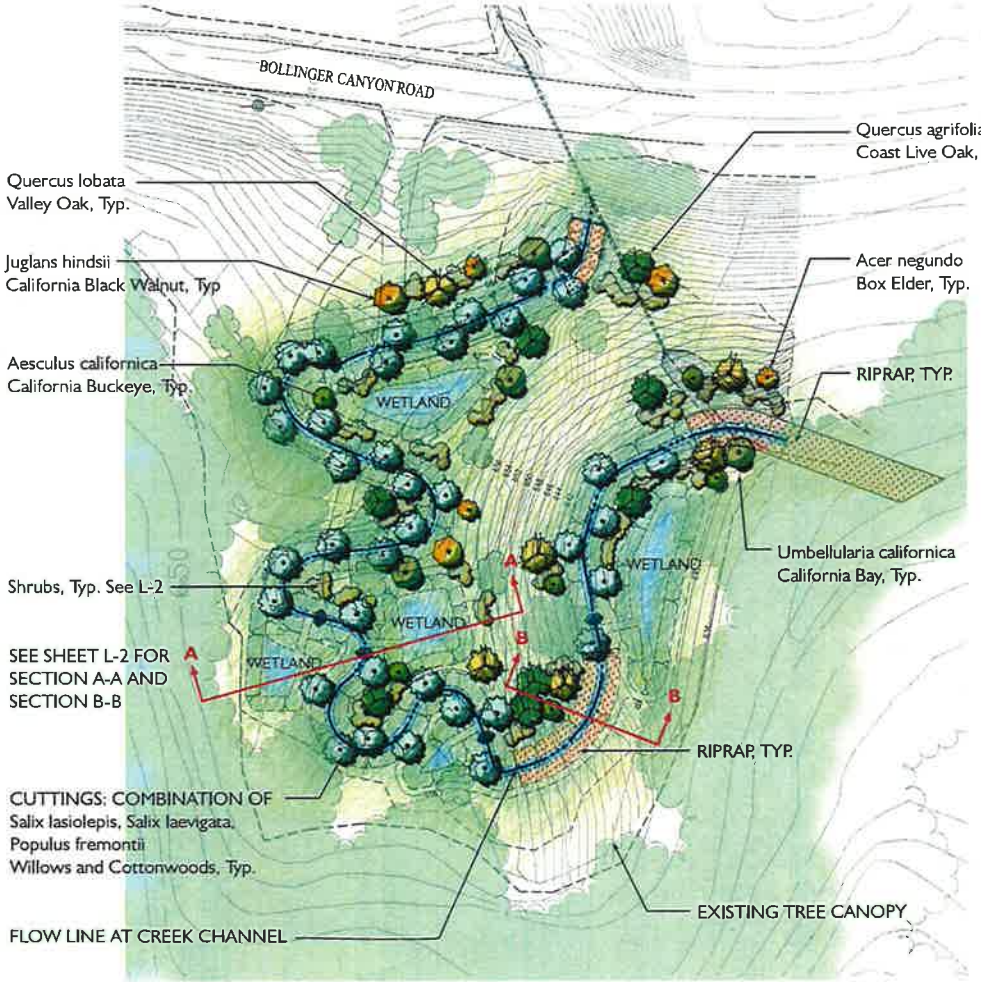
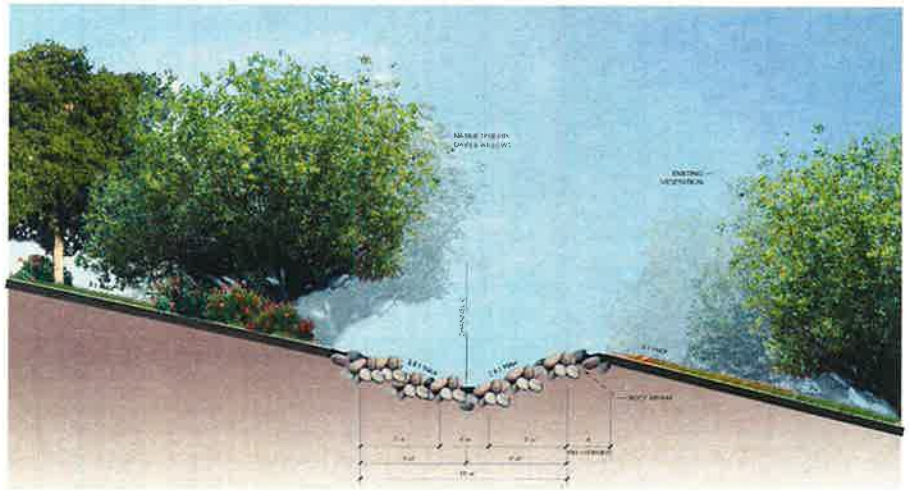


TREE LEGEND

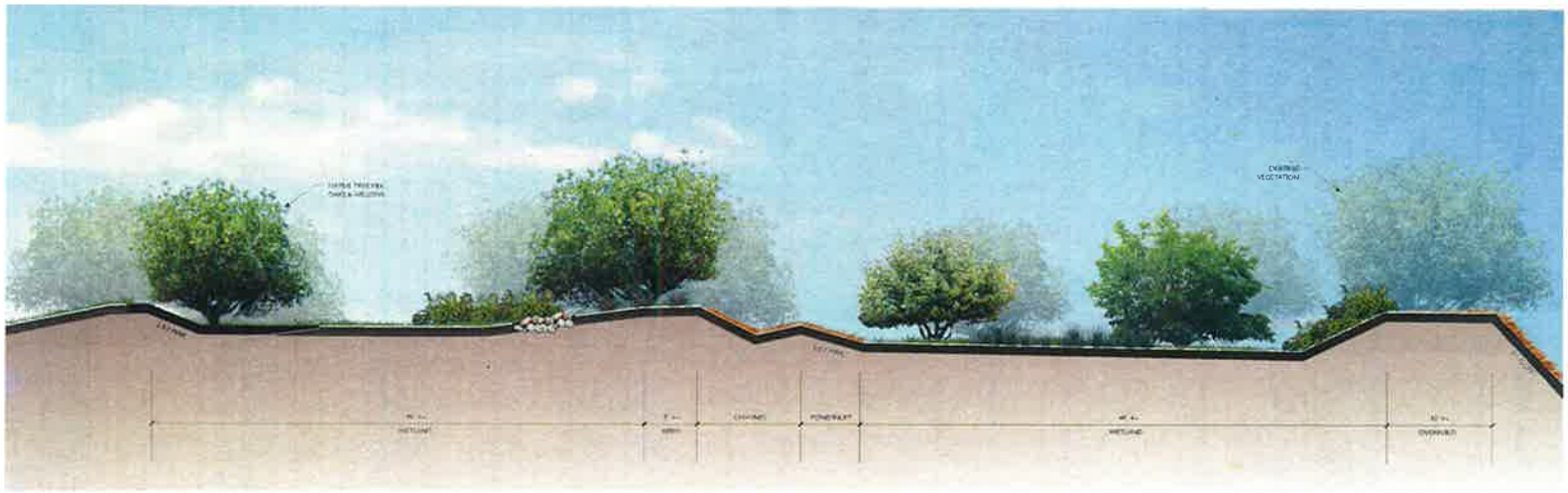
SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY
	Acer negundo	Box Elder	treepot 4	3
	Aesculus californica	California Buckeye	treepot 4	5
	Junglans hindsii	California Black Walnut	15-gal, treepot 4	3
	Quercus agrifolia	Coast Live Oak	15-gal, treepot 4	8
	Quercus lobata	Valley Oak	15-gal, treepot 4	6
	Cuttings: Combination of *Salix lasiolepis, Salix laevigata, Populus fremontii*	Willow and Cottonwood	cuttings	38
	Umbellularia californica	California Bay	treepot 4	4
			TOTAL QUANTITY:	**67**

NOTE:
1. Construction schedule: June 15 to October 31.
2. Field adjust planting per biologist's direction.
3. Cuttings for willows and cottonwood are 3-5 per each symbol indicated.

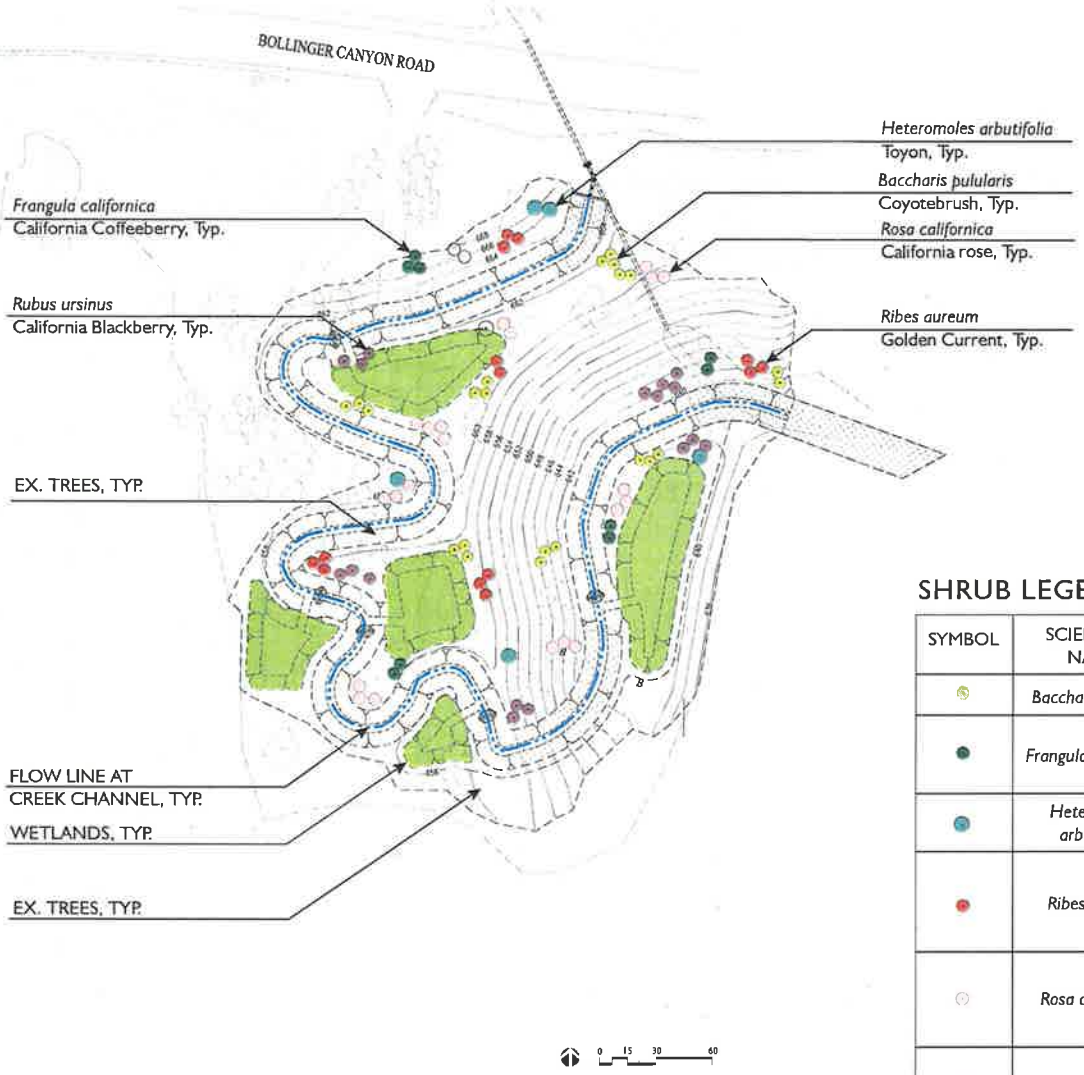
0 15 30 60Ft



SECTION B-B
CHANNEL CROSS SECTION



SECTION A-A
CHANNEL / WETLAND CROSS SECTION



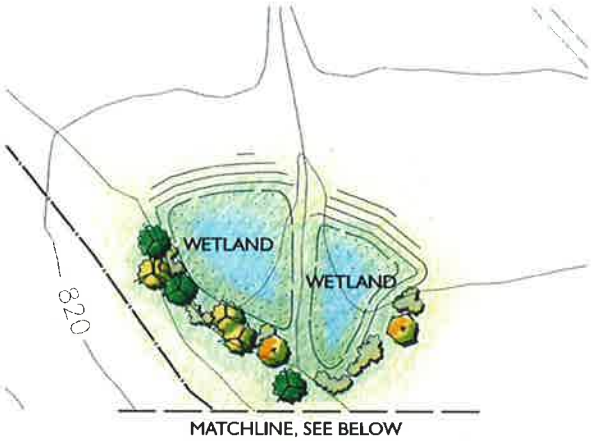
SHRUB LEGEND

SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY	PLANTING NOTES
	Baccharis pilularis	Coyote Brush	1 gallon	22	Individuals (6' O.C.)
	Frangula californica	California Coffeeberry	treepot 4	27	Individuals and clumps of 3 (3' OC) Note: Each symbol stands for (3) 1-gallon plants.
	Heteromoles arbutifolia	Toyon	treepot 4	5	Individuals (8' OC)
	Ribes aureum	Golden Currant	1 gallon	42	Close to channel. Individals and clumps of 3 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
	Rosa californica	California Rose	1 gallon	63	Individuals and clumps of 3 to 5 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
	Rubus ursinus	California blackberry	1 gallon	51	Individuals and clumps of 3 to 5 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.

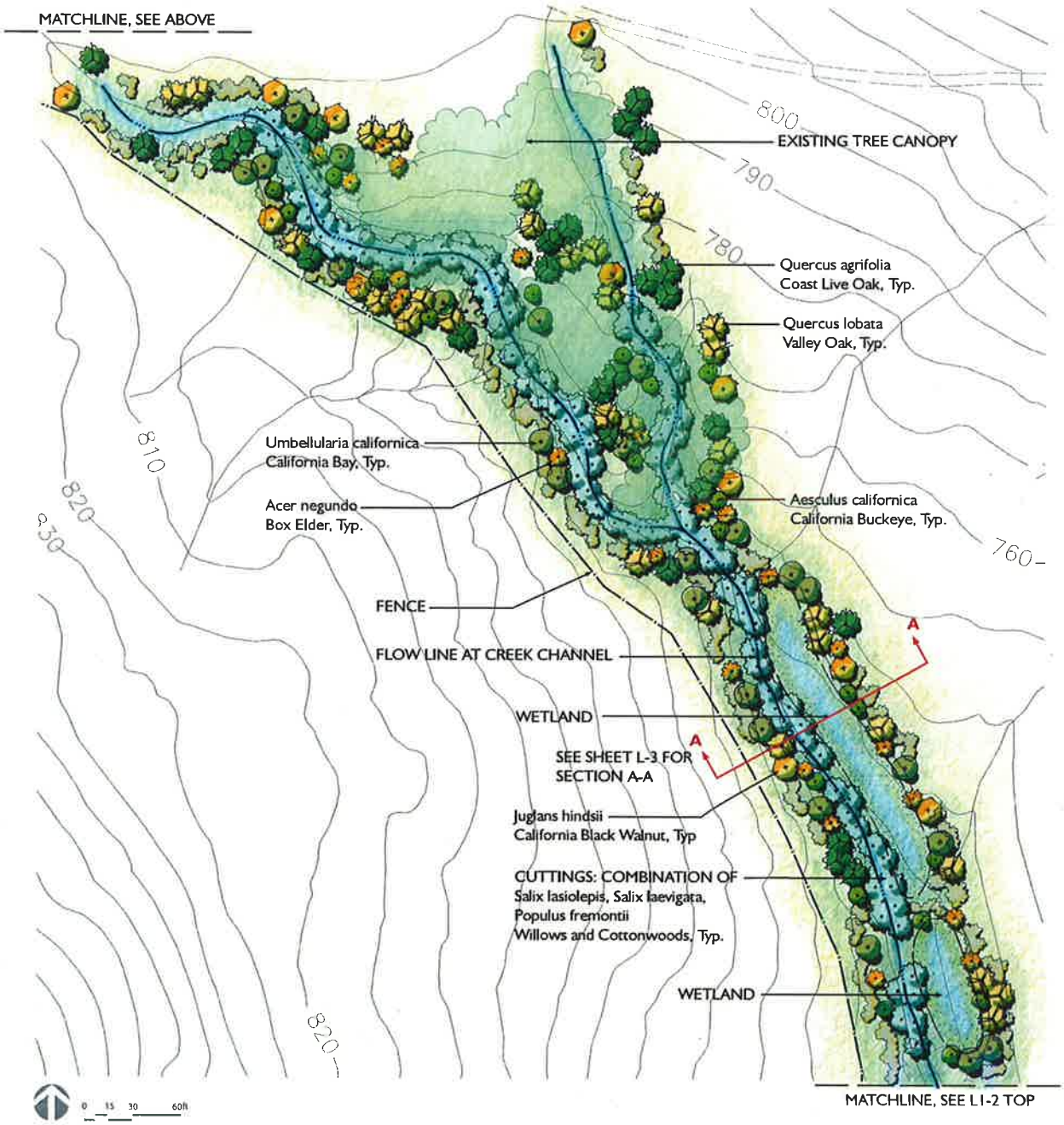
TOTAL QUANTITY: 210

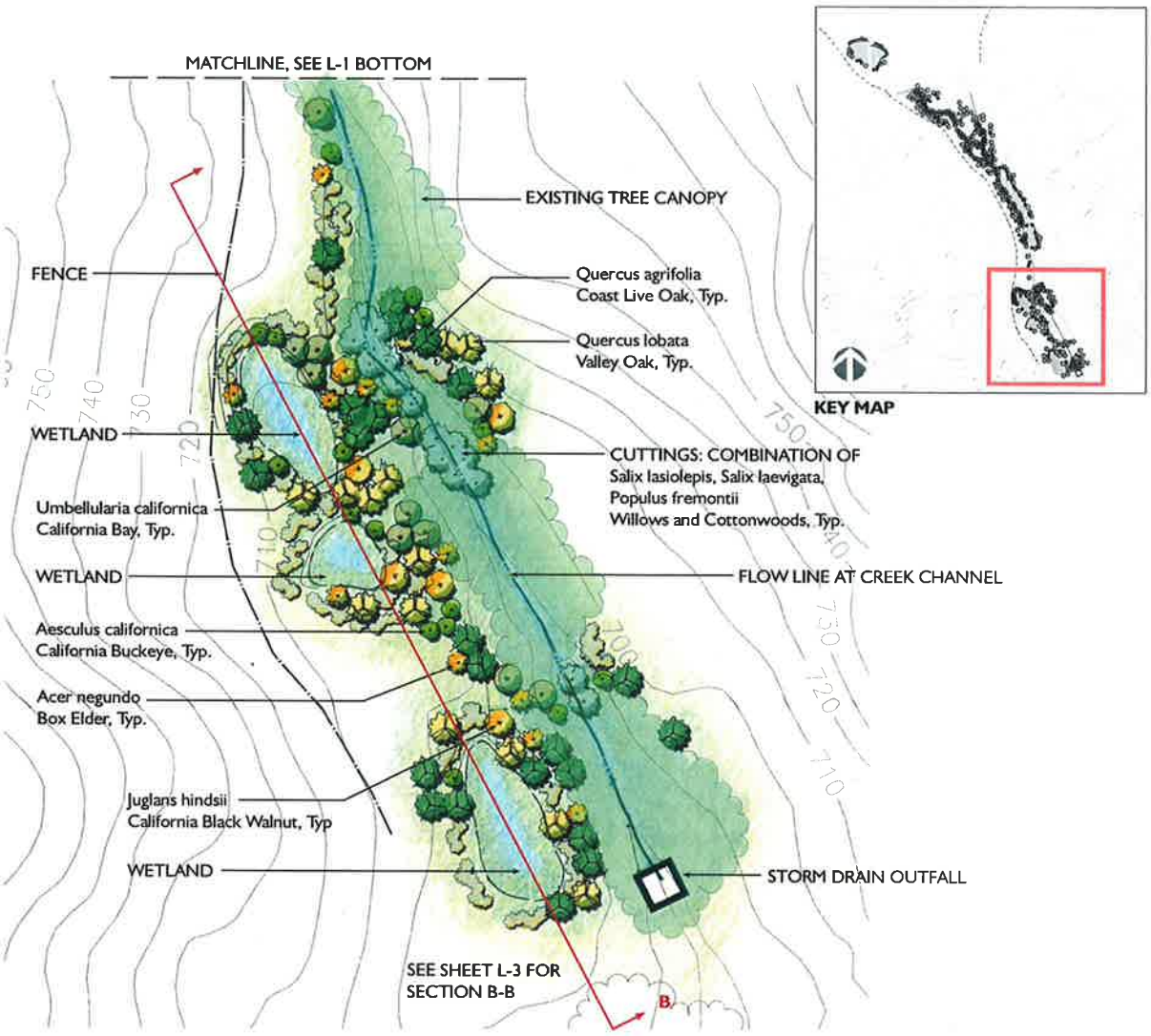
Attachment 5B

Middle Mitigation Area Illustrative Plan


WETLAND
WETLAND
820
MATCHLINE, SEE BELOW


KEY MAP


MATCHLINE, SEE ABOVE
800
790
780
810
820
830
760
820
EXISTING TREE CANOPY
Quercus agrifolia
Coast Live Oak, Typ.
Quercus lobata
Valley Oak, Typ.
Umbellularia californica
California Bay, Typ.
Acer negundo
Box Elder, Typ.
Aesculus californica
California Buckeye, Typ.
FENCE
FLOW LINE AT CREEK CHANNEL
WETLAND
SEE SHEET L-3 FOR
SECTION A-A
Juglans hindsii
California Black Walnut, Typ
CUTTINGS: COMBINATION OF
Salix lasiolepis, Salix laevigata,
Populus fremontii
Willows and Cottonwoods, Typ.
WETLAND
A
A
0 15 30 60ft
MATCHLINE, SEE L1-2 TOP

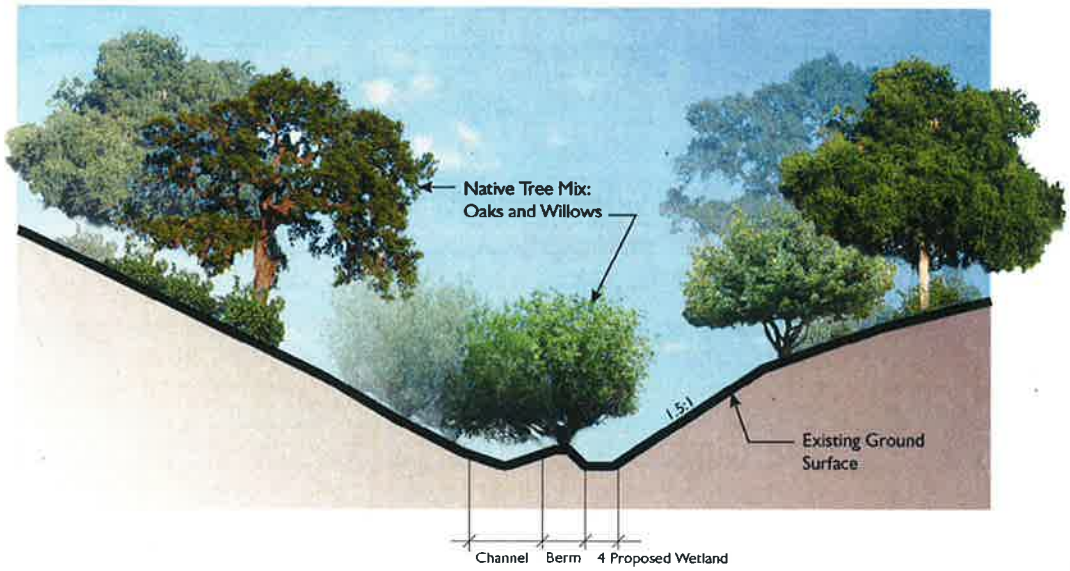


TREE LEGEND

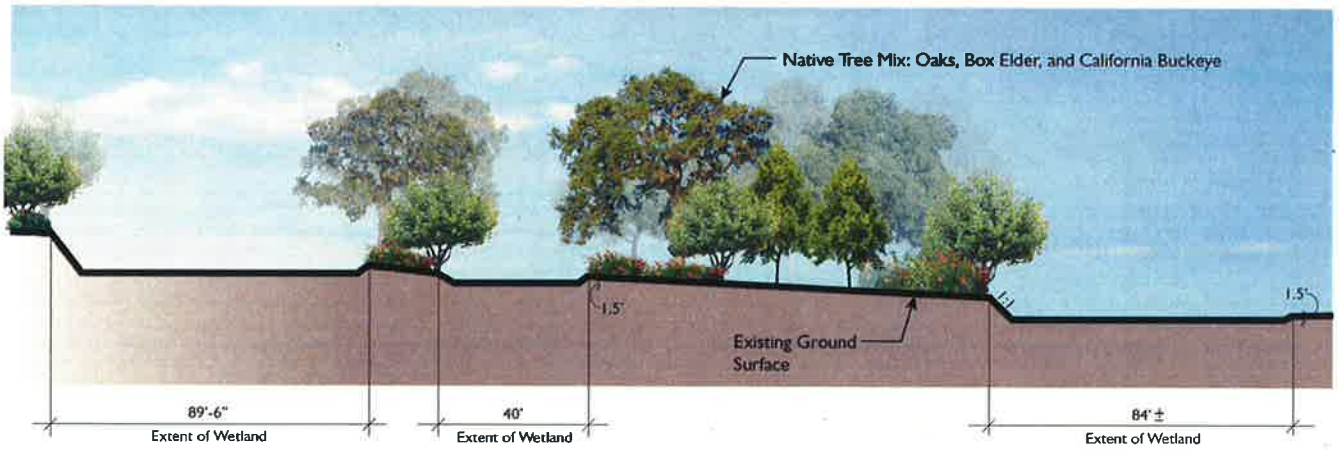
SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY
	Acer negundo	Box Elder	treepot 4	39
	Aesculus californica	California Buckeye	treepot 4	41
	Junglans hindsii	California Black Walnut	15-gal, treepot 4	17
	Quercus agrifolia	Coast Live Oak	15-gal, treepot 4	47
	Quercus lobata	Valley Oak	15-gal, treepot 4	41
	Cuttings: Combination of *Salix lasiolepis, Salix laevigata, Populus fremontii*	Willow and Cottonwood	cuttings	139
	Umbellularia californica	California Bay	treepot 4	37
			TOTAL QUANTITY:	**361**

NOTE:
1. Construction schedule: June 15 to October 31.
2. Field adjust planting per biologist's direction.
3. Cuttings for willows and cottonwood are 3-5 per each symbol indicated.

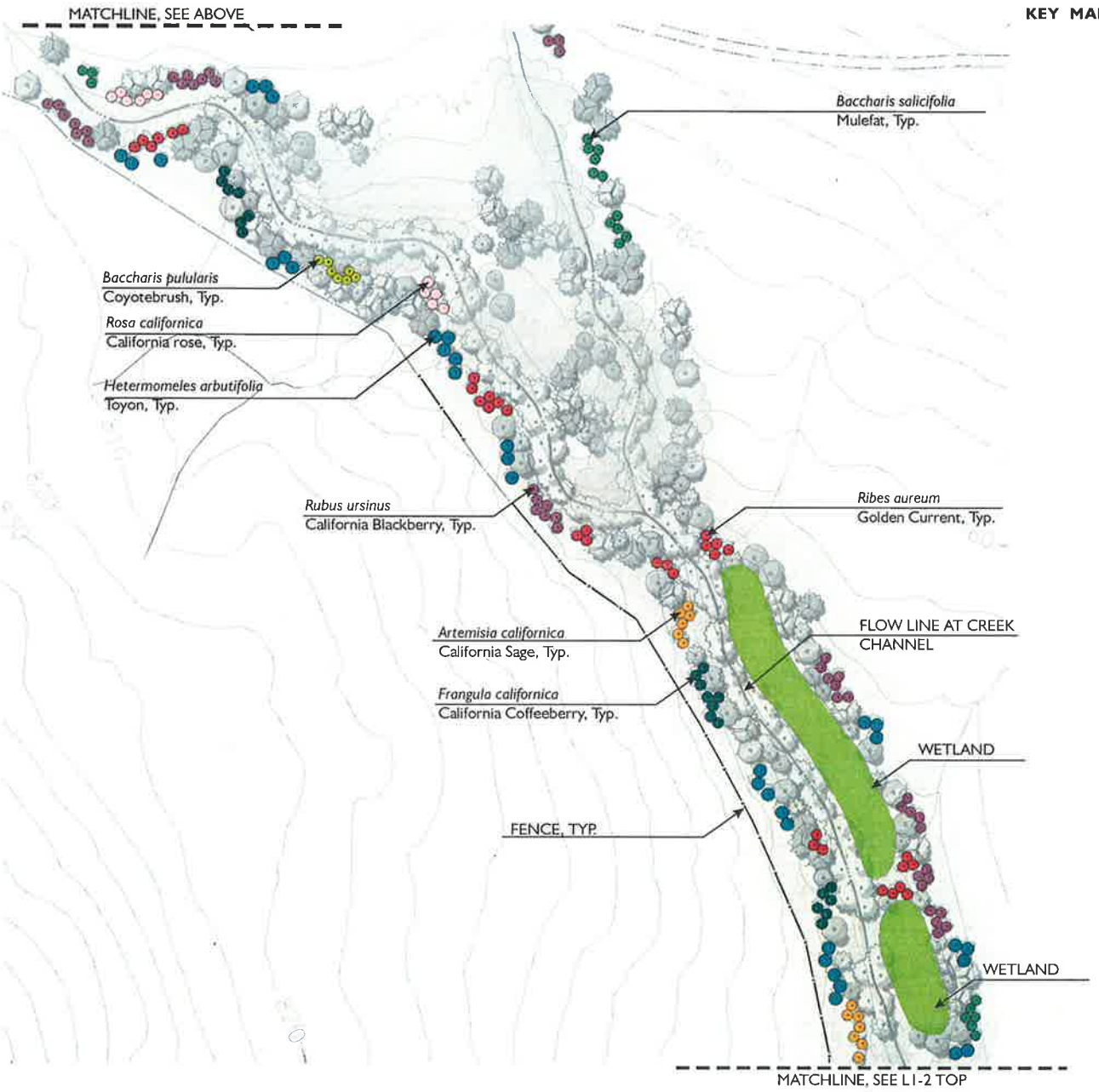
0 15 30 60ft



SECTION A-A

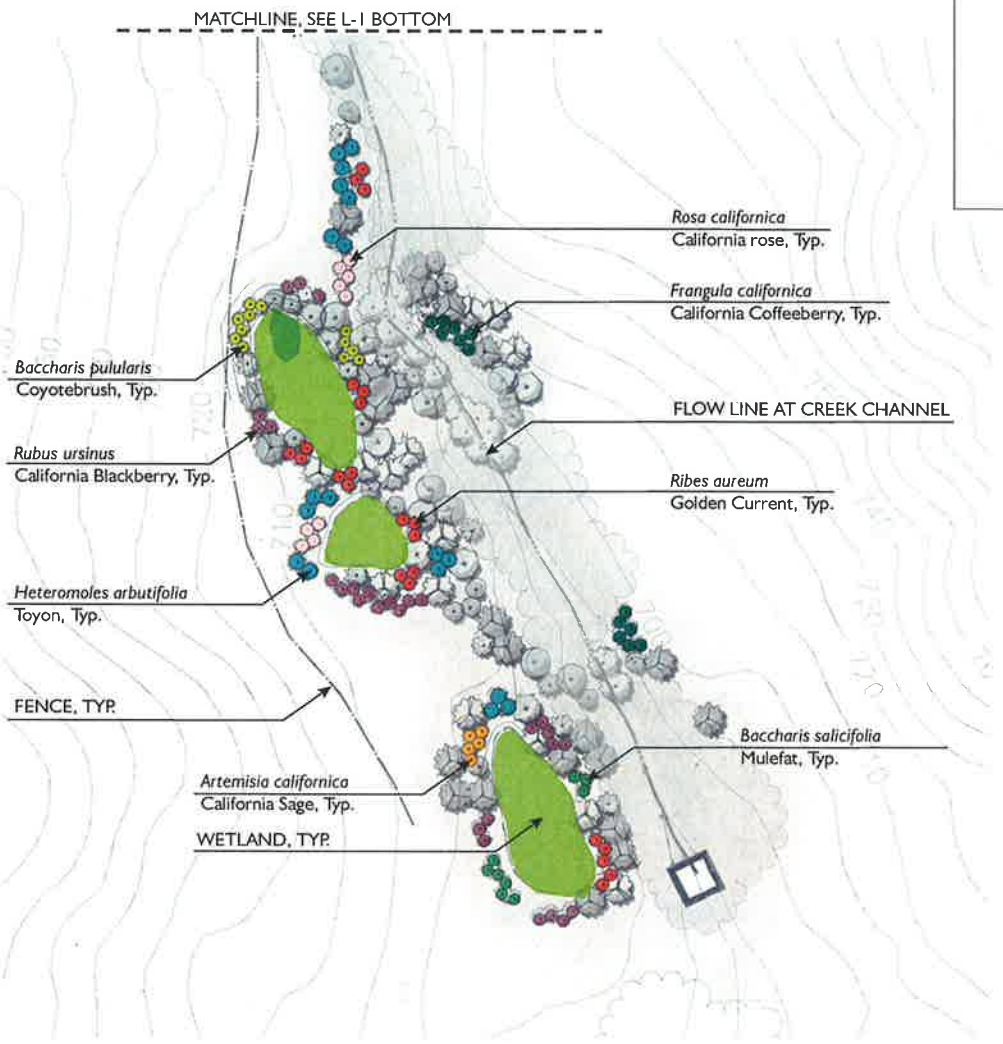


SECTION B-B



SEE L-4 FOR SHRUB LEGEND AND NOTES

0 15' 30' 60



SHRUB LEGEND

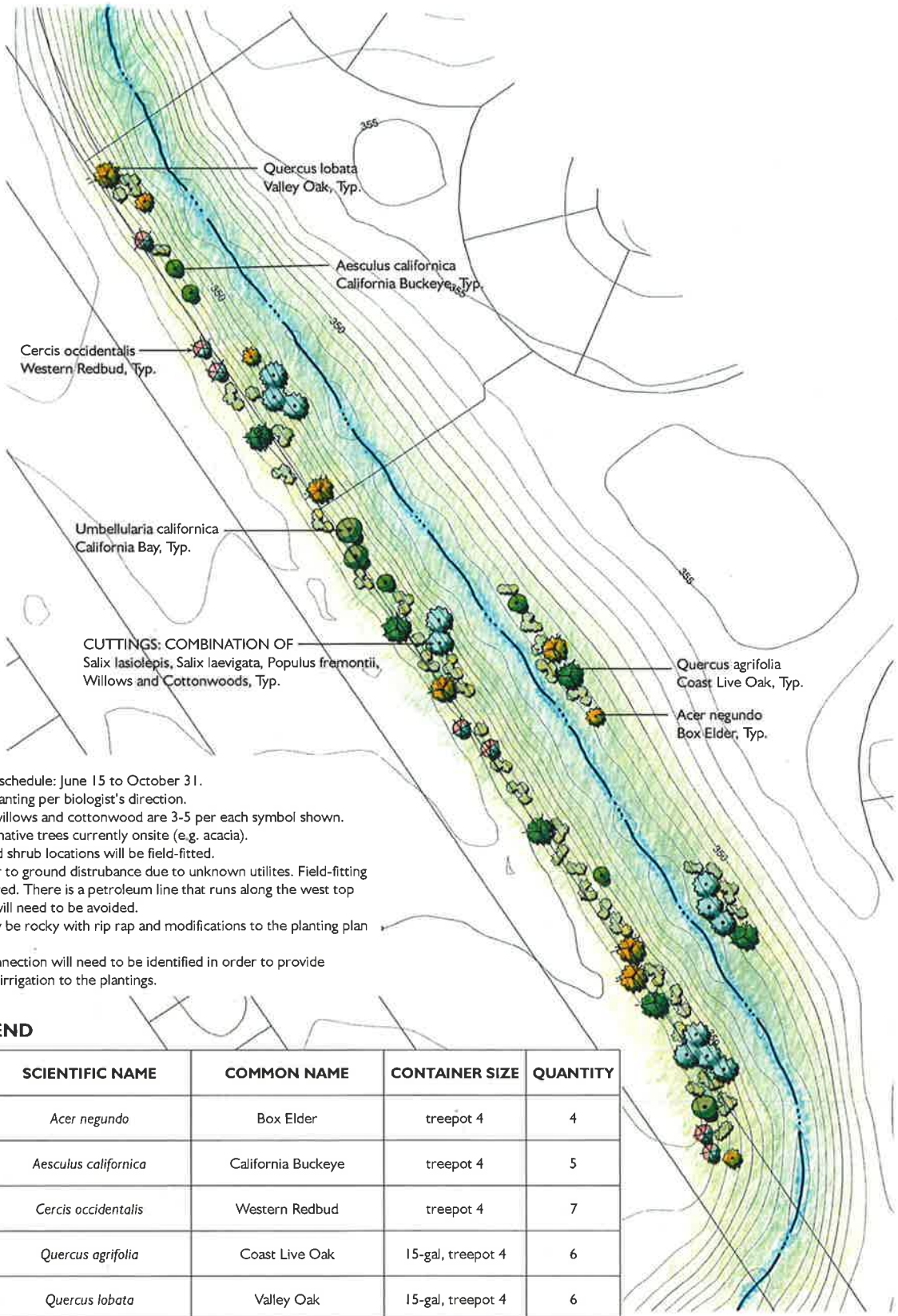
SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY	PLANTING NOTES
	Artemesia californicum	California Sage	1 gallon	54	Individuals and clumps of 3 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
	Baccharis pilularis	Coyote Brush	1 gallon	19	Individuals (6' O.C.)
	Baccharis salicifolia	Mule Fat	1 gallon	37	Individuals (6' O.C.)
	Frangula californica	California Coffeeberry	treepot 4	102	Individuals and clumps of 3 (3' OC) Note: Each symbol stands for (3) 1-gallon plants.
	Heteromoles arbutifolia	Toyon	treepot 4	53	Individuals (8' OC)
	Ribes aureum	Golden Currant	1 gallon	171	Close to channel. Individuals and clumps of 3 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
	Rosa californica	California Rose	1 gallon	60	Individuals and clumps of 3 to 5 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.
	Rubus ursinus	California blackberry	1 gallon	252	Individuals and clumps of 3 to 5 (3' O.C.) Note: Each symbol stands for (3) 1-gallon plants.

TOTAL QUANTITY: 748

0 15' 30' 60'

Attachment 5C

Iron Horse Illustrative Plan



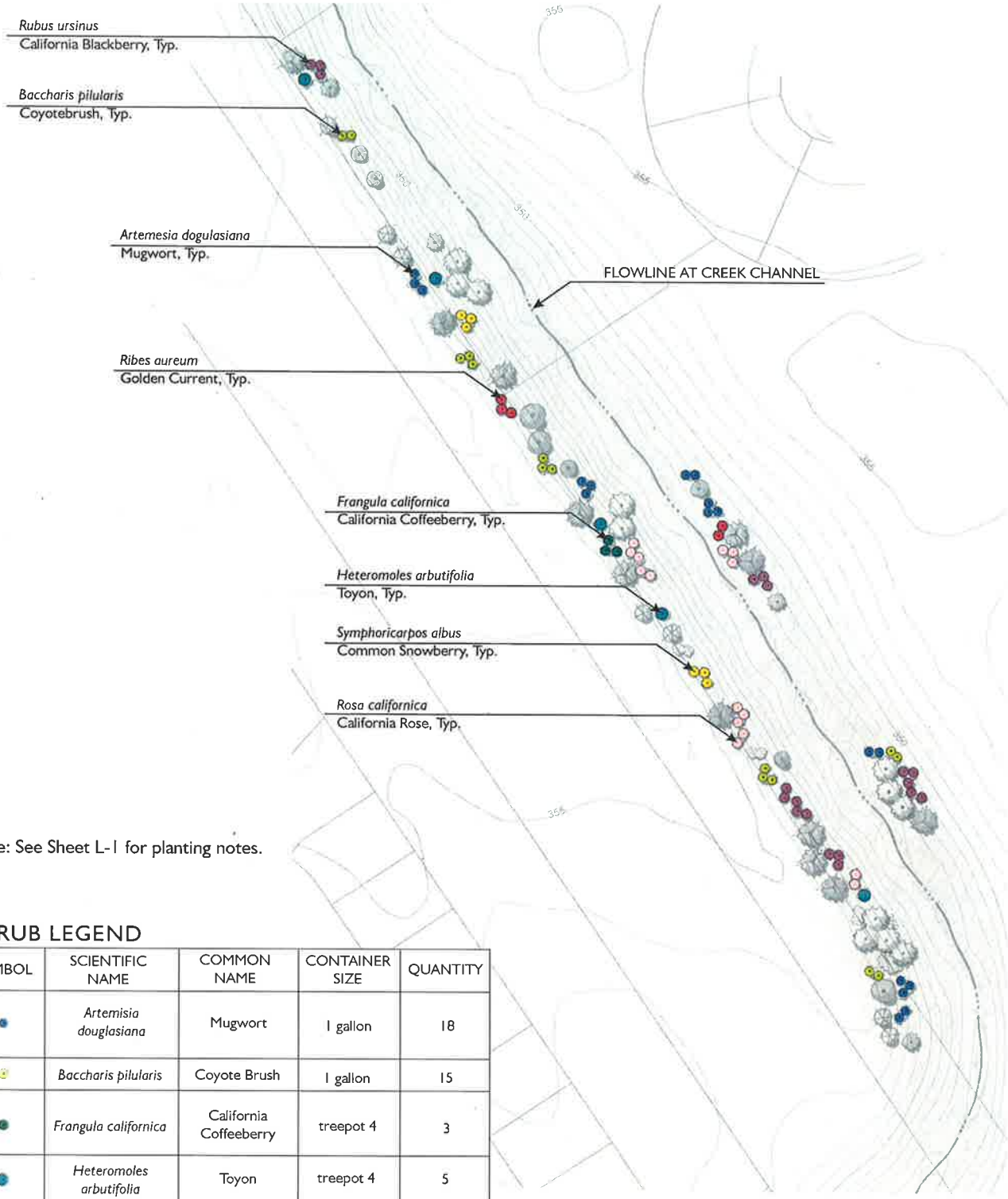
NOTE:

1. Construction schedule: June 15 to October 31.
2. Field adjust planting per biologist's direction.
3. Cuttings for willows and cottonwood are 3-5 per each symbol shown.
4. Remove non-native trees currently onsite (e.g. acacia).
5. Exact tree and shrub locations will be field-fitted.
6. USA site prior to ground distrubance due to unknown utilites. Field-fitting may be required. There is a petroleum line that runs along the west top of bank that will need to be avoided.
7. Substrate may be rocky with rip rap and modifications to the planting plan may result.
8. A point of connection will need to be identified in order to provide supplemental irrigation to the plantings.

TREE LEGEND

SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY
	Acer negundo	Box Elder	treepot 4	4
	Aesculus californica	California Buckeye	treepot 4	5
	Cercis occidentalis	Western Redbud	treepot 4	7
	Quercus agrifolia	Coast Live Oak	15-gal, treepot 4	6
	Quercus lobata	Valley Oak	15-gal, treepot 4	6
	Cuttings: Combination of *Salix lasiolepis, Salix laevigata, Populus fremontii*	Willow and Cottonwood	cuttings	12
	Umbellularia californica	California Bay	treepot 4	3
			TOTAL QUANTITY:	**43**

0 15 30 60ft



Note: See Sheet L-1 for planting notes.

SHRUB LEGEND

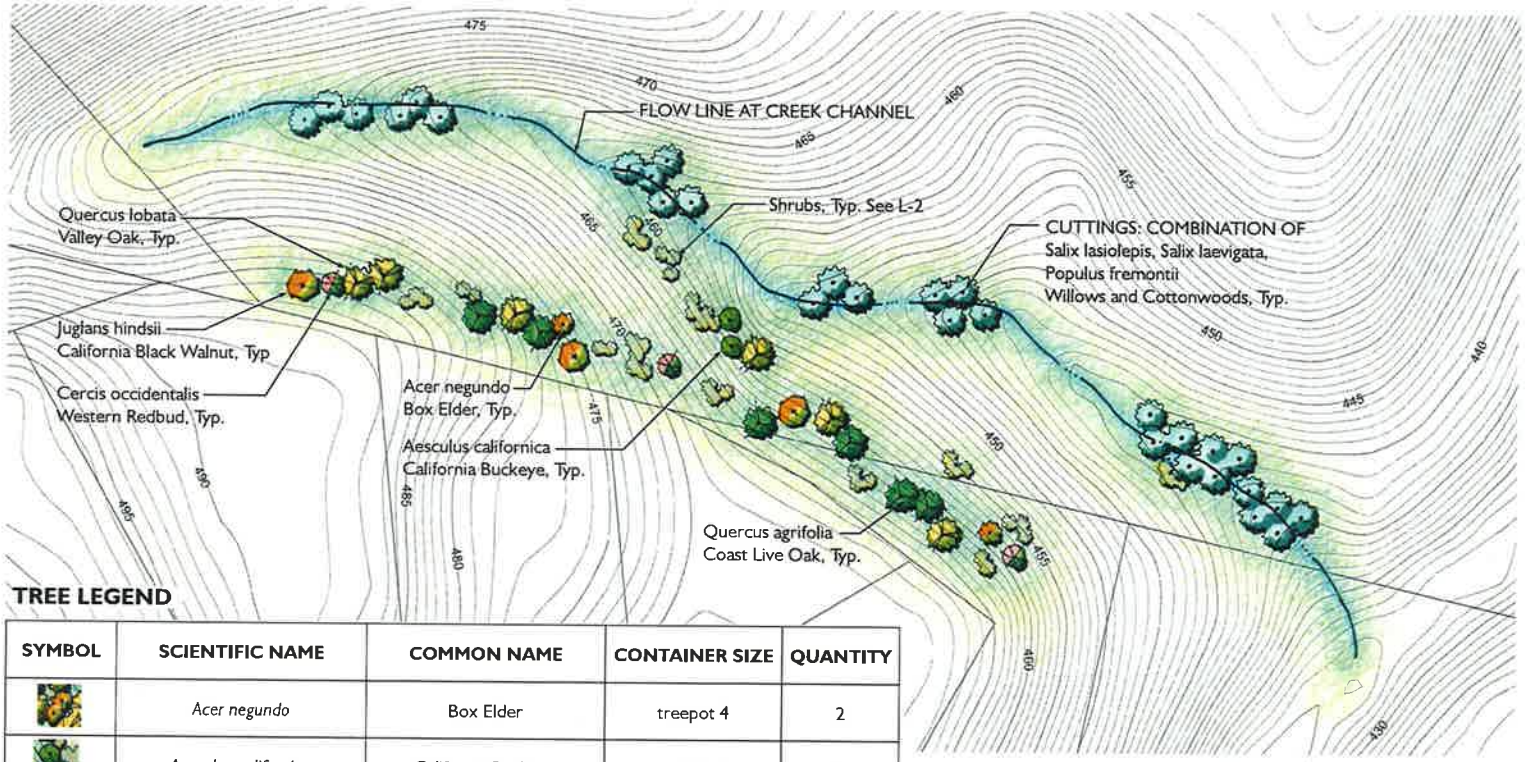
SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY
	Artemisia douglasiana	Mugwort	1 gallon	18
	Baccharis pilularis	Coyote Brush	1 gallon	15
	Frangula californica	California Coffeeberry	treepot 4	3
	Heteromoles arbutifolia	Toyon	treepot 4	5
	Ribes aureum	Golden Currant	1 gallon	5
	Rosa californica	California Rose	1 gallon	15
	Rubus ursinus	California Blackberry	1 gallon	19
	Symphoricarpos albus	Common Snowberry	1 gallon	6

TOTAL QUANTITY: 86

0 15' 30' 60'

Attachment 5D

Knollcrest Illustrative Plan

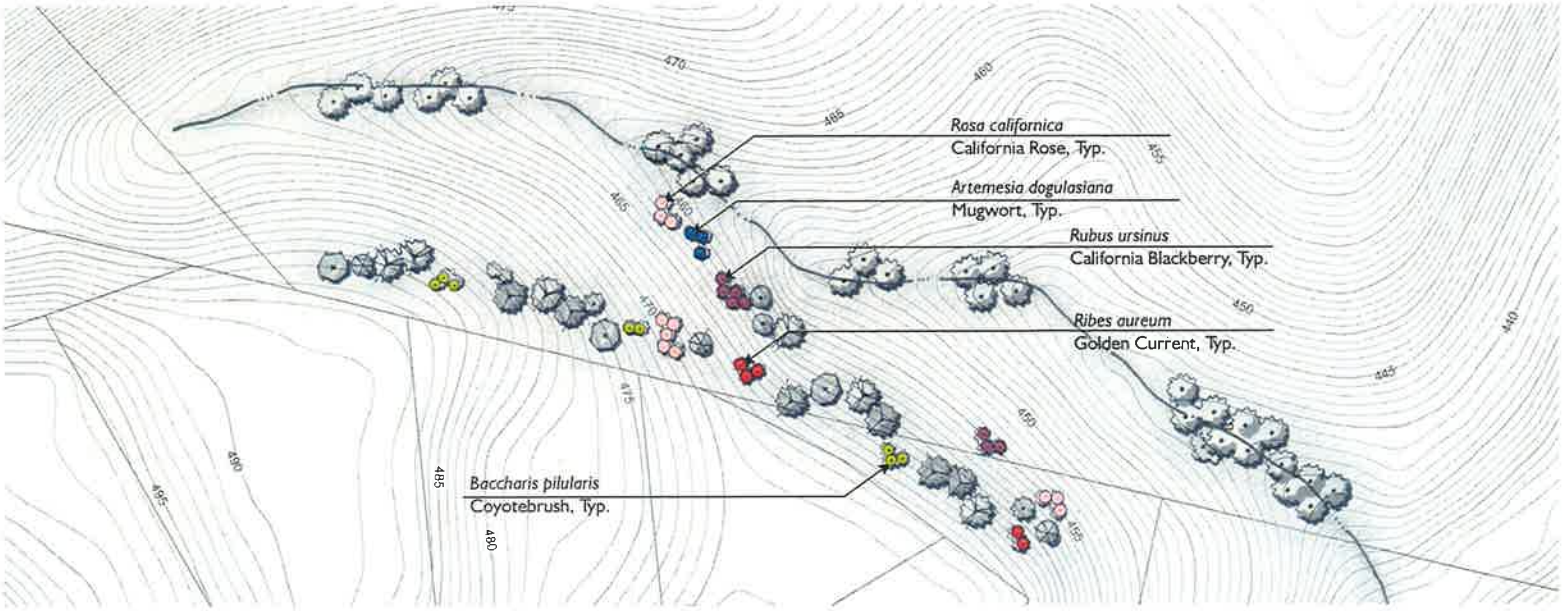


TREE LEGEND

SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY
	Acer negundo	Box Elder	treepot 4	2
	Aesculus californica	California Buckeye	treepot 4	2
	Cercis occidentalis	Western Redbud	treepot 4	3
	Junglans hindsii	California Black Walnut	15-gal, treepot 4	3
	Quercus agrifolia	Coast Live Oak	15-gal, treepot 4	6
	Quercus lobata	Valley Oak	15-gal, treepot 4	6
	Salix lasiolepis	Arroyo Willow	cuttings	30
			TOTAL QUANTITY:	**52**

NOTE:
1. Construction schedule: June 15 to October 31.
2. Field adjust planting per biologist's direction.
3. Cuttings for willows and cottonwood are 3-5 per each symbol indicated.
4. The cluster of plantings in the middle of the site (centered around five blackberry plantings) is in an area that is currently slumping and the plantings are meant to help stablilize the bank.
5. A point of connection will need to be identified in order to provide supplemental irrigation to the plantings.
6. Exact tree and shrub locations will be field-fitted.
7. USA site prior to ground disturbance due to unknown utilities. Field fitting may be required.

0 15 30 60ft



SHRUB LEGEND

SYMBOL	SCIENTIFIC NAME	COMMON NAME	CONTAINER SIZE	QUANTITY
	Artemisia douglasiana	Mugwort	1 gallon	3
	Baccharis pilularis	Coyote Brush	1 gallon	8
	Ribes aureum	Golden Currant	1 gallon	5
	Rosa californica	California Rose	1 gallon	11
	Rubus ursinus	California Blackberry	1 gallon	8

TOTAL QUANTITY: 35

Note: See Sheet L-1 for planting notes.

0 15 30 60

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☐ 2010 Crow Canyon Place ▪ Suite 250 ▪ San Ramon, CA 94583 (925) 866-9000 ▪ Fax (888) 279-2698
☐ 2213 Plaza Drive ▪ Rocklin, CA 95765 (916) 786-8883 ▪ Fax (888) 279-2698
☐ 332 Pine Street ▪ Suite 300 ▪ San Francisco, CA 94104 (415) 284-9900 ▪ Fax (888) 279-2698
☐ 6399 San Ignacio Avenue ▪ Suite 150 ▪ San Jose, CA 95119 (408) 574-4900 ▪ Fax (888) 279-2698
☐ 580 N. Wilma Avenue ▪ Suite A ▪ Ripon, CA 95366 (209) 835-0610 ▪ Fax (888) 279-2698
☐ 17675 Sierra Highway ▪ Santa Clarita, CA 91351 (661) 257-4004 ▪ Fax (888) 279-2698
☐ 13211 Pusan Way ▪ Suite 16 ▪ Irvine, CA 92618 (949) 529-3479 ▪ Fax (888) 279-2698

MEMORANDUM

TO: Ms. Kathryn Hart
San Francisco Bay Regional Water Quality Control Board
(RWQCB)

PROJECT NO.: 6465.003.000

FROM: Mr. Jonathan Buck PE

DATE: October 16, 2014

SUBJECT: Mitigation Opportunities at San Ramon Golf Club, San Ramon, California

Katie-

Per our discussion, the Faria Preserve project team has attempted to find suitable mitigation opportunities within the City of San Ramon in order to satisfy requirements from your agency with regard to creek impacts. After showing you several potential local sites in September 2014, we reconvened with the City of San Ramon to explore further opportunities in the City with a higher cost benefit ratio based on your feedback. City of San Ramon staff directed us to discuss the possibilities of creek improvements within the San Ramon Golf Club limits where several creek systems have either been partially or fully culverted as part of the original Golf Course construction.. After discussing RWQCB agency requirements with the Golf Club owners, to which they are agreeable, we are providing an outline of those opportunities for you to review which we believe would be suitable as mitigation for the Faria Preserve Project.

Background Information:

The San Ramon Golf Club is located in the City of San Ramon near the incorporation limits with the City of Dublin. As shown on Figure 1 attached to this memo, several creek systems have been mapped which pass through the Golf Club by Lettis and Associates in their inventory of 2003 San Francisco Bay Area creeks. The Creeks drain open spaces associated with the westerly slopes of the Dougherty Hills as well as areas where urban development has occurred, into the South San Ramon Creek channel to the west of the Golf Club, which eventually drains to Alameda Creek.

On the 2003 inventory map, the proposed creeks are primarily shown as natural creeks or underground storm drains. However, upon reconnaissance of these systems in the field, drainages shown as blue line creeks on the inventory map are undergrounded with the use of a subdrain system, and overland flow only occurs during high flow events. Therefore, all of the proposed creeks described herein would consist of creek daylighting.

Mitigation Opportunity:

The project proposes to daylight approximately 1765 linear feet of drainage systems passing though the Golf Club. The benefits of daylighting the creek systems include:

1. Improve water quality benefits for flows passing through the Golf Club,.
2. Increase groundwater recharge in the area of the Golf Club.
3. Provide riparian habitat in areas where practicable.
4. Restore creek systems to original geomorphology based on reference creeks in the region to the maximum extent, including stable natural bed slopes, overbank areas and low flow (bankfull) channel dimensions.

Proposed recreated creek channels are summarized below and are shown on Figures 2,3 and 4.

Tripoli Ct. (Figure 2):

The project proposes to daylight approximately 320 linear feet of creek channel, which is currently entirely in an underground storm drain system connected to the Tripoli Ct separate storm drain system. The recreated channel would cross the Golf Course fairway and would thus be planted with bunchgrasses or native species which are low to the ground. The City of San Ramon would maintain the recreated creek channel in a conservation/drainage easement.

Olympia Fields (Figure 3):

The project proposes to daylight approximately 780 linear feet of creek which drain from Alcosta Blvd to the east. The creek system currently consists of a wide swale planted with non-native grass and low flows are primarily conveyed underground in a subdrain system. While the creek corridor itself would also be planted with bunchgrass species, the area between the creek and the northerly limit of the golf course (approximately 0.35 acres) provides an area to plant larger woody vegetation such as valley oak, coast live oak, or willow species. A conservation easement would be placed over the created creek channel and would either be maintained by the City of San Ramon, the Golf Club or an agreeable 3rd party.

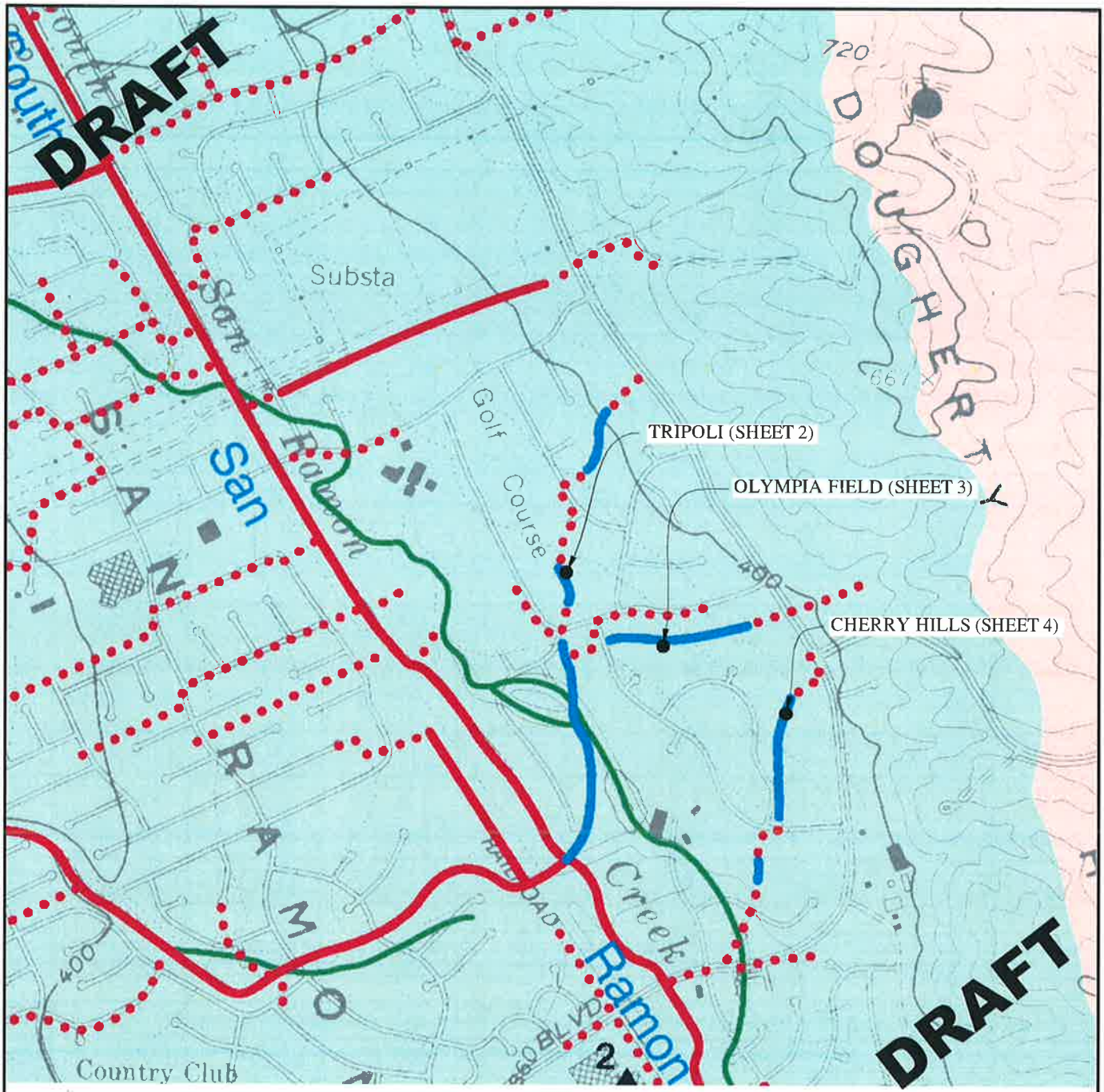
Cherry Hills (Figure 4):

Similar to the Olympia Fields Creek, the project proposes to daylight approximately 665 linear feet of creek which drains from Alcosta Blvd and open space areas to the east. Riparian plants would be planted on the easterly side of the creek at the Golf Club limit while areas running through the course would be planted with bunchgrass or other native low-lying species.

Conclusion:

This mitigation would provide, at a minimum, an additional 1765 feet of recreated creek channel credit to the mitigation package already submitted to the RWQCB. In our opinion, this would provide a package of mitigation to the RWQCB which would satisfy agency requirements for impacts. Please let us discuss at you earliest convenience.

Typical existing creek channel – San Ramon Golf Club.



EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- CREEKS
- FORMER CREEKS, BURIED OR DRAINED
- UNDERGROUND CULVERTS & STORM DRAINS
- ENGINEERED CHANNELS

BASE MAP SOURCE: SOWERS, WILLIAM LETTIS & ASSOCIATES, INC, 2003

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VICINITY MAP

FARIA

SAN RAMON, CALIFORNIA

PROJECT NO.: 6465.003.000	FIGURE NO. 1
SCALE: AS SHOWN	
DRAWN BY: LL	CHECKED BY: JB

G:\Drafting\DRAFTING2_Dwg\6465\003\Faria - 101414\6465003000-FIG1-1014.dwg Plot Date: 10-16-14 lee

ORIGINAL FIGURE PRINTED IN COLOR

N

0 FEET 100

0 METERS 50

BASE MAP SOURCE: GOOGLE EARTH PRO

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SITE PLAN

FARIA - TRIPOLI

SAN RAMON, CALIFORNIA

PROJECT NO.: 6465.003.000		FIGURE NO. 2
SCALE: AS SHOWN		
DRAWN BY: LL	CHECKED BY: JB	

ORIGINAL FIGURE PRINTED IN COLOR

N

0 FEET 150

0 METERS 75

BASE MAP SOURCE: GOOGLE EARTH PRO

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SITE PLAN

FARIA - OLYMPIA FIELDS

SAN RAMON, CALIFORNIA

PROJECT NO.: 6465.003.000		FIGURE NO. 3
SCALE: AS SHOWN		
DRAWN BY: LL	CHECKED BY: JB	

ORIGINAL FIGURE PRINTED IN COLOR

N

0 FEET 150

0 METERS 75

BASE MAP SOURCE: GOOGLE EARTH PRO

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SITE PLAN

FARIA - CHERRY HILLS

SAN RAMON, CALIFORNIA

PROJECT NO.: 6465.003.000		FIGURE NO. 4
SCALE: AS SHOWN		
DRAWN BY: LL	CHECKED BY: JB	

ORIGINAL FIGURE PRINTED IN COLOR

ATTACHMENT 6

ECONOMIC ANALYSIS

FARIA PRESERVE

FARIA PRESERVE

SAN RAMON, CA
Alternative Analysis
Economic Analysis

December 4, 2014

GATES + ASSOCIATES
LANDSCAPE ARCHITECTURE | LAND PLANNING | URBAN DESIGN
2657 Crow Canyon Rd., San Ramon, CA 94583 | 925 736-3176

Carlson, Barbee & Gibson, Inc.

LAFFERTY COMMUNITIES

WILLIAM HEZMALHALCH ARCHITECTS
6111 Bollinger Canyon Road, Suite 495 | San Ramon, CA 94583 | 925 460 1700
2600 Redhill Ave, Suite 200 | Santa Ana, CA 92705 | 949 250-0607

OUR TEAM

Faria Preserve Alternative Analysis
Economic Analysis Review
August 26, 2014

Introduction

The project purpose and description are the basis from which an alternative analysis should be reviewed. The Faria Preserve project's purpose is to implement the City of San Ramon's North West Specific Plan (NWSP). The project description includes a maximum of 786 units – 302 apartments and 484 for sale units – a 12.7 acre park, a .5 acre rose garden, a house of worship, a 1.6 acre educational site, a private recreational center, an east west connection between Bollinger Canyon Road and Purdue Road, and the requirement to construct a minimum of 25% of the project as below market rate housing. Our Faria Preserve plan includes all these elements with two exceptions. We are not proposing to build 786 units. We are proposing to build 740 units – 302 apartments and 438 for sale units. We are also proposing to construct 28.8% of the project as below market rate units (BMRs). This percentage equates to 213 below market rate units. Of these 213 below market rate units, twenty-eight of these units are to be for sale units – 15 very low and 13 low. The balance of the affordable units will be apartments. In the 2006 plan as amended by the 2008 law suit settlement agreements these twenty-eight units are secondary units. Our approval strategy included turning these twenty-eight rental secondary units into twenty-eight "for sale" units. This represents a revenue loss of $10,000,000 with no change in the costs. Any project on the Faria Preserve property needs to include the required elements or the NWSP. To eliminate any of the required elements requires a specific plan amendment and four out of five votes at the planning commission and the city council, and the process will take at least a year. Currently there is no political will to amend the NWSP.

The 213 below market rate units are very important for the city to meet its Regional Housing Need Allocation or RHNA. The quantities of below market rate units are assigned to Bay Area cities by Association of Bay Area Governments or ABAG. The State of California places this responsibility on ABAG.

In addition to the reduction of units and the increase of twenty-eight "for sale" BMRs, the proposed development's footprint has been reduced from 187 acres to 162 acres. This modest reduction in the development area – 13% - has allowed for a significant reduction in the impacts to wetlands and drainages. The 2008 tentative map impacts .94 acres of wetlands and 4,853 lineal feet of drainage. Our proposed plan, Alternative E, impacts .85 acres of wetland and 1,552 lineal feet of drainage. This reduction in the development area equates to a one 10% reduction to wetland impacts and a 68% reduction of impacts to drainages. The headwaters of the central drainage and all of the eastern drainage are preserved, and we've kept our wetland and drainage impacts adjacent to existing development.

Economic Analysis

Our economic analysis as a part of the overall project Alternatives Analysis compares Weighted Average Finished Lot Values for each project alternative to the Average Finished Lot Development Cost for the same alternative. For any alternative, if the Average Finished Lot Development Cost exceed the Weighted Average Finished Lot Value, then the project isn't viable.

The Finished Lot Values for each architectural product type were determined through the use of a simple economic model. The same Finished Lot Values for each product type were applied against each alternative if that alternative includes that architectural product type. For example, Alternative E, our proposed alternative, includes a courtyard product, but Alternative G doesn't have a courtyard product, so the Finished Lot Value for a courtyard architectural product doesn't apply to Alternative G.

The sales pricing for all architectural product types was developed through a market study completed by John Burns Real Estate Consulting. This company has a very good reputation within the homebuilding industry, and we use this firm exclusively.

The land development costs were developed by Carlson, Barbee, and Gibson (CBG). CBG was directed to calculate the estimated Average Finished Lot Development Cost for each project alternative.

Apartments

The apartments were excluded from this economic analysis because in all the alternatives regardless of the proposed number of apartments, two thirds of the apartments are BMRs. This burden on the apartments renders the value of the apartment land to approximately zero. The one third market rate land value offsets negative land value of the two thirds BMRs land. In other words the two thirds BMRs land has a negative value.

Alternative A:

We have included this alternative because it was included in at least one other project alternative analysis presented to the RWQCB staff. Today this project isn't viable. We don't believe this project was viable in 2000 when it was sketched out. You won't find a land development cost estimate on Carlson, Barbee, and Gibson's schedule. We aren't including it in our economic analysis. Given the existence of the North West Specific Plan and the amount and the configuration of property annexed in to the City of San Ramon, this site plan isn't viable. The only value this alternative provides is a starting point.

Alternative B:

This alternative is the originally tentative map approved by the City of San Ramon in 2006. During the approval process the 86 age restricted, below market rate units were relocated to the south west corner of the project where the 1.6 acre educational site, the private recreation center, and the house of worship were located. The 1.6 acre educational site and the 86 senior apartments traded locations.

This project impacts 1.09 acres of wetlands and 5,923 lineal feet of drainages. Our Alternative – Alternative E – impacts .85 acres of wetlands and 1520 lineal feet of drainages. Alternative B impacts approximately four times the lineal feet of drainages as Alternative E.

Alternative C:

This alternative is called the 2008 tentative map. This map is the 2006 tentative map as modified through the settlement of lawsuits with East Bay Regional Park District and the Sierra Club.

This alternative impacts 1.08 acres of wetlands and 5,555 lineal feet of drainages. The modifications didn't significantly reduce the impacts to wetlands and drainages. The impact to wetlands is approximately the same, and the impacts to drainages were reduced by approximately 400 lineal feet.

Alternative D:

At the time, this alternative is a proposed revision to the 2008 tentative map. It was developed by Shapell Homes in 2010, but a tentative map application was never filed with the City of San Ramon.

This alternative was the first site plan showing a connection to Deerwood Road. In terms of wetland and drainage impacts, this alternative preserves the lower portion of the eastern drainage. It impacts 1.04 acres of wetlands and 4,883 lineal feet of drainage. Approximately the same quantity of wetlands is impacted, and 300 lineal feet less of the eastern drainage is not impacted compared to Alternative C.

Alternative E:

This alternative is our currently proposed alternative. This tentative map is the Least Environmentally Damaging Practical Alternative. It is the LEDPA. In addition, it fulfills the project purpose. The headwaters of the central drainage are preserved. The eastern drainage is preserved except where Faria Preserve Parkway connects to Purdue Road. All wetland and drainage impacts are adjacent to existing development.

Initially our proposed tentative map connected to Deerwood Road. During the eight planning commission public hearings the NIMBY politics in San Ramon drove our project back to the Purdue Road connection.

There have been a number of conversations with the resource agencies and the city fathers about a reduction in the fill across the central drainage. This fill is needed to create a viable project.

Alternative F:

This alternative is a refined version of Alternative 6. It includes all the specific plan requirements. It simply is practical. Other than being financially nonviable, there is at least on element that would never be accepted by the City of San Ramon. The 800 foot long bridge across the central drainage isn't practical. At its center the bridge pavement would be 135 feet above the central drainage. An east to west connection through the project is a requirement of the North West Specific Plan. The deletion of the bridge isn't an option.

Also, as explained above, the Deerwood Road connection isn't viable. There would be additional wetland and drainage impacts at the Purdue Road connection.

Alternative G:

This alternative was added because of all the discussion in the RWQCB staff's letter of August 8, 2014. Given all the questions about losing a row of lots or more lots on the central drainage fill, we didn't think the discussion could be ended until this option was fully reviewed in this economic analysis.

This alternative balances the grading on site. There is no off haul.

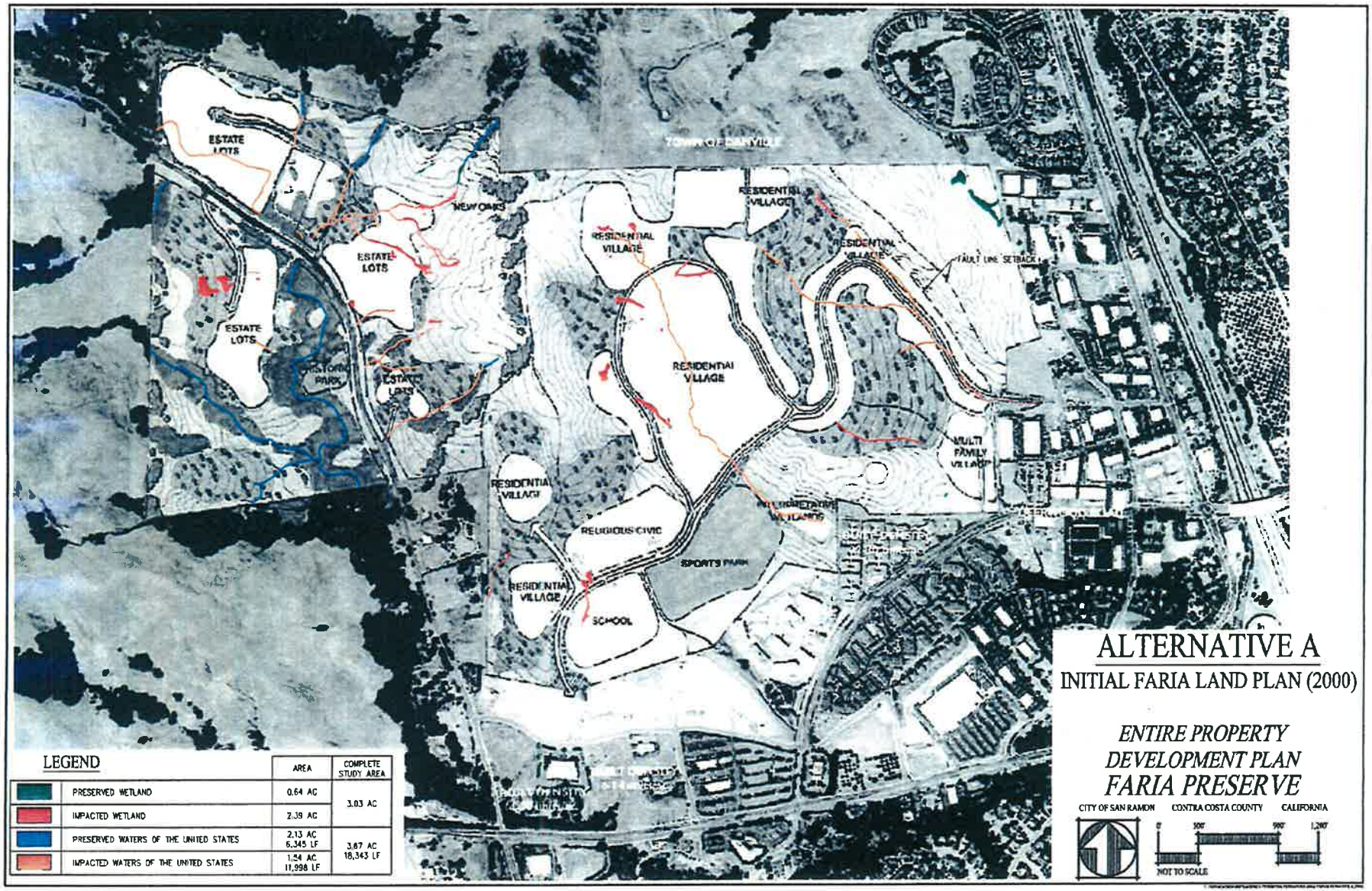
Compared to Alternative E this alternative loses 110 lots and only saves an additional 300 lineal feet of drainage.

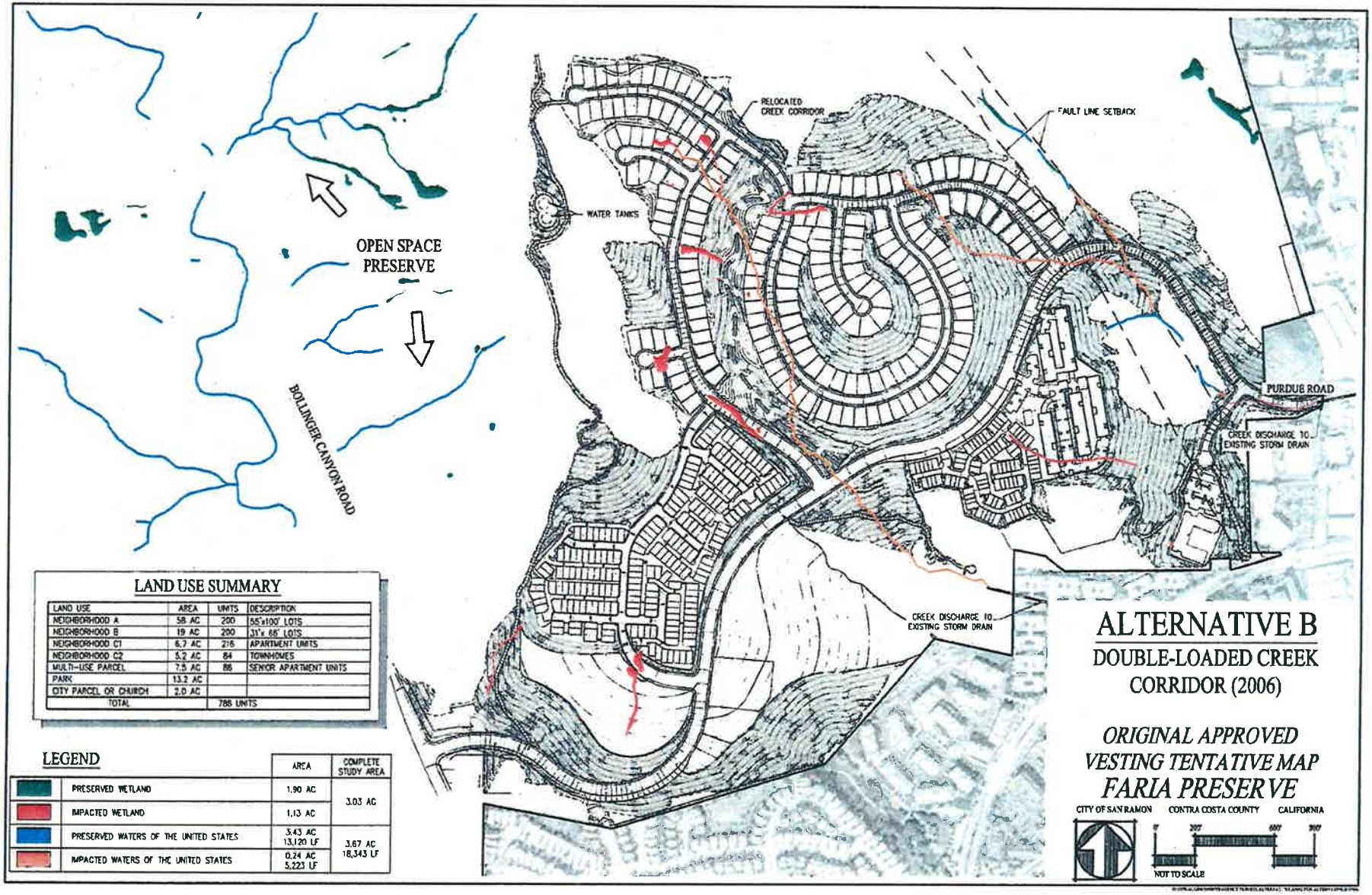
Conclusion:

When an alternative's Weighted Average Finished Lot Values are compared to its Average Finished Lots Development Costs, the Least Damaging Environmental Practical Alternative is Alternative E, our proposed alternative. Alternative E is the LEDPA. Please review the comparison table below. Alternatives F and G fail because there aren't enough lots to absorb those alternatives' development costs. Alternative E has the smallest difference between the Weighted Average Finished Lot Value and the Average Finished Lot Development cost. This means Alternative E is financially viable but not overly viable.

Alternative	Weighted Average Finished Lot Value	Average Lot Development Cost	Viable/ (Unviable)
B	$ 399,960.00	$ 321,066.00	$ 78,894.00
C	$ 416,276.00	$ 335,542.00	$ 80,734.00
D	$ 379,849.00	$ 288,388.00	$ 91,461.00
E	$ 373,899.00	$ 357,844.00	$ 16,055.00
F	$ 445,696.00	$ 607,730.00	$ (162,034.00)
G	$ 359,264.00	$ 455,024.00	$ (95,760.00)

If you have any questions, please contact Patrick Toohey at 925-683-489 or email him at ptoohey@laffertycommunitiees.com.


ESTATE LOTS
ESTATE LOTS
ESTATE LOTS
ESTATE LOTS
NEW OAKS
RESIDENTIAL VILLAGE
RESIDENTIAL VILLAGE
RESIDENTIAL VILLAGE
FAULT LINE SETBACK
RESIDENTIAL VILLAGE
MULTI FAMILY
RESIDENTIAL VILLAGE
RELIGIOUS CIVIC
SPORTS PARK
RESIDENTIAL VILLAGE
SCHOOL
LEGEND
AREA
COMPLETE STUDY AREA
PRESERVED WETLAND
0.64 AC
3.03 AC
IMPACTED WETLAND
2.39 AC
PRESERVED WATERS OF THE UNITED STATES
2.13 AC
6,345 LF
3.67 AC
18,343 LF
IMPACTED WATERS OF THE UNITED STATES
1.54 AC
11,998 LF
ALTERNATIVE A
INITIAL FARIA LAND PLAN (2000)
ENTIRE PROPERTY
DEVELOPMENT PLAN
FARIA PRESERVE
CITY OF SAN RAMON
CONTRA COSTA COUNTY
CALIFORNIA
0
500'
900'
1,200'
NOT TO SCALE



LAND USE SUMMARY

LAND USE	AREA	UNITS	DESCRIPTION
NEIGHBORHOOD A	58 AC	200	55'x100' LOTS
NEIGHBORHOOD B	19 AC	200	31'x 85' LOTS
NEIGHBORHOOD C1	6.7 AC	216	APARTMENT UNITS
NEIGHBORHOOD C2	5.2 AC	84	TOWNHOMES
MULTI-USE PARCEL	7.5 AC	88	SENIOR APARTMENT UNITS
PARK	13.2 AC		
CITY PARCEL OR CHURCH	2.0 AC		
TOTAL		788 UNITS	

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	1.90 AC	3.03 AC
	IMPACTED WETLAND	1.13 AC	
	PRESERVED WATERS OF THE UNITED STATES	3.43 AC 13,120 LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.24 AC 5,223 LF	

ALTERNATIVE B

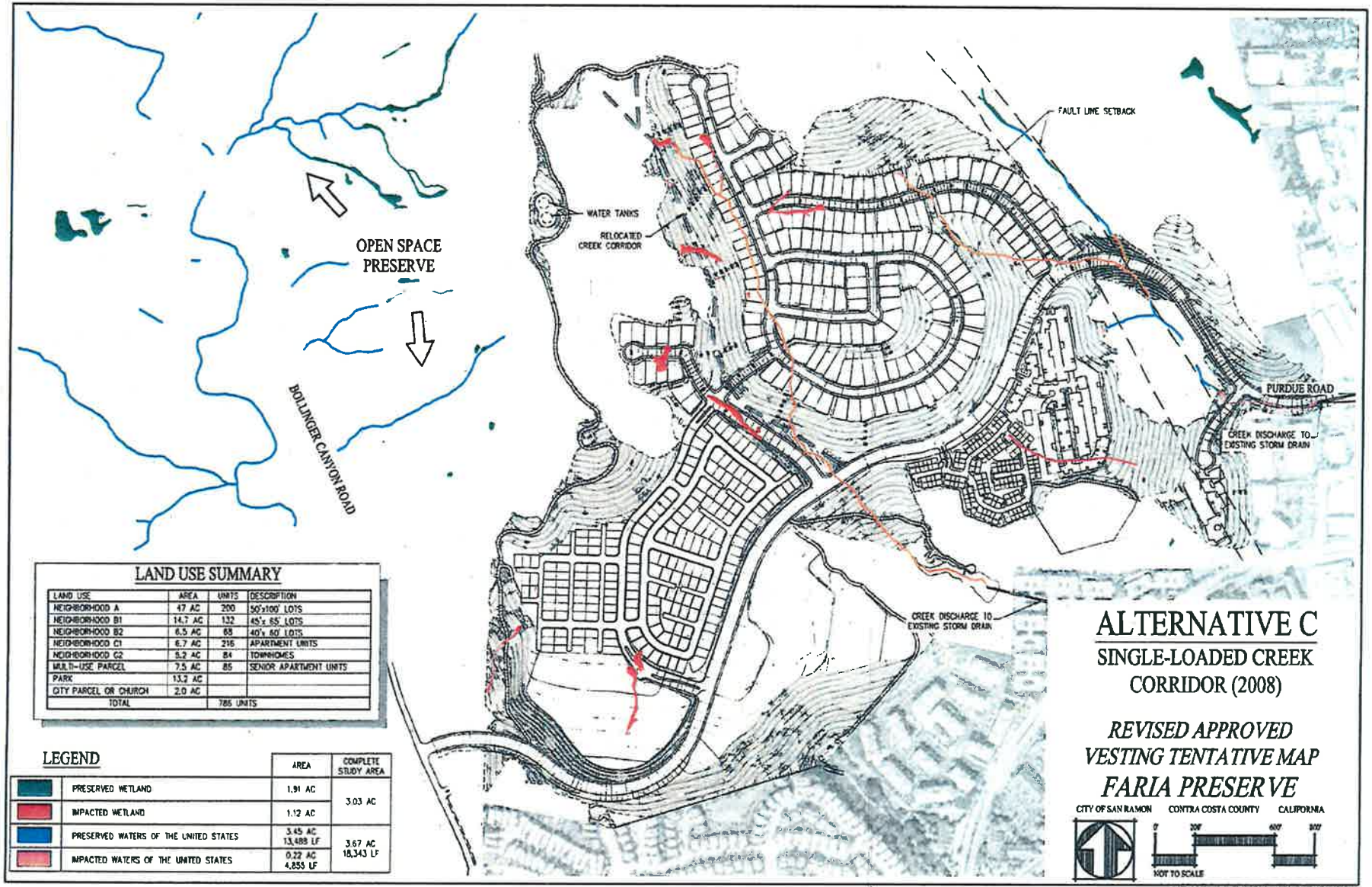
DOUBLE-LOADED CREEK CORRIDOR (2006)

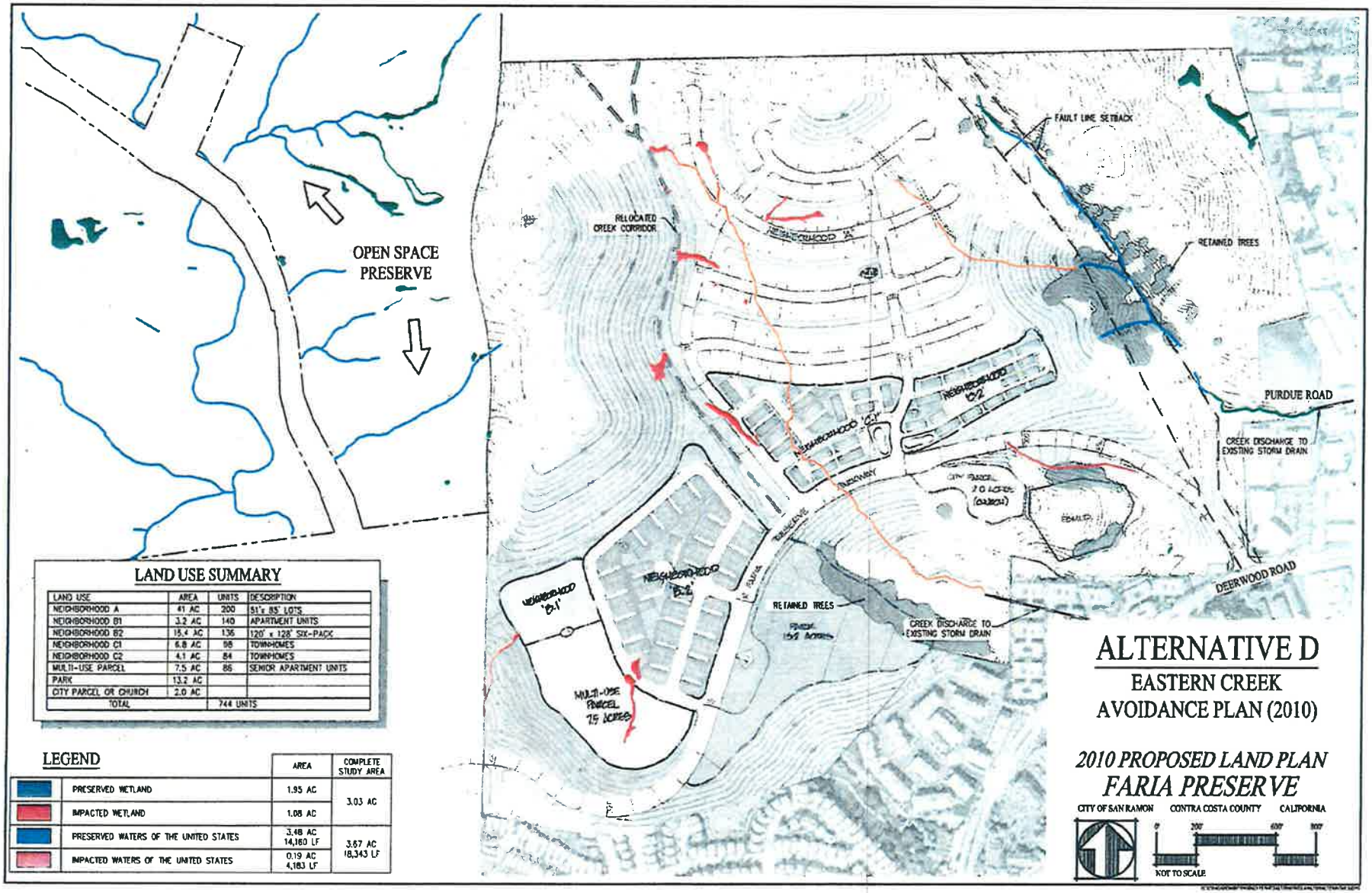
ORIGINAL APPROVED
VESTING TENTATIVE MAP
FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 800'

NOT TO SCALE


OPEN SPACE PRESERVE
BOLLINGER CANYON ROAD
FAULT LINE SETBACK
WATER TANKS
RELOCATED CREEK CORRIDOR
PURDUE ROAD
CREEK DISCHARGE TO EXISTING STORM DRAIN
CREEK DISCHARGE TO EXISTING STORM DRAIN
LAND USE SUMMARY
LAND USE | AREA | UNITS | DESCRIPTION
NEIGHBORHOOD A | 47 AC | 200 | 50'x100' LOTS
NEIGHBORHOOD B1 | 14.7 AC | 132 | 45'x 65' LOTS
NEIGHBORHOOD B2 | 6.5 AC | 68 | 40'x 60' LOTS
NEIGHBORHOOD C1 | 6.7 AC | 216 | APARTMENT UNITS
NEIGHBORHOOD G2 | 5.2 AC | 84 | TOWNHOMES
MULTI-USE PARCEL | 7.5 AC | 85 | SENIOR APARTMENT UNITS
PARK | 13.2 AC
CITY PARCEL OR CHURCH | 2.0 AC
TOTAL | 785 UNITS
LEGEND
AREA | COMPLETE STUDY AREA
PRESERVED WETLAND | 1.91 AC | 3.03 AC
IMPACTED WETLAND | 1.12 AC
PRESERVED WATERS OF THE UNITED STATES | 3.45 AC 13,488 LF | 3.67 AC 18,343 LF
IMPACTED WATERS OF THE UNITED STATES | 0.22 AC 4,855 LF
ALTERNATIVE C
SINGLE-LOADED CREEK CORRIDOR (2008)
REVISED APPROVED VESTING TENTATIVE MAP
FARIA PRESERVE
CITY OF SAN RAMON
CONTRA COSTA COUNTY
CALIFORNIA
0
200'
600'
800'
NOT TO SCALE



LAND USE SUMMARY

LAND USE	AREA	UNITS	DESCRIPTION
NEIGHBORHOOD A	41 AC	200	51'x 85' LOTS
NEIGHBORHOOD B1	3.2 AC	140	APARTMENT UNITS
NEIGHBORHOOD B2	15.4 AC	136	120' x 128' SIX-PACK
NEIGHBORHOOD C1	6.8 AC	98	TOWNHOMES
NEIGHBORHOOD C2	4.1 AC	84	TOWNHOMES
MULTI-USE PARCEL	7.5 AC	86	SENIOR APARTMENT UNITS
PARK	13.2 AC		
CITY PARCEL OR CHURCH	2.0 AC		
TOTAL		744 UNITS	

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	1.95 AC	3.03 AC
	IMPACTED WETLAND	1.08 AC	
	PRESERVED WATERS OF THE UNITED STATES	3.48 AC 14,160 LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.19 AC 4,183 LF	

ALTERNATIVE D

EASTERN CREEK AVOIDANCE PLAN (2010)

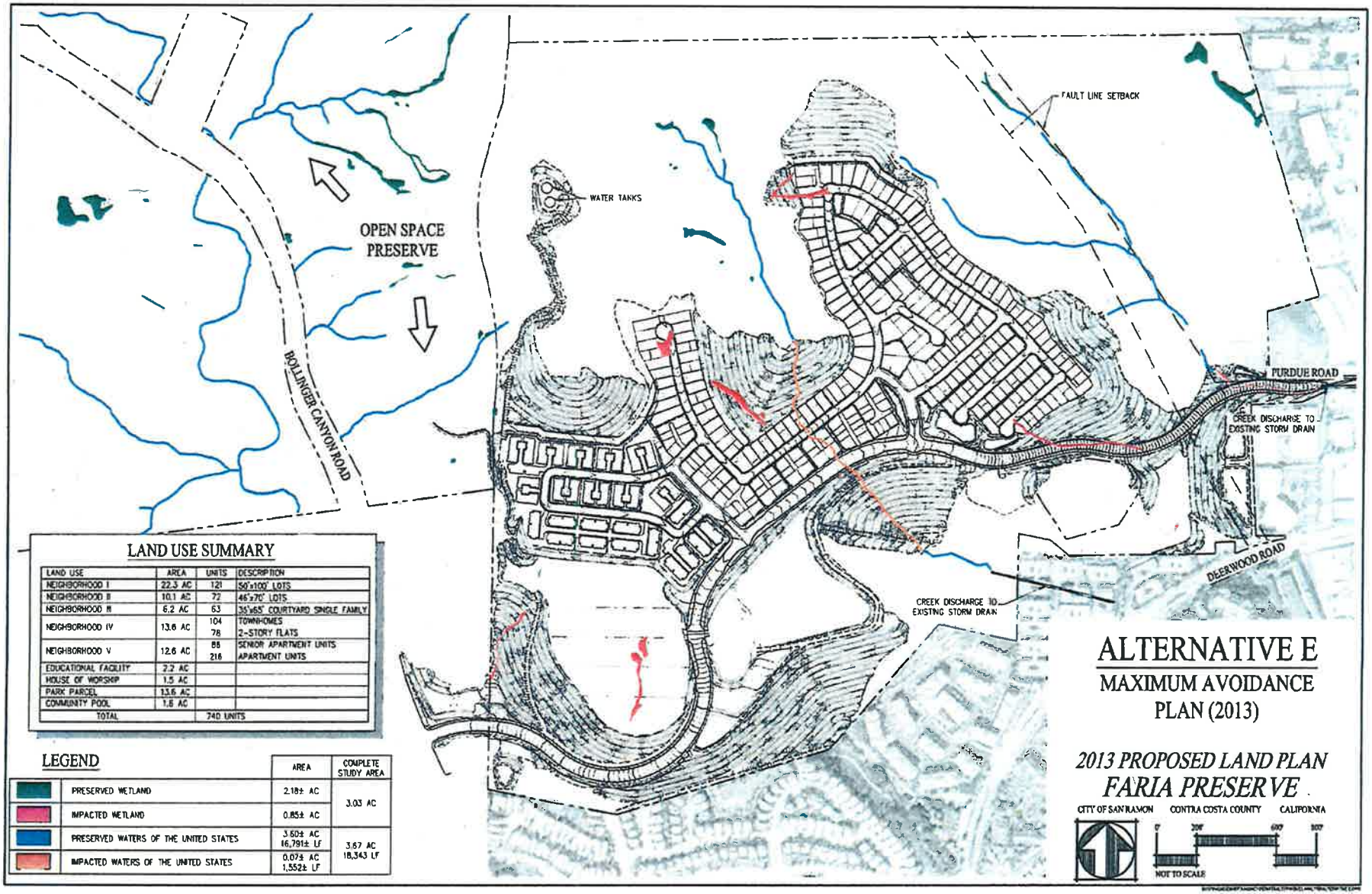
2010 PROPOSED LAND PLAN

FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0 200' 600' 900'

NOT TO SCALE



LAND USE SUMMARY

LAND USE	AREA	UNITS	DESCRIPTION
NEIGHBORHOOD I	22.3 AC	121	50'x100' LOTS
NEIGHBORHOOD II	10.1 AC	72	46'x70' LOTS
NEIGHBORHOOD III	6.2 AC	63	35'x65' COURTYARD SINGLE FAMILY
NEIGHBORHOOD IV	13.6 AC	104 78	TOWNHOMES 2-STORY FLATS
NEIGHBORHOOD V	12.6 AC	88 216	SENIOR APARTMENT UNITS APARTMENT UNITS
EDUCATIONAL FACILITY	2.2 AC		
HOUSE OF WORSHIP	1.5 AC		
PARK PARCEL	13.6 AC		
COMMUNITY POOL	1.8 AC		
TOTAL		740 UNITS	

LEGEND

		AREA	COMPLETE STUDY AREA
	PRESERVED WETLAND	2.18± AC	3.03 AC
	IMPACTED WETLAND	0.85± AC	
	PRESERVED WATERS OF THE UNITED STATES	3.60± AC 16,791± LF	3.67 AC 18,343 LF
	IMPACTED WATERS OF THE UNITED STATES	0.07± AC 1,552± LF	

ALTERNATIVE E

MAXIMUM AVOIDANCE PLAN (2013)

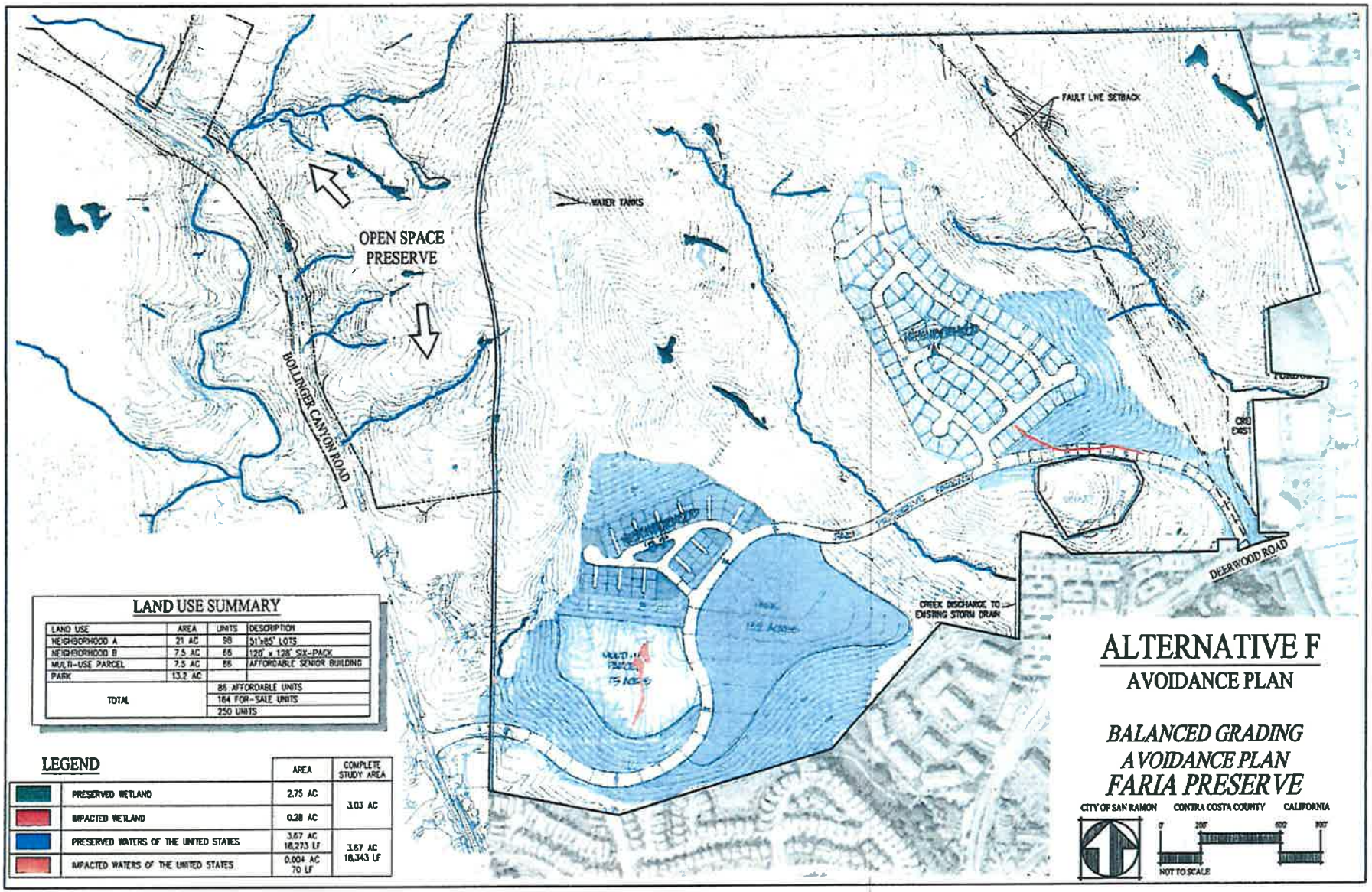
2013 PROPOSED LAND PLAN

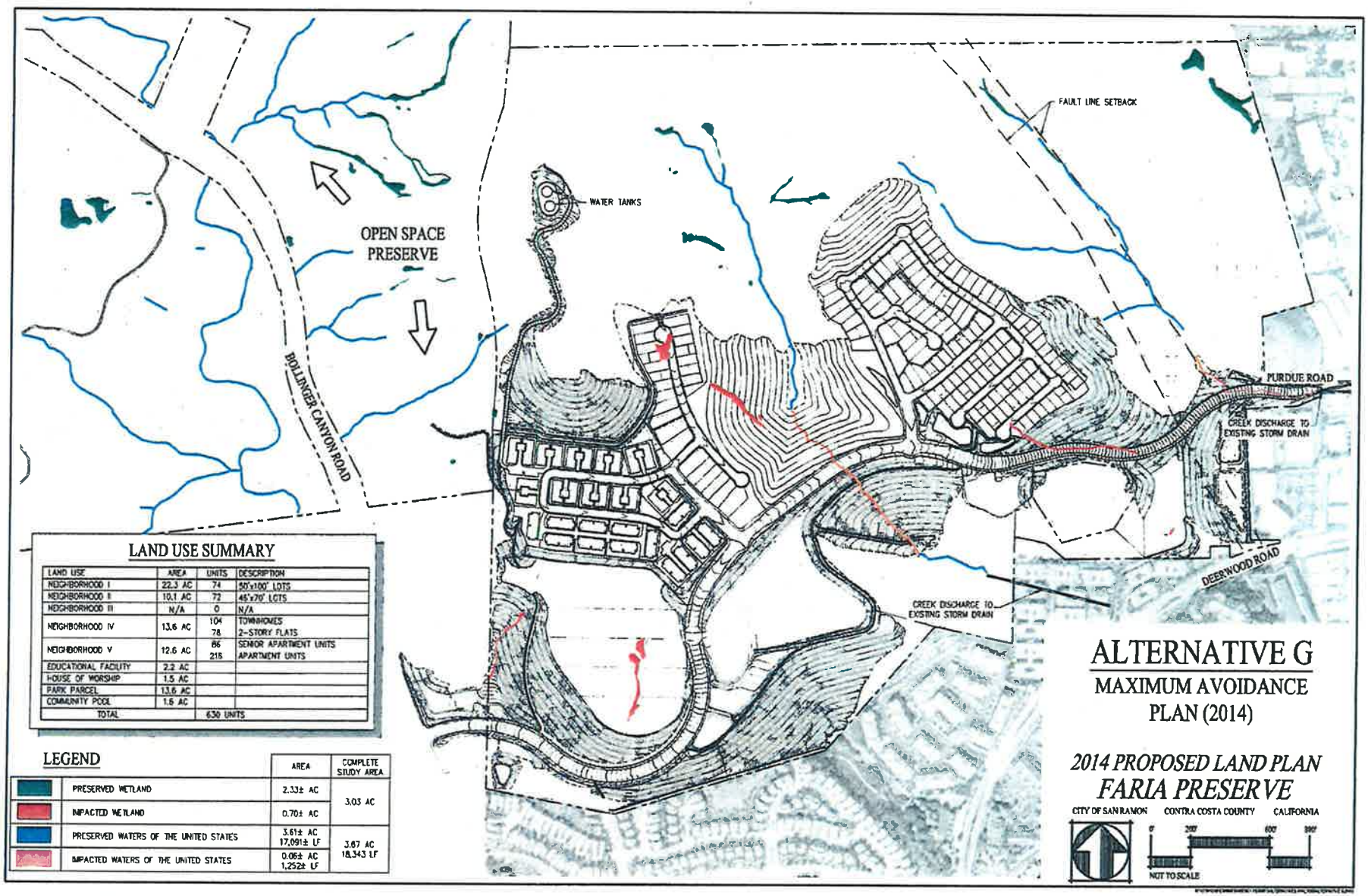
FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

0' 200' 600' 800'

NOT TO SCALE


OPEN SPACE
PRESERVE
BOLLINGER CANYON ROAD
WATER TANKS
FAULT LINE SETBACK
DEERWOOD ROAD
CREEK DISCHARGE TO
EXISTING STORM DRAIN
LAND USE SUMMARY
LAND USE | AREA | UNITS | DESCRIPTION
NEIGHBORHOOD A | 21 AC | 98 | 51'x85' LOTS
NEIGHBORHOOD B | 7.5 AC | 66 | 120' x 128' SIX-PACK
MULTI-USE PARCEL | 7.5 AC | 86 | AFFORDABLE SENIOR BUILDING
PARK | 13.2 AC
TOTAL | 86 AFFORDABLE UNITS
164 FOR-SALE UNITS
250 UNITS
LEGEND
PRESERVED WETLAND | 2.75 AC | 3.03 AC
IMPACTED WETLAND | 0.28 AC
PRESERVED WATERS OF THE UNITED STATES | 3.67 AC 18,273 LF | 3.67 AC 18,343 LF
IMPACTED WATERS OF THE UNITED STATES | 0.004 AC 70 LF
AREA | COMPLETE STUDY AREA
ALTERNATIVE F
AVOIDANCE PLAN
BALANCED GRADING
AVOIDANCE PLAN
FARIA PRESERVE
CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA
0 200' 600' 800'
NOT TO SCALE


OPEN SPACE PRESERVE
BOLLINGER CANYON ROAD
WATER TANKS
FAULT LINE SETBACK
PURDUE ROAD
CREEK DISCHARGE TO EXISTING STORM DRAIN
DEERWOOD ROAD
CREEK DISCHARGE TO EXISTING STORM DRAIN
LAND USE SUMMARY
LAND USE | AREA | UNITS | DESCRIPTION
NEIGHBORHOOD I | 22.3 AC | 74 | 50'x100' LOTS
NEIGHBORHOOD II | 10.1 AC | 72 | 45'x70' LOTS
NEIGHBORHOOD III | N/A | 0 | N/A
NEIGHBORHOOD IV | 13.6 AC | 104 | TOWNHOMES
78 | 2-STORY FLATS
NEIGHBORHOOD V | 12.6 AC | 86 | SENIOR APARTMENT UNITS
215 | APARTMENT UNITS
EDUCATIONAL FACILITY | 2.2 AC
HOUSE OF WORSHIP | 1.5 AC
PARK PARCEL | 13.6 AC
COMMUNITY POOL | 1.6 AC
TOTAL | 630 UNITS
LEGEND
AREA | COMPLETE STUDY AREA
PRESERVED WETLAND | 2.33± AC | 3.03 AC
IMPACTED WETLAND | 0.70± AC
PRESERVED WATERS OF THE UNITED STATES | 3.61± AC 17,091± LF | 3.67 AC 18,343 LF
IMPACTED WATERS OF THE UNITED STATES | 0.06± AC 1,252± LF
ALTERNATIVE G
MAXIMUM AVOIDANCE PLAN (2014)
2014 PROPOSED LAND PLAN
FARIA PRESERVE
CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA
0 200' 600' 1000'
NOT TO SCALE

ALTERNATIVES ANALYSIS - COST COMPARISON
FARIA PRESERVE
SAN RAMON, CALIFORNIA

December 2, 2014
Job No.: 1378-090

		ALTERNATIVE A Initial Faria Land Plan (2000)	ALTERNATIVE B Double-Loaded Creek Corridor (2006)	ALTERNATIVE C Single Loaded Creek Corridor (2008)	ALTERNATIVE D Eastern Creek Avoidance Plan (2010)	ALTERNATIVE E Maximum Avoidance Plan	ALTERNATIVE F Avoidance Plan	ALTERNATIVE G Maximum Avoidance Plan
	GRADING							
1	Clearing and Grubbing		$ 750,000	$ 750,000	$ 750,000	$ 720,000	$ 360,000	$ 720,000
2	Grading Earthwork		$ 17,280,000	$ 19,200,000	$ 16,900,000	$ 13,800,000	$ 5,850,000	$ 11,800,000
3	Corrective Grading, Geogrid, Subdrains		$ 11,790,000	$ 13,100,000	$ 12,500,000	$ 12,200,000	$ 4,772,500	$ 12,200,000
4	Hard Rock Cut		$ 3,450,000	$ 3,450,000	$ 2,300,000	$ 2,300,000	$ 575,000	$ 1,800,000
5	Finish Pads		$ 450,000	$ 450,000	$ 490,000	$ 720,000	$ 140,000	$ 370,000
6	Block Retaining Walls		$ 5,420,000	$ 5,420,000	$ 1,900,000	$ 2,200,000	$ 800,000	$ 2,040,000
7	20' Retaining Wall *(Multi-Use Parcel)*		$ 2,175,000	$ 2,175,000	N/A	$ 8,750,000	N/A	$ 8,750,000
8	Soil Nail Retaining Wall		N/A	$ 560,000	N/A	$ 2,350,000	N/A	$ 2,350,000
9	Concrete V Ditch		$ 650,000	$ 650,000	$ 390,000	$ 350,000	$ 210,000	$ 350,000
10	Erosion Control *(SWPPP)*		$ 3,600,000	$ 3,600,000	$ 3,600,000	$ 2,880,000	$ 1,750,000	$ 2,700,000
	Subtotal Grading		$ 45,565,000	$ 49,355,000	$ 38,830,000	$ 46,270,000	$ 14,457,500	$ 43,080,000
	IN-TRACT IMPROVEMENTS - Curb Gutter, Streets, Storm Drains, Sewer, Water Supply, Electrical, Lighting, Street Landscaping							
11	Neighborhood A *(N-I)*		$ 5,520,000	$ 6,900,000	$ 8,040,000	$ 4,280,000	$ 3,550,000	$ 3,350,000
12	Neighborhood B *(N-II)*		$ 3,992,800	$ 4,340,000	$ 5,280,000	$ 2,800,000	$ 2,300,000	$ 2,800,000
13	Neighborhood C1 - East *(N-III)*		$ 3,675,000	$ 3,675,000	$ 4,440,000	$ 1,590,000	Removed	Removed
14	Neighborhood C2 - West *(N-IV)*		$ 1,830,000	$ 1,830,000	$ 2,790,000	$ 6,231,000	Removed	$ 6,231,000
15	Apartment Site		(Incorporated)	(Incorporated)	(Incorporated)	(Incorporated)	(Incorporated)	(Incorporated)
	Subtotal In-Tract Improvements		$ 15,017,800	$ 16,745,000	$ 20,550,000	$ 14,901,000	$ 5,850,000	$ 12,381,000

ALTERNATIVES ANALYSIS - COST COMPARISON
FARIA PRESERVE
SAN RAMON, CALIFORNIA

December 2, 2014
Job No.: 1378-090

		ALTERNATIVE A Initial Faria Land Plan (2000)	ALTERNATIVE B Double-Loaded Creek Corridor (2006)	ALTERNATIVE C Single Loaded Creek Corridor (2008)	ALTERNATIVE D Eastern Creek Avoidance Plan (2010)	ALTERNATIVE E Maximum Avoidance Plan	ALTERNATIVE F Avoidance Plan	ALTERNATIVE G Maximum Avoidance Plan
	FARIA PRESERVE PARKWAY							
16	Street Work		$ 3,200,000	$ 3,200,000	$ 2,900,000	$ 3,025,000	$ 2,650,000	$ 3,025,000
17	Storm Drains		$ 675,000	$ 675,000	$ 650,000	$ 675,000	$ 650,000	$ 675,000
18	Water Quality		N/A	N/A	$ 500,000	$ 575,000	$ 350,000	$ 575,000
19	Sanitary Sewer		$ 330,000	$ 330,000	$ 220,000	$ 280,000	$ 330,000	$ 280,000
20	Water Supply		$ 375,000	$ 375,000	$ 350,000	$ 1,020,000	$ 375,000	$ 1,020,000
21	Electrical		$ 960,000	$ 960,000	$ 890,000	$ 772,000	$ 960,000	$ 772,000
22	Landscape		$ 2,100,000	$ 2,100,000	$ 2,800,000	$ 3,000,000	$ 1,050,000	$ 3,000,000
	Subtotal Faria Preserve Parkway		$ 7,640,000	$ 7,640,000	$ 8,310,000	$ 9,347,000	$ 6,365,000	$ 9,347,000
	OTHER MAJOR ROADWAYS AND PROJECT FEATURES							
23	Via Saccone		$ 655,000	$ 655,000	N/A	$ 330,000	N/A	$ 330,000
24	Appian Way		$ 1,340,000	$ 1,340,000	N/A	$ 500,000	N/A	$ 500,000
25	City Required Drainage Channel		$ 3,175,000	$ 3,175,000	$ 2,070,000	$ 1,400,000	N/A	$ 1,400,000
26	Detention Basins		$ 230,000	$ 230,000	$ 290,000	$ 690,000	$ 290,000	$ 690,000
27	Access Road / Trail		$ 420,000	$ 420,000	$ 450,000	$ 630,000	$ 350,000	$ 630,000
28	Bridge / Culvert Crossings		$ 730,000	$ 730,000	$ 570,000	$ 930,000	$ 290,000	$ 744,000
29	Bridges		N/A	N/A	N/A	N/A	$ 6,900,000	N/A
30	Entry Features		$ 950,000	$ 950,000	$ 950,000	$ 950,000	$ 690,000	$ 950,000
31	Fencing		$ 320,000	$ 320,000	$ 650,000	$ 695,000	$ 330,000	$ 695,000
32	Water Tanks *(Design and Construction)*		$ 8,000,000	$ 8,000,000	$ 8,000,000	$ 8,000,000	$ 6,000,000	$ 8,000,000
33	Oak Tree Woodland Vegetation		$ 220,000	$ 220,000	$ 220,000	$ 220,000	$ 220,000	$ 220,000
	Subtotal Other Major Roadways/Project Features		$ 16,040,000	$ 16,040,000	$ 13,200,000	$ 14,345,000	$ 15,070,000	$ 14,159,000

ALTERNATIVES ANALYSIS - COST COMPARISON
FARIA PRESERVE
SAN RAMON, CALIFORNIA

December 2, 2014
Job No.: 1378-090

		ALTERNATIVE A Initial Faria Land Plan (2000)	ALTERNATIVE B Double-Loaded Creek Corridor (2006)	ALTERNATIVE C Single Loaded Creek Corridor (2008)	ALTERNATIVE D Eastern Creek Avoidance Plan (2010)	ALTERNATIVE E Maximum Avoidance Plan	ALTERNATIVE F Avoidance Plan	ALTERNATIVE G Maximum Avoidance Plan
	PARKS							
34	Neighborhood Park *(12.7 Acres)*		$ 4,400,000	$ 4,400,000	$ 4,400,000	$ 4,400,000	$ 4,400,000	$ 4,400,000
35	Rose Garden *(0.5 Acres)*		$ 175,000	$ 175,000	$ 175,000	$ 175,000	$ 175,000	$ 175,000
	Subtotal Parks		$ 4,575,000	$ 4,575,000	$ 4,575,000	$ 4,575,000	$ 4,575,000	$ 4,575,000
	OFF-SITE IMPROVEMENTS							
36	Bollinger Canyon Road		$ 290,000	$ 290,000	$ 290,000	$ 290,000	$ 290,000	$ 290,000
37	Off-Site Faria Preserve Parkway		$ 280,000	$ 280,000	$ 280,000	$ 450,000	$ 280,000	$ 450,000
38	Purdue Road		$ 2,040,000	$ 2,040,000	N/A	$ 2,040,000	N/A	$ 2,040,000
39	Deerwood Road		N/A	N/A	$ 680,000	N/A	$ 680,000	N/A
40	Traffic Signals		$ 290,000	$ 290,000	$ 290,000	$ 575,000	$ 290,000	$ 575,000
	Subtotal Off-Site Improvements		$ 2,900,000	$ 2,900,000	$ 1,540,000	$ 3,355,000	$ 1,540,000	$ 3,355,000
	OTHER ITEMS							
41	Community Pool		$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
42	Church Facility		(Incorporated)	(Incorporated)	(Incorporated)	(Incorporated)	(Incorporated)	(Incorporated)
43	Educational Parcel		(Incorporated)	(Incorporated)	(Incorporated)	(Incorporated)	(Incorporated)	(Incorporated)
	Subtotal Other Items		$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
	EIR CONDITIONS OF APPROVAL							
44	Monitoring		$ 120,000	$ 120,000	$ 120,000	$ 120,000	$ 120,000	$ 120,000
45	Pre-Construction Surveys		$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000
	Subtotal EIR Conditions of Approval		$ 320,000	$ 320,000	$ 320,000	$ 320,000	$ 320,000	$ 320,000

ALTERNATIVES ANALYSIS - COST COMPARISON
FARIA PRESERVE
SAN RAMON, CALIFORNIA

December 2, 2014
Job No.: 1378-090

		ALTERNATIVE A Initial Faria Land Plan (2000)	ALTERNATIVE B Double-Loaded Creek Corridor (2006)	ALTERNATIVE C Single Loaded Creek Corridor (2008)	ALTERNATIVE D Eastern Creek Avoidance Plan (2010)	ALTERNATIVE E Maximum Avoidance Plan	ALTERNATIVE F Avoidance Plan	ALTERNATIVE G Maximum Avoidance Plan
	Total Land Development Costs		**$ 93,057,800**	**$ 98,575,000**	**$ 88,325,000**	**$ 94,113,000**	**$ 49,177,500**	**$ 88,217,000**
46	Land Acquistion		$ 26,712,306	$ 26,712,306	$ 26,712,306	$ 26,712,306	$ 26,712,306	$ 26,712,306
47	Mitigation - Wetlands and Species		$ 10,500,000	$ 10,500,000	$ 10,500,000	$ 10,500,000	$ 10,500,000	$ 10,500,000
48	Land Development Soft Costs - 15%		$ 13,958,670	$ 14,786,250	$ 13,248,750	$ 14,116,950	$ 7,376,625	$ 13,232,550
49	Fees - PlanCheck, Inspection, Bonds - 12%		$ 11,166,936	$ 11,829,000	$ 10,599,000	$ 11,293,560	$ 5,901,300	$ 10,586,040
	Total Finsihed Lot Costs:		$ 155,395,712	$ 162,402,556	$ 149,385,056	$ 156,735,816	$ 99,667,731	$ 149,247,896
	Total Number of "For Sale" Lots:		484	484	518	438	164	328
	Average Finished Lot Cost:		$ 321,066	$ 335,542	$ 288,388	$ 357,844	$ 607,730	$ 455,024

LAFFERTY COMMUNITIES

FARIA PRESERVE

JOHN BURNS
REAL ESTATE CONSULTING




Pricing Detail

JOHN BURNS REAL ESTATE CONSULTING

Project Name			Builder	PRODUCT Sq. Ft.	Plan Configuration Bd	Extra	Bt	Lvl	G	TAX & HOA Tax Rate	*Master + Sub	JBREC RECOMMENDED Monthly Pace	Net Base Price (All Incentives)	Net Base Price/ Sq. Ft.	Average Options	Average Premiums	Total Price	Total Price/ Sq. Ft.	80% 4.00% Net Pmt.	31% Income to Qualify*
NEIGHBORHOOD I																				
Neighborhood I			Lafferty	2,797	4	Bonus	3.0	2	2	1.00%	$100	2.0	$835,000	$299	$66,800	$55,485	$957,285	$342	$4,554	$176,000
Product:	SFD	Total Units:	98	2,892	5		4.0	2	2	1.00%	$100		$850,000	$294	$66,800	$55,485	$972,285	$336	$4,624	$179,000
Configuration:	4,750	Sales Rate:	2.0	3,133	5	Den	3.0	2	2	1.00%	$100		$885,000	$282	$66,800	$55,485	$1,007,285	$322	$4,787	$185,000
Lot Dimensions:	50' x 95'			3,354	4		3.0	2	3	1.00%	$100		$910,000	$271	$66,800	$55,485	$1,032,285	$308	$4,903	$190,000
		Totals/Averages:		3,044								2.0	$870,000	$287	$66,800	$55,485	$992,285	$327	$4,717	$182,500
NEIGHBORHOOD II																				
Neighborhood II			Lafferty	2,310	3	Loft	2.5	2	2	1.00%	$100	3.0	$730,000	$316	$58,400	$17,540	$805,940	$349	$3,850	$149,000
Product:	SFD	Total Units:	73	2,258	4		3.0	2	2	1.00%	$100		$725,000	$321	$58,400	$17,540	$800,940	$355	$3,826	$148,000
Configuration:	3,220	Sales Rate:	3.0	2,384	5		3.0	2	2	1.00%	$100		$740,000	$310	$58,400	$17,540	$815,940	$342	$3,896	$151,000
Lot Dimensions:	46' x 70'																			
		Totals/Averages:		2,317								3.0	$731,667	$316	$58,400	$17,540	$807,607	$349	$3,858	$149,333
NEIGHBORHOOD III																				
Neighborhood III			Lafferty	1,862	3	Bonus	2.5	2	2	1.00%	$175	3.0	$635,000	$341	$38,100	$12,990	$686,090	$368	$3,367	$130,000
Product:	SFD	Total Units:	123	2,054	4		2.5	2	2	1.00%	$175		$655,000	$319	$38,100	$12,990	$706,090	$344	$3,460	$134,000
Configuration:	Cluster	Sales Rate:	3.0	2,360	4		3.5	2	2	1.00%	$175		$685,000	$290	$38,100	$12,990	$736,090	$312	$3,600	$139,000
				2,588	4		3.0	2	2	1.00%	$175		$699,000	$270	$38,100	$12,990	$750,090	$290	$3,665	$142,000
		Totals/Averages:		2,216								3.0	$668,500	$305	$38,100	$12,990	$719,590	$328	$3,523	$136,250
NEIGHBORHOOD IV																				
Neighborhood IV			Lafferty	1,581	2	Den	2.0	1	2	1.00%	$325	2.0	$545,000	$345	$32,700	$10,194	$587,894	$372	$3,060	$118,000
Product:	SFA	Total Units:	104	1,643	2	Den	2.0	1	2	1.00%	$325		$555,000	$338	$32,700	$10,194	$597,894	$364	$3,107	$120,000
Configuration:	St Flats	Sales Rate:	2.0	1,797	2	Den	2.0	1	2	1.00%	$325		$569,000	$317	$32,700	$10,194	$611,894	$341	$3,172	$123,000
				1,581	2	Den	2.0	1	2	1.00%	$225		$519,000	$328	$10,000	$10,194	$539,194	$341	$2,734	$106,000
				1,643	2	Den	2.0	1	2	1.00%	$225		$529,000	$322	$10,000	$10,194	$549,194	$334	$2,780	$108,000
				1,797	2	Den	2.0	1	2	1.00%	$225		$545,000	$303	$10,000	$10,194	$565,194	$315	$2,855	$111,000
		Totals/Averages:		1,674								2.0	$543,667	$325	$21,350	$10,194	$575,210	$344	$2,951	$114,333
NEIGHBORHOOD V																				
Neighborhood V			Lafferty	1,742	3		3.5	3I	2	1.00%	$375	4.0	$545,000	$313	$32,700	$17,333	$595,033	$342	$3,143	$122,000
Product:	SFA	Total Units:	78	1,865	3	Bonus	2.5	3I	2	1.00%	$375		$559,000	$300	$32,700	$17,333	$609,033	$327	$3,209	$124,000
Configuration:	Towns	Sales Rate:	4.0	2,121	3	Bonus	3.0	3E	2	1.00%	$375		$595,000	$281	$32,700	$17,333	$645,033	$304	$3,376	$131,000
				2,122	5		2.5	3E	2	1.00%	$375		$610,000	$287	$32,700	$17,333	$660,033	$311	$3,446	$133,000
				2,347	5	Bonus	2.5	3E	2	1.00%	$375		$630,000	$268	$32,700	$17,333	$680,033	$290	$3,539	$137,000
		Totals/Averages:		2,039								4.0	$587,800	$290	$32,700	$17,333	$637,833	$315	$3,343	$129,400

Source: John Burns Real Estate Consulting market research.

Note: Master HOA assumption is $100/month.

Faria Preserve
Average Lot Value
Date: October 29, 2014
Filename: Faria.LotResideual.10.29.14

Finished lot Residual Values:	512,245	406,705	346,880	258,994	304,031

Quantity of Lots by Lot Type:

Alternative	50' by 100'	46' by 70"	35' by 65'	Townhome	Flats	Total
B	200		200	84		484
C	200	132	68	84		484
D	200		136	182		518
E	121	72	63	104	78	438
F	98		66	-	-	164
G	74	72		104	78	328

Total Residual Value Calculation for Each Alternative:

Alternative	50' by 100'	46' by 70"	35' by 65'	Townhome	Flats	Total	Weighted Average Finished Lot Value
B	102,449,033	-	69,375,927	21,755,486	-	193,580,445	399,960
C	102,449,033	53,685,067	23,587,815	21,755,486	-	201,477,400	416,276
D	102,449,033	-	47,175,630	47,136,885	-	196,761,548	379,849
E	61,981,665	29,282,764	21,853,417	26,935,363	23,714,413	163,767,621	373,899
F	50,200,026	-	22,894,056	-	-	73,094,082	445,696
G	37,906,142	29,282,764	-	26,935,363	23,714,413	117,838,682	359,264

FARIA PRESERVE - FINISHED LOT RESIDUAL CALCULATION
DATE: OCTOBER 29, 2014
FILENAME: FARIA.LOTRESIDUAL.10.29.14

BUDGET REPORT:	Lot Size 50 X 100	Lot Size 50 X 100	Lot Size 50 X 100	Lot Size 50 X 100		Grand Total	Unit Average	Cost per SF	% of Sales
Number of Units	29	31	30	31	-	121			
Square Footage	2,797	2,892	3,133	3,354	-	368,729	3,047		
Percenage of Mix	23%	26%	25%	26%		100%			
Revenue:									
Base Sales Revenue	835,000	850,000	865,000	910,000	-	104,725,000	865,496	284.02	87.62%
Premiums Revenue	55,485	55,485	55,485	55,485	-	6,713,685	55,485	18.21	5.62%
Options Revenue	66,800	66,800	66,800	66,800	-	8,082,800	66,800	21.92	6.76%
Gross Sales Revenue	957,285	972,285	987,285	1,032,285	-	119,521,485	987,781	324.14	100.00%
Preferred Lender Incentives	(2,500)	(2,500)	(2,500)	(2,500)	-	(302,500)	(2,500)	(0.82)	-0.25%
Developer Incentives						-	-	-	0.00%
Commissions - 3% of Gross Sales Revenue	(28,719)	(29,169)	(29,619)	(30,969)	-	(3,585,645)	(29,633)	(9.72)	-3.00%
Closing Costs	(1,500)	(1,500)	(1,500)	(1,500)	-	(181,500)	(1,500)	(0.49)	-0.15%
Warranty - 1% of Gross Sales Revenue	(9,573)	(9,723)	(9,873)	(10,323)	-	(1,195,215)	(9,878)	(3.24)	-1.00%
Total Adjusted Gross Revenue	914,994	929,394	943,794	986,994	-	114,256,626	944,270	309.87	95.60%
Construction Costs:									
Direct Construction Costs	181,805	187,980	203,645	218,010	-	23,967,385	198,078	65.00	20.05%
Options Cost	50,100	50,100	50,100	50,100	-	6,062,100	50,100	16.44	5.07%
Building Permit & Impact Fees	60,000	60,000	60,000	60,000	-	7,260,000	60,000	19.69	6.07%
Architecture, Structural Engineering, Title 24	2,000	2,000	2,000	2,000	-	242,000	2,000	0.66	0.20%
Marketing - Models Upgrades and Soft Costs	15,000	15,000	15,000	15,000	-	1,815,000	15,000	4.92	1.52%
G&A	1,500	1,500	1,500	1,500	-	181,500	1,500	0.49	0.15%
Field Supervision	15,000	15,000	15,000	15,000	-	1,815,000	15,000	4.92	1.52%
Closing Costs	1,500	1,500	1,500	1,500	-	181,500	1,500	0.49	0.15%
Insurance - General Liablity & Course of Const.	7,500	7,500	7,500	7,500	-	907,500	7,500	2.46	0.76%
HOA Dues	2,000	2,000	2,000	2,000	-	242,000	2,000	0.66	0.20%
Property Tax	2,500	2,500	2,500	2,500		302,500	2,500	0.82	0.25%
Financing Costs - 5%	45,750	46,470	47,190	49,350	-	5,712,831	47,213	15.49	4.78%
Management Fee/Developer	28,719	29,169	29,619	30,969	-	3,585,645	29,633	9.72	3.00%
Total Home Construction Costs	413,373	420,718	437,553	455,428	-	52,274,961	432,024	141.77	43.74%
Finish Lot Value							512,245		

FARIA PRESERVE - FINISHED LOT RESIDUAL CALCULATION
DATE: OCTOBER 29, 2014
FILENAME: FARIA.LOTRESIDUAL.10.29.14

BUDGET REPORT:	Lot Size 46 X 70	Lot Size 46 X 70	Lot Size 46 X 70			Grand Total	Unit Average	Cost per SF	% of Sales
Number of Units	25	23	24			72			
Square Footage	2,310	2,258	2,384	-	-	166,900	2,318		
Percentage of Mix	35%	32%	33%			100%			
Revenue:									
Base Sales Revenue	730,000	725,000	740,000	-	-	52,685,000	731,736	315.67	90.60%
Premiums Revenue	17,540	17,540	17,540	-	-	1,262,880	17,540	7.57	2.17%
Options Revenue	58,400	58,400	58,400	-	-	4,204,800	58,400	25.19	7.23%
Gross Sales Revenue	805,940	800,940	815,940	-	-	58,152,680	807,676	348.43	100.00%
Preferred Lender Incentives	(3,000)	(3,000)	(3,000)	-	-	(216,000)	(3,000)	(1.29)	-0.37%
Developer Incentives				-	-	-	-	-	0.00%
Commissions - 3% of Gross Sales Revenue	(24,178)	(24,028)	(24,478)	-	-	(1,744,580)	(24,230)	(10.45)	-3.00%
Closing Costs	(1,500)	(1,500)	(1,500)	-	-	(108,000)	(1,500)	(0.65)	-0.19%
Warranty - 1% of Gross Sales Revenue	(8,059)	(8,009)	(8,159)	-	-	(581,527)	(8,077)	(3.48)	-1.00%
Total Adjusted Gross Revenue	769,202	764,402	778,802	-	-	55,502,573	770,869	332.55	95.44%
Construction Costs:									
Direct Construction Costs	150,150	146,770	154,960	-	-	10,848,500	150,674	65.00	18.66%
Options Cost	43,800	43,800	43,800	-	-	3,153,600	43,800	18.90	5.42%
Building Permit & Impact Fees	60,000	60,000	60,000	-	-	4,320,000	60,000	25.88	7.43%
Architecture, Structural Engineering, Title 24	2,000	2,000	2,000	-	-	144,000	2,000	0.86	0.25%
Marketing - Models Upgrades and Soft Costs	15,000	15,000	15,000	-	-	1,080,000	15,000	6.47	1.86%
G&A	1,500	1,500	1,500	-	-	108,000	1,500	0.65	0.19%
Field Supervision	15,000	15,000	15,000	-	-	1,080,000	15,000	6.47	1.86%
Closing Costs	1,500	1,500	1,500	-	-	108,000	1,500	0.65	0.19%
Insurance - General Liablity & Course of Const.	7,500	7,500	7,500	-	-	540,000	7,500	3.24	0.93%
HOA Dues	2,000	2,000	2,000	-	-	144,000	2,000	0.86	0.25%
Property Tax	2,500	2,500	2,500	-	-	180,000	2,500	1.08	0.31%
Financing Costs - 5%	38,460	38,460	38,460			2,769,129	38,460	16.59	4.76%
Management Fee/Developer	24,178	24,028	24,478	-	-	1,744,580	24,230	10.45	3.00%
Total Home Construction Costs	363,588	360,058	368,698	-	-	26,219,809	364,164	157.10	45.09%
Finish Lot Value							406,705		

FARIA PRESERVE - FINISHED LOT RESIDUAL CALCULATION
DATE: OCTOBER 29, 2014
FILENAME: FARIA.LOTRESIDUAL.10.29.14

BUDGET REPORT:	Lot Size 35 X 65	Lot Size 35 X 65	Lot Size 35 X 65	Lot Size 35 X 65		Grand Total	Unit Average	Cost per SF	% of Sales
Number of Units	10	21	22	10	-	63			
Square Footage	1,862	2,054	2,360	2,588	-	139,554	2,215		
Percentage of Mix	16%	33%	35%	16%		100%			
Revenue:									
Base Sales Revenue	635,000	655,000	685,000	699,000	-	42,165,000	669,286	302.14	92.91%
Premiums Revenue	12,990	12,990	12,990	12,990	-	818,370	12,990	5.86	1.80%
Options Revenue	38,100	38,100	38,100	38,100	-	2,400,300	38,100	17.20	5.29%
Gross Sales Revenue	686,090	824,500	736,090	750,090	-	45,383,670	720,376	325.21	100.00%
Preferred Lender Incentives	(3,000)	(3,000)	(3,000)	(3,000)		(189,000)	(3,000)	(1.35)	-0.42%
Developer Incentives						-	-	-	0.00%
Commissions - 3% of Gross Sales Revenue	(20,583)	(24,735)	(22,083)	(22,503)	-	(1,436,108)	(22,795)	(10.29)	-3.16%
Closing Costs	(1,500)	(1,500)	(1,500)	(1,500)	-	(94,500)	(1,500)	(0.68)	-0.21%
Warranty - 1% of Gross Sales Revenue	(6,861)	(8,245)	(7,361)	(7,501)	-	(478,703)	(7,598)	(3.43)	-1.05%
Total Adjusted Gross Revenue	654,146	787,020	702,146	715,586	-	43,185,359	685,482	309.45	95.16%
									0.00%
Construction Costs:									
Direct Construction Costs	121,030	133,510	153,400	168,220	-	9,071,010	143,984	65.00	19.99%
Options Cost	28,575	28,575	28,575	28,575	-	1,800,225	28,575	12.90	3.97%
Building Permit & Impact Fees	60,000	60,000	60,000	60,000	-	3,780,000	60,000	27.09	8.33%
Architecture, Structural Engineering, Title 24	2,000	2,000	2,000	2,000	-	126,000	2,000	0.90	0.28%
Marketing - Models Upgrades and Soft Costs	15,000	15,000	15,000	15,000	-	945,000	15,000	6.77	2.08%
G&A	1,500	1,500	1,500	1,500	-	94,500	1,500	0.68	0.21%
Field Supervision	15,000	15,000	15,000	15,000	-	945,000	15,000	6.77	2.08%
Closing Costs	1,500	1,500	1,500	1,500	-	94,500	1,500	0.68	0.21%
Insurance - General Liablity & Course of Const.	7,500	7,500	7,500	7,500	-	472,500	7,500	3.39	1.04%
HOA Dues	2,000	2,000	2,000	2,000	-	126,000	2,000	0.90	0.28%
Property Tax	2,500	2,500	2,500	2,500	-	157,500	2,500	1.13	0.35%
Financing Costs - 5%	32,707	39,351	35,107	35,779		2,283,598	36,248	16.36	5.03%
Management Fee/Developer	20,583	24,735	22,083	22,503	-	1,436,108	22,795	10.29	3.16%
Total Home Construction Costs	309,895	333,171	346,165	362,077	-	21,331,942	338,602	152.86	47.00%
Finished Lot Value							346,880		

FARIA PRESERVE - FINISHED LOT RESIDUAL CALCULATION
DATE: OCTOBER 29, 2014
FILENAME: FARIA.LOTRESIDUAL.10.29.14

BUDGET REPORT:	Lot Size Townhouse	Lot Size Townhouse	Lot Size Townhouse	Lot Size Townhouse		Grand Total	Unit Average	Cost per SF	% of Sales
Production Units	20	24	40	20	-	104			
Square Footage	2,121	1,865	1,742	2,347	-	203,800	1,960		
Percentage of Mix	19%	23%	38%	20%		100%			
Revenue:									
Base Sales Revenue	610,000	559,000	545,000	630,000	-	60,016,000	577,077	294.48	92.02%
Premiums Revenue	17,333	17,333	17,333	17,333	-	1,802,632	17,333	8.85	2.76%
Options Revenue	32,700	32,700	32,700	32,700	-	3,400,800	32,700	16.69	5.21%
Gross Sales Revenue	660,033	609,033	595,033	680,033	-	65,219,432	627,110	320.02	100.00%
Preferred Lender Incentives	(2,500)	(2,500)	(2,500)	(2,500)		(260,000)	(2,500)	(1.28)	-0.40%
Developer Incentives					-	-	-	-	0.00%
Commissions - 3% of Gross Sales Revenue	(19,801)	(18,271)	(17,851)	(20,401)	-	(1,956,583)	(18,813)	(9.60)	-3.00%
Closing Costs	(19,801)	(18,271)	(17,851)	(20,401)	-	(1,956,583)	(18,813)	(9.60)	-3.00%
Warranty - 1% of Gross Sales Revenue	(1,500)	(1,500)	(1,500)	(1,500)	-	(156,000)	(1,500)	(0.77)	-0.24%
Total Adjusted Gross Revenue	(6,600)	(6,090)	(5,950)	(6,800)	-	(652,194)	(6,271)	(3.20)	-1.00%
	609,831	562,401	549,381	628,431	-	60,238,072	581,712	296.85	92.36%
Construction Costs:									
Direct Construction Costs									
Options Cost	148,470	130,550	121,940	164,290	-	14,266,000	137,173	70.00	21.87%
Building Permit & Impact Fees	24,525	24,525	24,525	24,525	-	2,550,600	24,525	12.52	3.91%
Architecture, Structural Engineering, Title 24	58,000	58,000	58,000	58,000	-	6,032,000	58,000	29.60	9.25%
Marketing - Models Upgrades and Soft Costs	1,050	1,050	1,050	1,050	-	109,200	1,050	0.54	0.17%
G&A	13,000	13,000	13,000	13,000	-	1,352,000	13,000	6.63	2.07%
Field Supervision	1,100	1,100	1,100	1,100	-	114,400	1,100	0.56	0.18%
Closing Costs	12,000	12,000	12,000	12,000	-	1,248,000	12,000	6.12	1.91%
Insurance - General Liablity & Course of Const.	1,000	1,000	1,000	1,000	-	104,000	1,000	0.51	0.16%
HOA Dues	7,220	7,220	7,220	7,220	-	750,880	7,220	3.68	1.15%
Property Tax	2,500	2,500	2,500	2,500		260,000	2,500	1.28	0.40%
Financing Costs - 5%	30,492	28,120	27,469	31,422	-	3,011,904	28,961	14.78	4.62%
Management Fee/Developer	18,295	16,872	16,481	18,853		1,807,142	17,376	8.87	2.77%
Total Home Construction Costs	19,801	18,271	17,851	20,401	-	1,956,583	18,813	9.60	3.00%
	337,452	314,208	304,136	355,360	-	33,562,709	322,718	164.68	51.46%

Finish Lot Value 258,994

FARIA PRESERVE - FINISHED LOT RESIDUAL CALCULATION
DATE: OCTOBER 29, 2014
FILENAME: FARIA.LOTRESIDUAL.10.29.14

BUDGET REPORT:	Lot Size Flats	Lot Size Flats	Lot Size Flats			Grand Total	Unit Average	Cost per SF	% of Sales
Production Units	26	26	26		-	78			
Square Footage	1,581	1,643	1,797		-	130,546	1,674		
Percentage of Mix	33%	33%	33%			100%			
Revenue:									
Base Sales Revenue	545,000	555,000	569,000	-	-	43,394,000	556,333	332.40	92.84%
Premiums Revenue	10,194	10,194	10,194	-	-	795,132	10,194	6.09	1.70%
Options Revenue	32,700	32,700	32,700	-	-	2,550,600	32,700	19.54	5.46%
Gross Sales Revenue	587,894	597,894	611,894	-	-	46,739,732	599,227	358.03	100.00%
Preferred Lender Incentives	(3,000)	(3,000)	(3,000)	-	-	(234,000)	(3,000)	(1.79)	-0.50%
Developer Incentives			-	-	-	-	-	-	0.00%
Commissions - 3% of Gross Sales Revenue	(17,637)	(17,937)	(18,357)	-	-	(1,402,192)	(17,977)	(10.74)	-3.00%
Closing Costs	(1,500)	(1,500)	(1,500)	-	-	(117,000)	(1,500)	(0.90)	-0.25%
Warranty - 1% of Gross Sales Revenue	(5,879)	(5,979)	(6,119)	-	-	(467,397)	(5,992)	(3.58)	-1.00%
Total Adjusted Gross Revenue	559,878	569,478	582,918	-	-	44,519,143	570,758	341.02	95.25%
Construction Costs:									
Direct Construction Costs	110,670	115,010	125,790	-	-	9,138,220	117,157	70.00	19.55%
Options Cost	24,525	24,525	24,525	-	-	1,912,950	24,525	14.65	4.09%
Building Permit & Impact Fees	60,000	60,000	60,000	-	-	4,680,000	60,000	35.85	10.01%
Architecture, Structural Engineering, Title 24	2,000	2,000	2,000	-	-	156,000	2,000	1.19	0.33%
Marketing - Models Upgrades and Soft Costs	15,000	15,000	15,000	-	-	1,170,000	15,000	8.96	2.50%
G&A	1,500	1,500	1,500	-	-	117,000	1,500	0.90	0.25%
Field Supervision	15,000	15,000	15,000	-	-	1,170,000	15,000	8.96	2.50%
Closing Costs	1,500	1,500	1,500	-	-	117,000	1,500	0.90	0.25%
Insurance - General Liablity & Course of Const.	7,500	7,500	7,500	-	-	585,000	7,500	4.48	1.25%
HOA Dues	2,000	2,000	2,000	-	-	156,000	2,000	1.19	0.33%
Property Tax	2,500	2,500	2,500	-	-	195,000	2,500	1.49	0.42%
Financing Costs - 5%	27,994	28,474	29,146			2,225,957	28,538	17.05	4.76%
Management Fee/Developer	17,637	17,937	18,357	-	-	1,402,192	17,977	10.74	3.00%
Total Home Construction Costs	287,826	292,946	304,818	-	-	23,025,319	295,196	176.38	49.26%
Finish Lot Value							304,031		

Faria Preserve
Alternative Analysis - Economic Analysis
Date: October 30, 2014
Filename: Faria.Comparison.10.30.14

Alternative	Weighted Average Finished Lot Value	Average Lot Development Cost	Viable/ (Unviable)
B	$ 399,960.00	$ 321,066.00	$ 78,894.00
C	$ 416,276.00	$ 335,542.00	$ 80,734.00
D	$ 379,849.00	$ 288,388.00	$ 91,461.00
E	$ 373,899.00	$ 357,844.00	$ 16,055.00
F	$ 445,696.00	$ 607,730.00	$ (162,034.00)
G	$ 359,264.00	$ 455,024.00	$ (95,760.00)

ATTACHMENT 7

COMPARISON OF ALTERNATIVE "C" AND ALTERNATIVE "E"

LAFFERTY COMMUNITIES

Handcrafted. Just for you.

OVERALL SITE PLAN

FARIA PRESERVE

SAN RAMON, CALIFORNIA

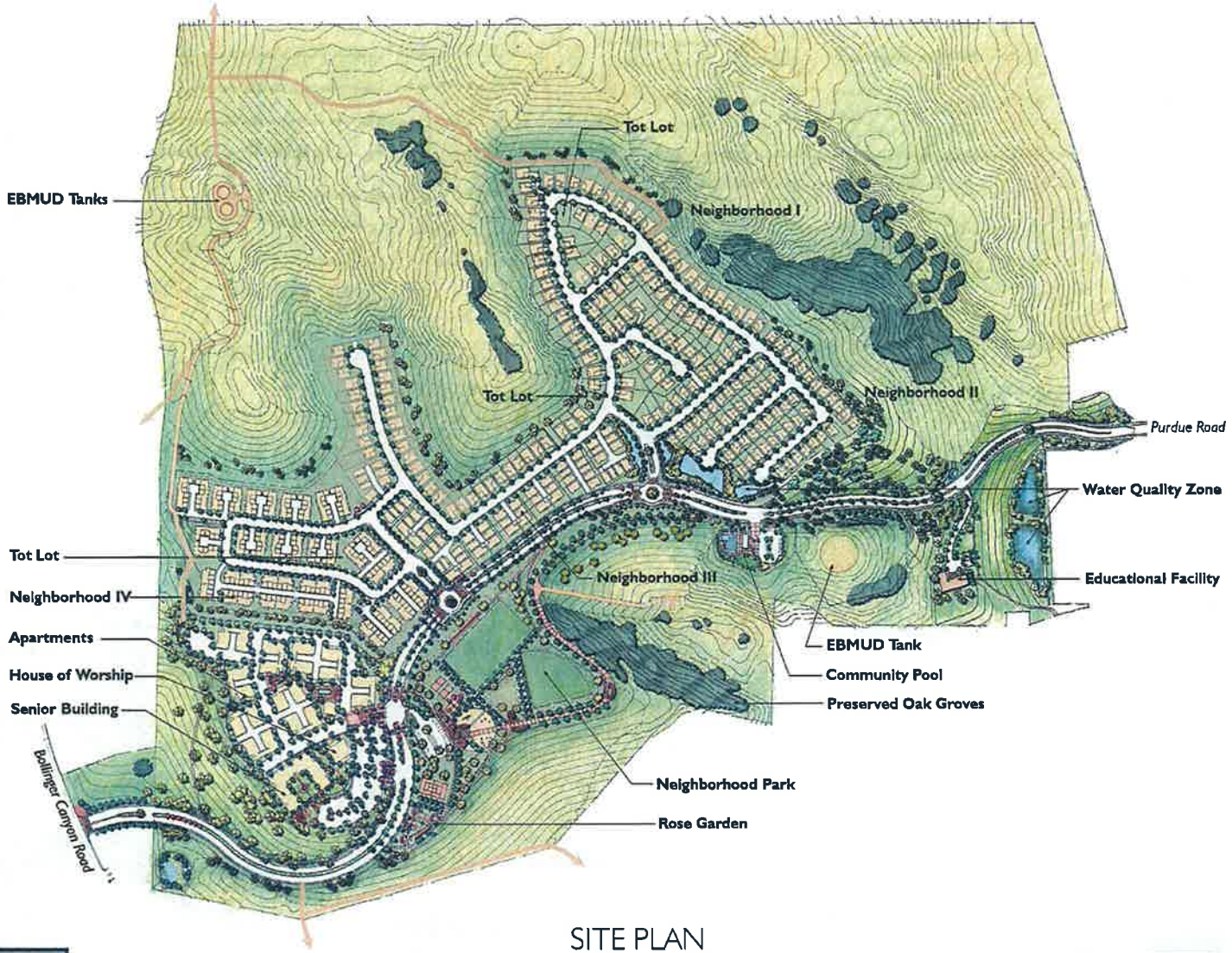
0 200 400 800ft

MARCH 2014

GATES +ASSOCIATES

LANDSCAPE ARCHITECTURE
LAND PLANNING URBAN DESIGN

1



SITE PLAN

FARIA PRESERVE

SAN RAMON, CALIFORNIA

LAFFERTY COMMUNITIES

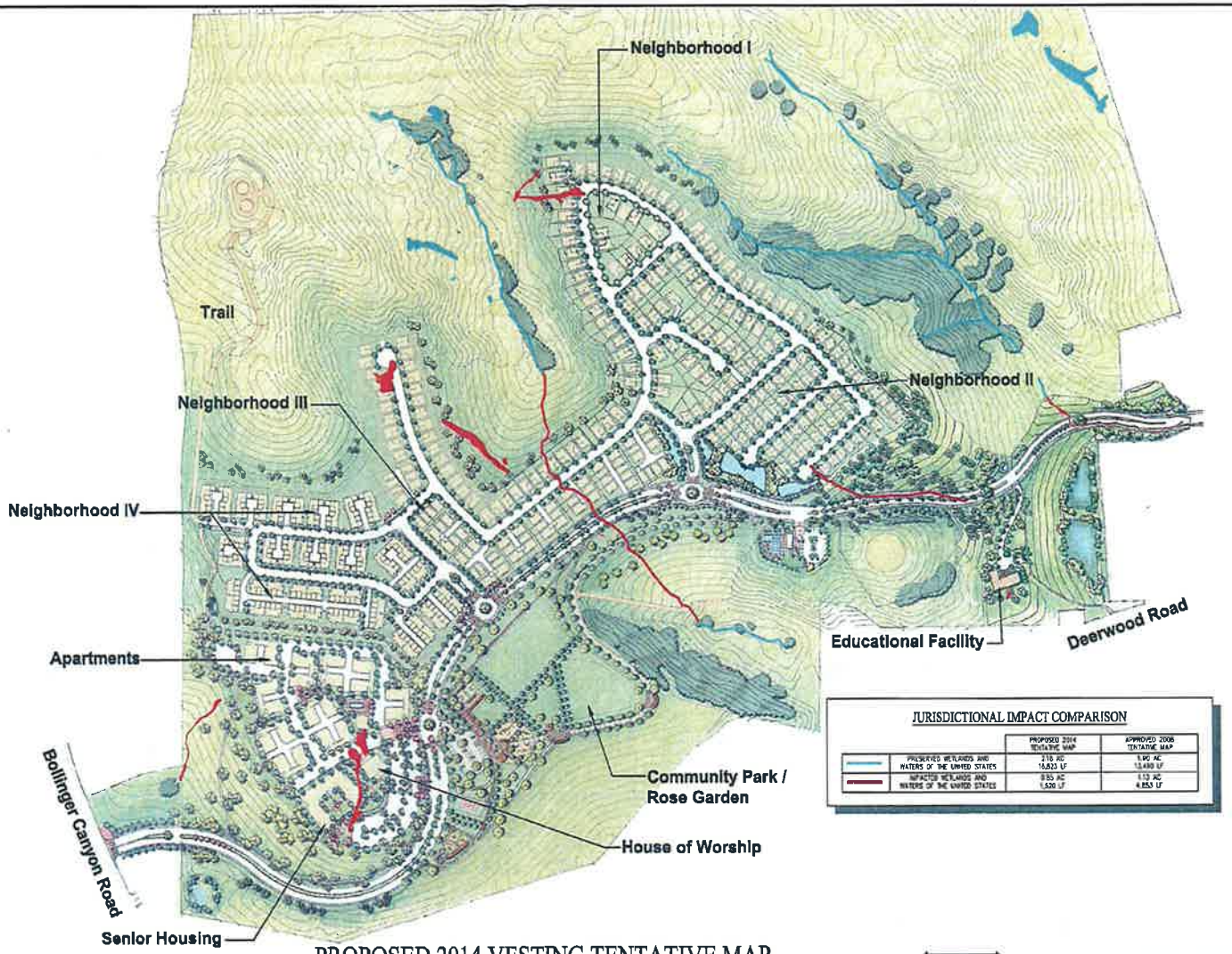
Handcrafted. Just for you.

0 100 200 400ft

MARCH 2014

GATES +ASSOCIATES

2



PROPOSED 2014 VESTING TENTATIVE MAP

JURISDICTIONAL IMPACTS

THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

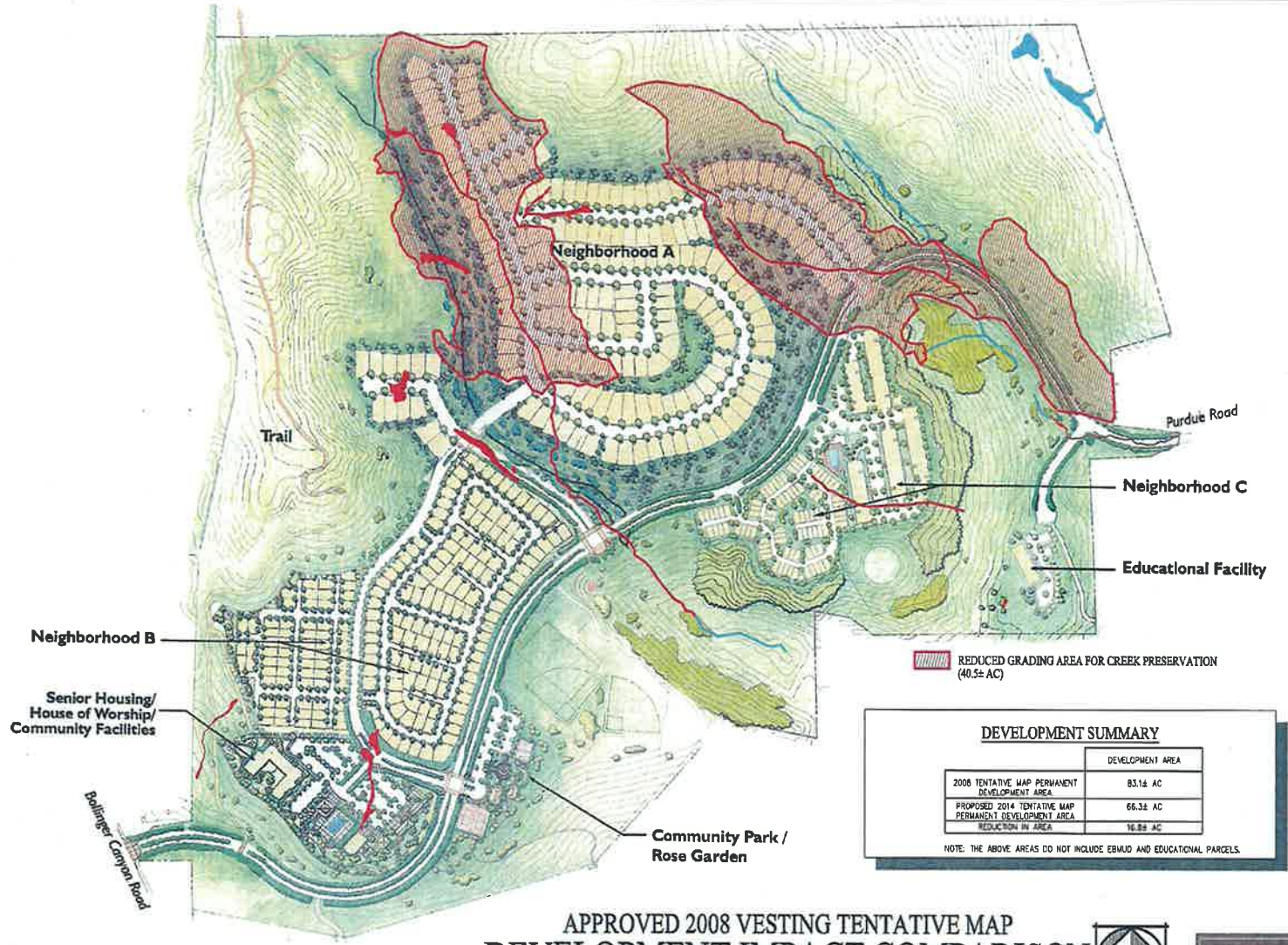
WILLIAM HEZMALHALCH ARCHITECTS INC.

GATES +ASSOCIATES

APPROXIMATE SCALE: 1" = 200'

DATE: JULY 8, 2014

LAFFERTY COMMUNITIES



DEVELOPMENT SUMMARY

	DEVELOPMENT AREA
2008 TENTATIVE MAP PERMANENT DEVELOPMENT AREA	83.1± AC
PROPOSED 2014 TENTATIVE MAP PERMANENT DEVELOPMENT AREA	66.3± AC
REDUCTION IN AREA	16.8± AC

NOTE: THE ABOVE AREAS DO NOT INCLUDE EBMUD AND EDUCATIONAL PARCELS.

APPROVED 2008 VESTING TENTATIVE MAP
DEVELOPMENT IMPACT COMPARISON
THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

APPROXIMATE SCALE: 1" = 200'

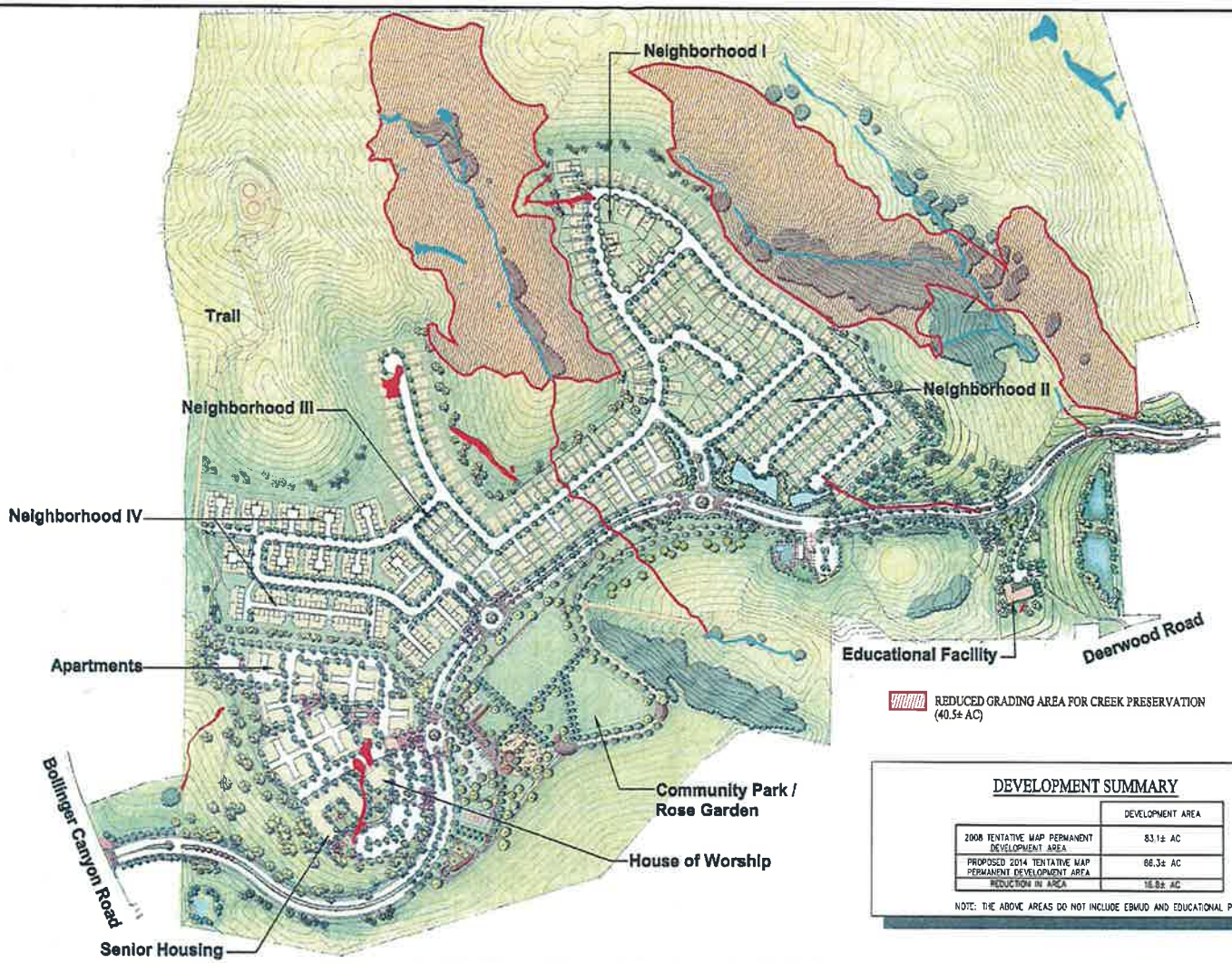
DATE: JULY 8, 2014

Carlson, Barbee & Gibson, Inc.

WILLIAM HEZMALHALCH ARCHITECTS INC.

GATES +ASSOCIATES

LAFFERTY COMMUNITIES



REDUCED GRADING AREA FOR CREEK PRESERVATION (40.5± AC)

DEVELOPMENT SUMMARY

	DEVELOPMENT AREA
2008 TENTATIVE MAP PERMANENT DEVELOPMENT AREA	83.1± AC
PROPOSED 2014 TENTATIVE MAP PERMANENT DEVELOPMENT AREA	66.3± AC
REDUCTION IN AREA	16.8± AC

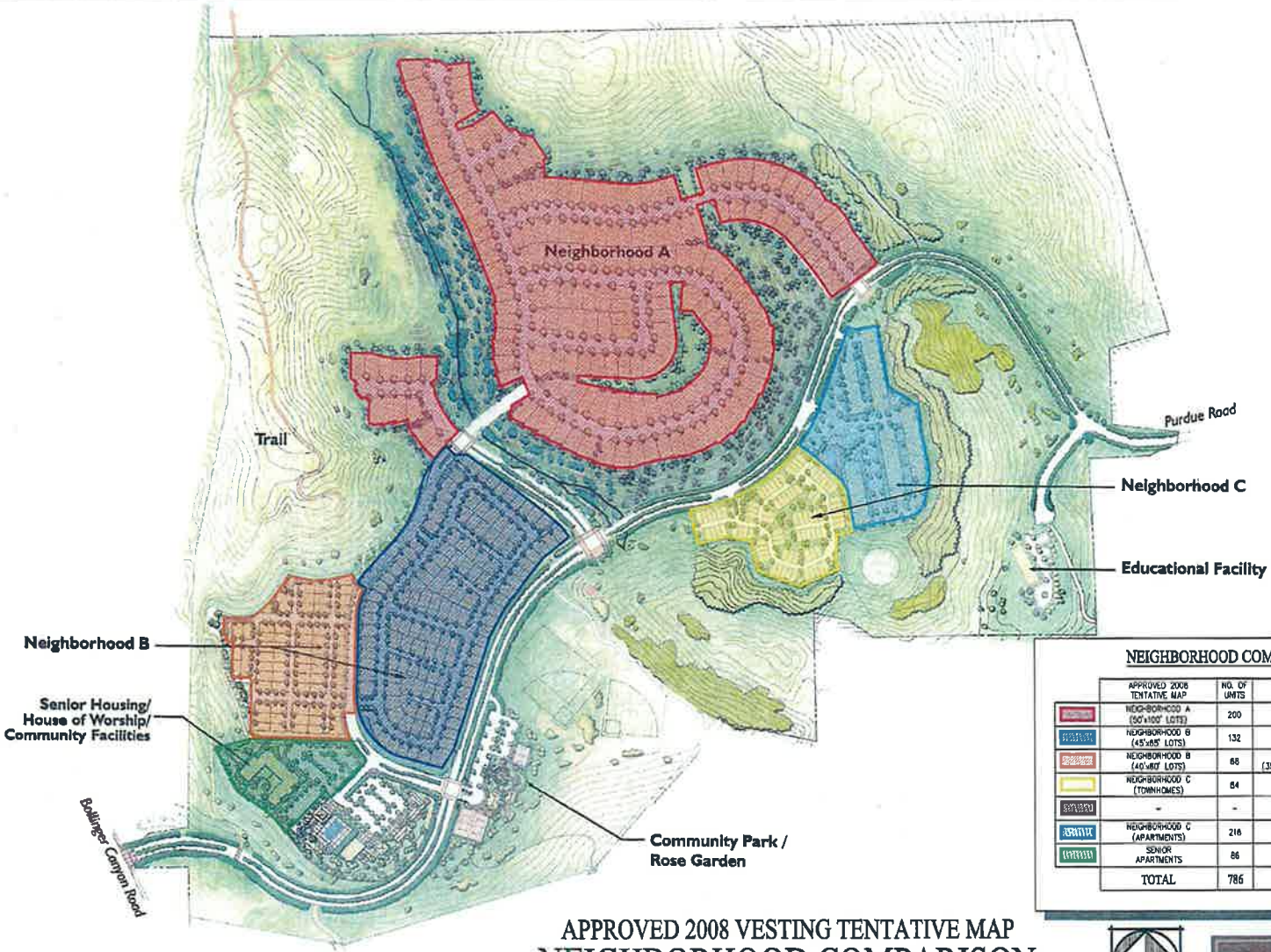
NOTE: THE ABOVE AREAS DO NOT INCLUDE EBMUD AND EDUCATIONAL PARCELS.

PROPOSED 2014 VESTING TENTATIVE MAP
DEVELOPMENT IMPACT COMPARISON
THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

APPROXIMATE SCALE: 1" = 200'
DATE: JULY 8, 2014

Carlson, Barbee & Gibson, Inc.
WILLIAM HEZMALHALCH ARCHITECTS INC.
GATES + ASSOCIATES
LAFFERTY COMMUNITIES



NEIGHBORHOOD COMPARISON

	APPROVED 2008 TENTATIVE MAP	NO. OF UNITS	PROPOSED TENTATIVE MAP	NO. OF UNITS
	NEIGHBORHOOD A (50'x100' LOTS)	200	NEIGHBORHOOD I (50'x100' LOTS)	121
	NEIGHBORHOOD B (45'x85' LOTS)	132	NEIGHBORHOOD II (45'x70' LOTS)	72
	NEIGHBORHOOD B (40'x80' LOTS)	68	NEIGHBORHOOD III (35'x55' COURTYARD LOTS)	63
	NEIGHBORHOOD C (TOWNHOMES)	84	NEIGHBORHOOD IV (TOWNHOMES)	104
	-	-	NEIGHBORHOOD IV (STACKED FLATS)	78
	NEIGHBORHOOD C (APARTMENTS)	216	APARTMENTS	216
	SENIOR APARTMENTS	86	SENIOR APARTMENTS	86
	TOTAL	786	TOTAL	740

APPROVED 2008 VESTING TENTATIVE MAP

NEIGHBORHOOD COMPARISON

THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

APPROXIMATE SCALE: 1" = 200'

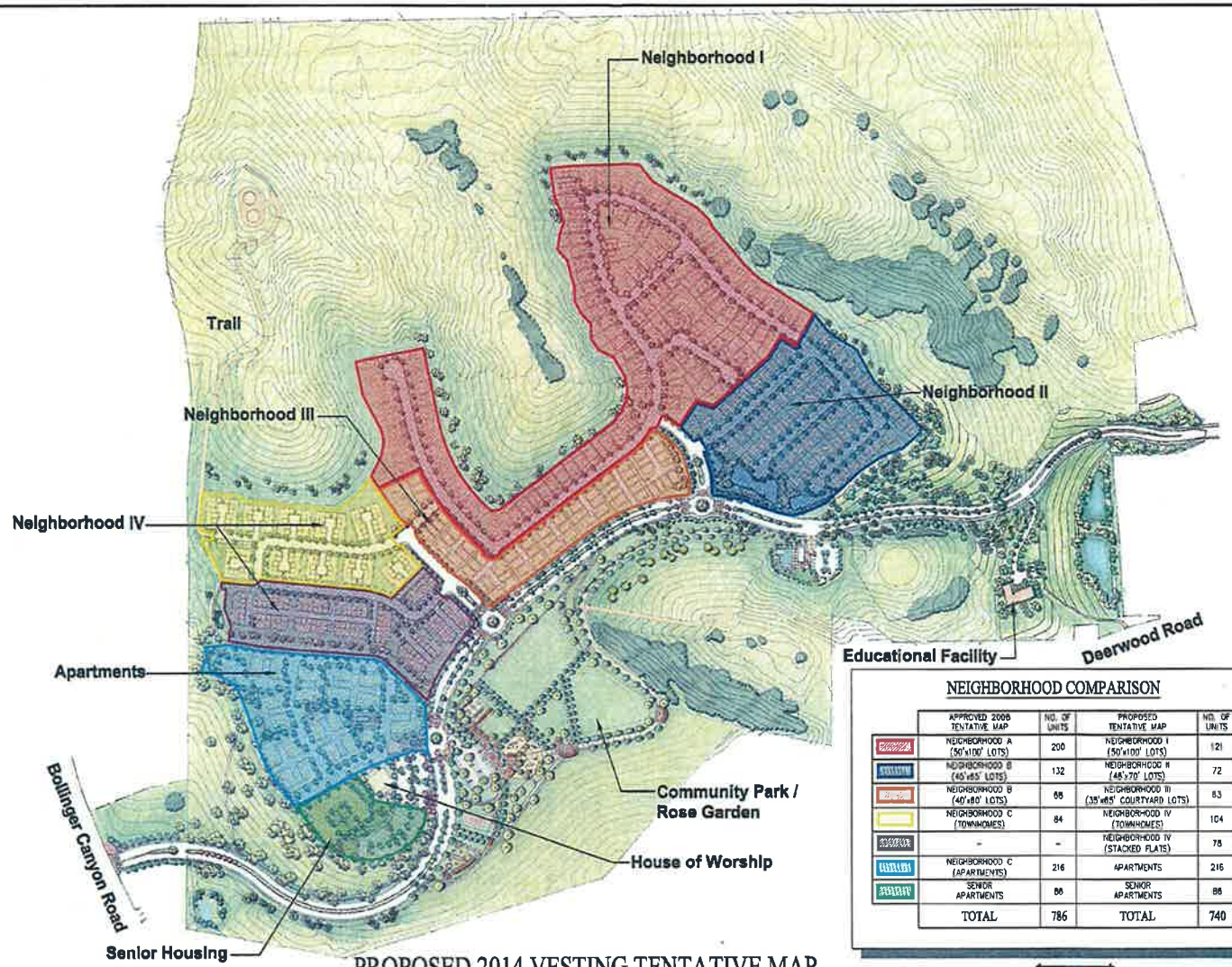
DATE: JULY 8, 2014

Carlson, Barbee & Gibson, Inc.

WILLIAM HEZMALHALCH ARCHITECTS INC.

GATES +ASSOCIATES

LAFFERTY COMMUNITIES



NEIGHBORHOOD COMPARISON

	APPROVED 2006 TENTATIVE MAP	NO. OF UNITS	PROPOSED TENTATIVE MAP	NO. OF UNITS
	NEIGHBORHOOD A (50'x100' LOTS)	200	NEIGHBORHOOD I (50'x100' LOTS)	121
	NEIGHBORHOOD B (45'x65' LOTS)	132	NEIGHBORHOOD II (45'x70' LOTS)	72
	NEIGHBORHOOD B (40'x80' LOTS)	68	NEIGHBORHOOD III (35'x65' COURTYARD LOTS)	83
	NEIGHBORHOOD C (TOWNHOMES)	84	NEIGHBORHOOD IV (TOWNHOMES)	104
	-	-	NEIGHBORHOOD IV (STACKED FLATS)	78
	NEIGHBORHOOD C (APARTMENTS)	216	APARTMENTS	216
	SENIOR APARTMENTS	86	SENIOR APARTMENTS	86
	TOTAL	786	TOTAL	740

PROPOSED 2014 VESTING TENTATIVE MAP

NEIGHBORHOOD COMPARISON

THE FARIA PRESERVE

CITY OF SAN RAMON CONTRA COSTA COUNTY CALIFORNIA

Carlson, Barbee & Gibson, Inc.

WILLIAM HEZMALHALCH ARCHITECTS INC.

GATES +ASSOCIATES

APPROXIMATE SCALE: 1" = 200'

DATE: JULY 8, 2014

LAFFERTY COMMUNITIES

EXHIBIT C

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May 15, 2015

Via Hand Delivery

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Re: Public Notice 2005-296780S: Clean Water Act Section 404 Permit Application Submitted by Faria LT Ventures, LLC for Faria Preserve Development Project

Dear Ms. Costa:

On behalf of the Sierra Club, we submit the following comments on Faria LT Ventures, LLC's Clean Water Act Section 404 Permit Application ("Permit Application") for the proposed large-scale residential development project on the currently undeveloped 456-acre Faria Preserve property in San Ramon (the "Project"). The Sierra Club is a non-profit organization whose members reside and recreate in and around the proposed Project site and therefore will be impacted by its construction and operation.

Faria LT Ventures, LLC ("Applicant"), is proposing to construct 740 dwelling units on the largest remaining undeveloped open space area in the City of San Ramon. The site contains sensitive habitats including seasonal wetlands and ephemeral drainages and designated critical habitat for the federally threatened California red-legged frog (*Rana draytonii*) and Alameda whipsnake (*Masticophis lateralis*). The Project would fill 1.11 acres of seasonal wetland and 2,306 linear feet of ephemeral drainage channel. The Project would also adversely impact critical habitat for the red-legged frog and Alameda whipsnake.

EPA's Section 404(b)(1) Guidelines state that before the Corps can issue a Section 404 permit, the project must be the least environmentally damaging practicable alternative ("LEDPA"). For reasons explained below and explained fully in the memorandum prepared by BAE Urban Economics, the permit application does not and cannot clearly demonstrate that the proposed Project is the LEDPA. *See*, March 3, 2015 Memorandum from M. Kowta, Bay Area Economics, to L. Impett, and Matt Kowta's curriculum vitae, attached as Exhibit A. Furthermore, it is our opinion that we have developed an alternative development plan that should be considered LEDPA, in comparison to the Applicant's proposed Project. This alternative minimizes impacts on the Project site's wetlands and ephemeral drainages while maintaining the Applicant's profit margin.

I. Project Background

Faria LT Ventures, LLC ("Applicant"), is proposing to construct a large-scale 141-acre residential development project on a 456-acre property located in the City of San Ramon. The Project would include 740 residential units in a range of housing types and prices, together with public street expansion, interior roads, utilities, other related infrastructures, water quality ponds, and community facilities including a park, house of worship, trail system, and open space dedication.

The Applicant is seeking authorization from the Corps under Section 404 of the Clean Water Act to permanently fill/impact approximately 1.11 acres of seasonal wetland habitat and 2,306 linear feet of ephemeral/intermittent drainage channel habitat. Jurisdictional impacts will include the placement of approximately 16,620 cubic yards of fill consisting of earthen fill, rock riprap, and concrete into jurisdictional wetlands/waters in association with proposed development activities. The City of San Ramon approved the Project, but the Applicant still needs approval from the Corps and the Regional Water Quality Control Board ("Water Board") prior to development.

The Project follows a development plan proposed by a predecessor developer on the same site and approved by the City of San Ramon in 2006. That project was abandoned after having difficulties obtaining a 404 permit and 401 certification due to the massive amounts of cut and fill required and attendant impacts to wetlands and channels.

II. Project Site Description and Potential Project Impacts

The currently undeveloped Project site consists of moderately steep, southeast facing slopes and ravines at the base of Las Trampas Ridge. Habitats on the property are characteristic of the East Bay foothills, consisting of large expanses of non-

native annual grassland habitat and dense stands of oak and bay woodland in the ravines. Within the Project site, several smaller tributaries flow across the slopes connecting to two main drainage channels. The two major drainages in the Project site are deeply incised, as much as 15-20 feet deep and contain flowing water on a seasonal basis. The on-site drainages have a moderately steep gradient and support primarily oak and bay woodland habitats with scattered occurrences of willow thickets. Several springs or seeps exist along the primary drainage located in the center of the Project site.

The site contains sensitive habitats including 3.29 acres of seasonal wetlands and 19,097 linear feet (3.71 acres) of ephemeral drainage. The site contains protected ridgelines as well as designated critical habitat for the California red-legged frog and Alameda whipsnake.

The Project would permanently fill/impact approximately 1.11 acres of seasonal wetland habitat and 2,306 linear feet of ephemeral/intermittent. Development of the eastern portion of the site in particular to the proposed densities (approximately 8 units/acre) would require extreme quantities of earthwork-- on the order of 4-million cubic yards of cut/fill in order to "flatten" the ridgeline to a buildable slope and an additional 2-million cubic-yards in corrective grading (to stabilize the local area). The Project would result in the filling of the central drainage channel and would impact the habitat for the California red-legged frog and Alameda whipsnake.

III. The Proposed Project Is Not the Least Environmentally Damaging Practicable Alternative.

A. Regulatory Background

Federal statutes and regulations set forth the Legislature's and regulatory agencies' strong policy against projects that require filling wetlands and drainage channels. *See* 40 C.F.R. § 230.1(d) (from national perspective, filling of wetlands considered among "most severe environmental impacts"); 33 C.F.R § 320.4(b) (wetlands a "productive and valuable public resource," unnecessary alteration or destruction of which is discouraged as "contrary to the public interest"); *see also Avoyelles Sportsmen's League, Inc. v. Marsh*, 715 F.2d 897, 915 (5th Cir. 1984) (legislative history of CWA indicates Congress recognized importance of protecting wetlands as means of reaching CWA's goals to restore and maintain integrity of nation's waters). Additionally, an Executive Order requires the Corps to ensure that there are no practicable alternatives to a proposed project before permitting new construction in wetlands, and that all practicable measures to minimize harm to the aquatic and human environment have been adopted. *See* Exec. Order No. 11,990, 3 C.F.R. 1977 Comp., p. 121.

EPA's Section 404(b)(1) Guidelines state four requirements that must be met before the Corps can issue a Section 404 permit:

1. The project must be the least environmentally damaging practicable alternative ("LEDPA").

2. The project must not result in a violation of water quality standards or toxic effluent standards, jeopardize a threatened or endangered species, or violate requirements imposed to protect a marine sanctuary.

3. The project must not cause or contribute to significant degradation of waters. Significant degradation may include individual or cumulative impacts to human health and welfare; fish and wildlife; ecosystem diversity, productivity, and stability; and recreational, aesthetic, or economic values.

4. The project proponent must take all appropriate and practicable steps to minimize the potential adverse effects of filling wetlands on the aquatic ecosystem.

See 40 C.F.R. § 230.10.

The requirement that the Corps shall not issue a Section 404 permit "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem" is at the core of the congressional and presidential mandate to protect wetlands. *See* 40 C.F.R. § 230.10(a). "Practicable alternatives" that the Corps must consider include those that do not involve any dredging or filling of wetlands." *Id.* at § 230.10(a)(2). Importantly, the determination of the LEDPA must be based on the alternative's *avoidance* of environmental harms, not mitigation. *See* U.S. EPA Region IX, "Wetlands Protection Through Impact Avoidance: A Discussion of the 404(b)(1) Alternatives Analysis" ("Wetlands Protection"), 9 WETLANDS 283, 286 (1989).

An alternative is "practicable" if it is available and capable of being done after taking into consideration existing technology and logistics in light of the overall project purposes. Wetlands Protection at 295. The cost of an alternative may be considered, but the applicant's financial standing may not. *Id.* Nor shall the alternatives analysis be used "to provide a rationalization for the applicant's preferred result," that no practicable alternative exists. U.S. Army Corps of Engineers, *Permit Elevation, Hartz Mountain Development Corp.* (1989) 6-7.

Alternative project sites not presently owned by the applicant that could reasonably be obtained, utilized, expanded, or managed to fulfill the project's basic purpose must be considered if they are otherwise practicable. 40 C.F.R. § 230.10(a)(2). Where the location of proposed dredging or filling contains wetlands or other "special aquatic sites," and the project does not require access or proximity to wetlands to fulfill its basic purpose, the Corps must presume that practicable alternatives are available and will have less adverse impacts "unless clearly demonstrated otherwise." *Id.* at § 230.10(a)(3).

Finally, and crucially, in determining the LEDPA, the Corps must exercise its independent judgment and consider the public's concerns, rather than deferring to the applicant's purported project purpose. *See* 33 CFR § 325, App. B(9)(c)(4).

B. The Permit Application Does Not and Cannot "Clearly Demonstrate" That the Proposed Project Is the LEDPA.

As explained, where a project's basic purpose is not dependent on construction in wetlands or other special aquatic sites, there is a presumption that practicable alternatives that do not involve construction in special aquatic sites are available, unless the applicant clearly demonstrates otherwise. As the Corps' Notice for the Permit Application correctly notes, the basic purpose of the Project (to build a residential development) is not dependent on the filling of wetlands. Thus, there is a strong presumption that other less damaging alternatives exists. Despite the core requirement that a Section 404 permit applicant "clearly demonstrate" that the proposed project is the LEDPA (40 C.F.R. § 230.10(a)(3)), the Permit Application has not done so here.

The Applicant's prior Alternatives Analysis contained four on-site alternatives (Alternatives A-D) that all resulted in *greater* impacts to jurisdictional waters/wetlands than the proposed Project. Since such alternatives clearly do not satisfy CWA standards, the Applicant has since revised the Analysis (hereinafter referred to as "Alternatives Analysis")to include two less impactful alternatives to the Project (Alternatives F and G).[1] The Alternatives Analysis claims that these less impactful

[1] U.S. Army Corps of Engineers 404(b)(1) Alternatives Analysis (Revised) for the Faria Preserve Development Project, Prepared for Faria LT Ventures, LLC, December 2014.

alternatives are not economically viable.[2] However, the Applicant fails to support its assumptions or conclusions. On behalf of the Sierra Club, BAE Urban Economics ("BAE") has reviewed the Economic Analysis, included as Attachment 6 to the Alternatives Analysis for the Project. *See* BAE Memorandum to Laurel Impett, March 3, 2015 ("BAE Report"), attached as Exhibit A. The BAE Report identifies numerous instances in which the Alternatives Analysis potentially overstates project development costs and understates project revenues, either of which would lead to understating the economic viability of the Project alternatives. The Report concludes that the Applicant's economic analysis of alternatives is inadequate to determine that Alternative E (the proposed Project) is the LEDPA. The BAE Report further concludes that it is not reasonable to rely on the Applicant's existing analysis to conclude that any of the alternatives analyzed are not economically viable.

An overarching flaw in the Alternatives Analysis is that it lacks sufficient information for interested parties to develop a full understanding of the estimated project development costs and revenues, which is necessary to have the basis upon which to judge whether the applicant's conclusions are reasonable. The BAE Report identifies the key assumptions and financial calculations that have not been included in the Alternatives Analysis and the implications associated with this omitted documentation. Without such information, the Applicant has failed to "clearly demonstrate" that the Project is the LEDPA. Nor can the Applicant simply reject all environmentally superior alternatives on the basis of cost alone. *See* Wetlands Protection at 286 (". . . EPA's 404(b)(1) Guidelines are written *hierarchically* to ensure that *maximum efforts* are made to achieve the objective of the CWA to eliminate all discharges of pollutants into the nation's waters." (emphasis added)). To do so would undermine the entire purpose of the LEDPA analysis for the following, very practical reason: Acquiring and filling wetlands will almost always be cheaper than avoiding them. This is because wetlands are generally protected from development. *See* Dennis King, "The Dollar Value of Wetlands," Nat'l Wetlands Newsletter vol. 20 no. 4, 7 (low market value of protected wetlands and the fact that

[2] We note that the only discussion in the Notice of Permit Application of the Project's alternatives is a rote description of the Applicant's prior and supplemental alternatives. Neither the alternatives nor the Alternatives Analysis is provided to the public as part of the Notice. While Sierra Club was able to obtain a copy of the Alternatives Analysis elsewhere, this document and all relevant supporting information should be posted to the Corps' website for full access by the public. Without such information, it is impossible for the public to provide detailed comments on the Applicant's proffered alternatives or whether the Applicant has "clearly demonstrated" that the Project is the LEDPA.

protecting them makes non-wetland areas more expensive distresses many landowners and land developers). If the Corps were to dismiss alternatives as "impracticable" based on cost alone, alternative development on non-wetlands areas will always be rejected, the destruction of wetlands would be assured, and the statutory preference for less environmentally damaging alternatives would be meaningless.

The only other rationale the Alternatives Analysis provides for rejecting Alternatives F and G is that they are allegedly inconsistent with the goals of the City's General Plan and therefore would likely not be approved by the City. This justification should be rejected, for two reasons. First, it is sheer speculation. The Alternatives Analysis does not cite a single mandatory policy in the City's General Plan that the alternatives would violate. The City has wide discretion in balancing competing goals and interests of the community, and has many General Plan policies recognizing the importance of protecting the wetland and ephemeral drainage habitats on the Project site. *See, e.g.*, Policy 8.3-I-2 ("Enhance San Ramon's creeks and riparian corridors by requiring preservation or replacement of riparian vegetation, as appropriate and in conformity with regulatory requirements. Creeks and riparian corridors provide visual amenity, drainage, and wetland and wildlife habitat."); Policy 8.4-I-9 ("Preserve . . . [l]and with high biological and ecological value, including those that contain natural watersheds, wetlands, riparian corridors, sensitive natural communities, or occupied by special status plant and wildlife species".) There is thus no evidence that the City would reject a development with a smaller footprint than the Proposed project.

Second, if a less impactful alternative did contravene the City's General Plan, such a reason alone is not sufficient to reject the alternative as the LEDPA under the CWA. As the Regional Water Quality Control Board has previously commented regarding the prior developer's proposal to develop the Project site:

> According to the DEIR, avoidance of such fill would be too expensive (due to off-haul costs), would result in eliminating housing called for in the Housing Element (Including affordable housing units), and would fail to provide many of the major public facilities called for in the General Plan. However, these stated reasons do not provide sufficient justification for a failure to avoid the fill of wetlands under the CWA. If the rationale in the DEIR were correct, almost any wetland could be filled, as long as the housing placed over that filled wetland were determined to be necessary according to a General Plan, and/or if it could be marketed as affordable. Such a justification is clearly not consistent with the requirements of the CWA, as it is not clear that other options with fewer impacts are not available for construction of new housing.

See Letter from Kathryn Hart, San Francisco Bay RWQCB to Debbie Chamberlain, City of San Ramon, September 11, 2006, at 3, attached as Exhibit B.

Further, the Alternatives Analysis fails to look at all plausible alternatives that could avoid impacts to wetlands and instead appears to be taking the improper approach of developing "straw man" alternatives to justify the Applicant's chosen Project. Given the strong imperative to avoid wetlands, particularly along the Project site's crucial central drainage area, the Sierra Club developed an alternative development plan for the site that is a LEDPA compared to the Applicant's Project.

Working with a team of experts, Jared Ikeda, a land use planner, BAE Urban Economics, and Sherwood Design Engineers, we have developed an alternative development plan that minimizes impacts on the Project site's wetland and riparian areas while maintaining the Applicant's profit margin. *See* "Sierra Club Alternative Site Plan," attached as Exhibit C; Memorandum from John Leys, PE, Sherwood Design Engineers and John Leys' CV, attached as Exhibit D; and Jared Ikeda's CV, attached as Exhibit E. As shown in the comparative table below, the Sierra Club Alternative provides a lighter development touch for the Project site. It avoids impacts to the central drainage and riparian corridor, greatly reduces earthwork and balances cut and fill on site. The Alternative accomplishes these objectives by maintaining existing grades along the eastern ridgeline to the maximum extent feasible, thereby drastically reducing cut volumes required under Alternative E. To facilitate preserving the east side ridgeline grades, larger estate lots (ranging from 0.6 to 1.5 acres) are proposed in lieu of the denser, single-family residential lots and townhomes in Alternative E. Faria Parkway and the housing in the central neighborhood (Neighborhood III in Alternative E) are eliminated from the Sierra Club Alternative to avoid impacting the central drainage.

The Sierra Club Alternative proposes development of 414 total housing units, including 34 estate lots on the east side of the property. Development on the site's west side would include 15 lots ranging between 5,900 and 4,480 square feet in size, 125 lots ranging from 4,464 to 3,268 square feet, 160 townhome units, and 80 apartment units. Of the townhomes and apartments, 24 and 80 units, respectively, are assumed to be designated as below market rate ("BMR") affordable units.[3] The Sierra Club Alternative includes a two-acre church site, and approximately 10.7 acres of parkland.

[3] The Sierra Club Alternative therefore includes 25 percent BMR units.

Comparative Table
Applicant's Proposed Alternative E and Sierra Club Alternative

Characteristics	Alternative E	Sierra Club Alternative
Total Development Footprint	180 acres grading footprint[1]	90 acres grading footprint
Acreage of Seasonal Wetland Impacts	1.11 acres[2]	0.40 acre (on west side and small tributary along Purdue Road)
Acreage of Ephemeral Drainage Channel Impacts	2,306 linear feet (1.23 acre)[3]	0.03 acres (765 linear feet); likely from earthwork needed just north of the existing EBMUD water tank.
Acreage of Oak Woodland	4.1 acres[4]	1.3 acres (west side)
Amount of Earthwork	6,000,000 cubic yards of cut and fill (4,000,000 cy of civil cut and fill and an additional 2,000,000 cubic yards of corrective grading[5]	1,800,000 cubic yards of cut and fill (balanced on site). 1,000,000 civil cut & fill, and an additional 800,000 cy of corrective grading. (Note: assumes similar "corrective grading" as required for Alternative F avoidance plan. Based on the ratio of costs provided in the Alternative Analysis, corrective grading is estimated to be 40% of Alternative E (800,000 cy).
Maximum Cut and Fill Depths	110 feet[6]	75-ft maximum cut 60-ft Maximum fill
Number of Units by Type	740 units 302 apartments 438 for sale units	414 units 174 single family lots 80 apartments 160 townhouse
Below Market Rate (BMR) Units	28.8% 213 BMR units[7]	25% 104 BMR units
Open Space Acreage	354 acres[8]	418 acres
Park Acreage	12.7 acres	10.7 acres
Emergency Vehicle Access		A new residential roadway would provide access from Deerwood Road to the proposed Church Site. From the Church site, a gated Emergency Vehicle Access (EVA) would provide secondary access to the eastern neighborhood's residential loop road. The EVA would be an approximately 20-ft wide, paved access road, designed per City of San Ramon requirements for Emergency Vehicle access.

[1] Alternative Analysis, p. 7.16
[2] ACOE Public Notice
[3] ACOE Public Notice
[4] Initial Study, p. 3.4-10
[5] Memorandum from C. Yee to K. Bennett, San Ramon Faria Community Preserve IS/MND Changes Summary, March 13, 2014
[6] December 2014 Alternative Analysis, p.7
[7] December 2014 Alternative Analysis, p. 8
[8] Initial Study, pg. 18

As BAE explains, the Sierra Club Alternative would be *more* profitable than Alternative E. *See* April 24, 2015 Memorandum from Matt Kowta to Laurel Impett, attached as Exhibit F. With its reduced unit count compared to Alternative E, the overall development costs are substantially reduced compared to Alternative E; however, due primarily to its improved design which avoids the need for filling in the central canyon area and eliminates the connector road between the east and west sides of the Project, the "major infrastructure and earthwork" costs are reduced by approximately 60 percent for the Sierra Club Alternative. As a result of this, and other cost savings, the overall development cost for the Sierra Club Alternative is approximately 43 percent less than the development cost for Alternative E. Due to the development cost savings, the Sierra Club Alternative would generate a gross development profit of $24.7 million, compared to the applicant's estimate of $7.0 million for Alternative E.

The Sierra Club Alternative, which greatly reduces wetland impacts on the Project site and is also a financially feasible residential development fulfilling the basic project purpose, demonstrates that the Applicant's Project is *not* the LEDPA. While the Sierra Club Alternative may not be the Applicant's preferred or chosen alternative, that is not the standard under the CWA. Because there are other alternatives, such as the Sierra Club Alternative, that can meet the basic project objective without impacting wetlands in the manner of the Project, the Applicant has not and cannot "clearly demonstrate" that the Project is the LEDPA.

Nor can the Applicant rely on mitigation of Project impacts in place of an alternative that lessens or avoids impacts to wetlands. EPA's regulatory mandate is that a permit application must clearly demonstrate that there is *no* practicable alternative "which would have less adverse impact on the *aquatic ecosystem.*" 40 C.F.R. § 230.10(a) (emphasis added). Thus, the LEDPA must be determined based on its avoidance of environmental harm, not its potential for mitigation. Wetlands Protection at 295; *see also Alameda Water & Sanitation Dist. v. Reilly*, 930 F.Supp. 486, 492 (D. Colo. 1996) (in 1990 Memorandum of Understanding, Corps adopted EPA's "sequencing" of avoidance before mitigation when undertaking alternatives analysis). The reason for this requirement is clear: comparing the impacts of a preferred alternative, for which mitigation has already been designed, with the impacts of hypothetical alternatives for which *no* mitigation has been designed, will always lead to skewed results in favor of the preferred alternative. In analyzing whether the proposed Project is the LEDPA, then, the Corps must not take into account the Applicant's proposed wetlands mitigation. Instead, it must consider the full, pre-mitigation scope of aquatic and related environmental impacts of the Project. The Sierra Club Alternative (and Alternatives F and G) would indisputably have lesser aquatic impacts than the proposed Project.

The Corps' Notice states the agency "has not endorsed the submitted alternatives analysis" and "will prepare its own 404(b)(1) alternatives analysis prior to reaching a final permit decision." Notice at 2. The Sierra Club commends this approach. As discussed further below, such an analysis should be provided in an environmental document subject to full public review and comment prior to the issuance of any 404 permit. When the Corps conducts its independent analysis, we respectfully request that the Corps consider the Sierra Club Alternative, as well as any other alternative that would avoid impacts to wetlands. We would be happy to provide any further information the Corps may need regarding this Alternative.

IV. The Project's Significant Effects on the Human Environment Require the Corps to Prepare an EIS.

A. Legal Standard for Preparation of an EIS.

The decision to issue a Section 404 permit is a "major federal action." Section 102(2) of NEPA requires federal agencies to prepare, consider, and approve an EIS for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). The fundamental purpose of an EIS is to alert decision-makers to the environmental impacts of their proposed actions and force them to ensure that the policies and goals defined in NEPA are infused into the ongoing programs and actions of the federal government. *See* 42 U.S.C. § 4321; 40 C.F.R. § 1502.1. Every EIS must describe the unavoidable direct, indirect, and cumulative impacts of a proposed action, 40 C.F.R. § 1508.7, and alternatives that could achieve the same objectives while reducing environmental impacts. 42 U.S.C. § 4332(2)(C).

An EIS must be prepared if "substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor." *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir.1992). To trigger this requirement, a "plaintiff need not show that significant effects *will in fact occur*," but instead must raise "substantial questions whether a project may have a significant effect." *Id.; see also Ocean Advocates v. U.S. Army Corps of Engineers*, 402 F.3d 846 (9th Cir. 2005) (describing Ninth Circuit's standard for reviewing an agency's decision not to prepare an EIS). An EIS is required where uncertainty may be resolved by collecting more data, or where the collection of more data may prevent "speculation on potential . . . effects. The purpose of an EIS is to obviate the need for speculation by insuring that available data are gathered and analyzed prior to the implementation of the proposed action." *Sierra Club v. U.S. Forest Serv.,* 843 F.2d 1190, 1195 (9th Cir.1988). Further, the preparation of an environmental document under CEQA does not obviate the need for preparation of an EIS. While CEQA and NEPA have similar goals, they are distinct

statutes with different requirements; compliance with one does not equate to compliance with the other. *See Nelson v. Cnty. of Kern* (2010) 190 Cal.App.4th 252, 278-81.

NEPA's implementing regulations provide factors to assist an agency's determination whether a proposed action "significantly affects" the environment. The presence of the following factors in a project proposal indicate that the agency should prepare an EIS:

1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

2. The degree to which the proposed action affects public health or safety.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

See 40 C.F.R. § 1508.27(b).

B. <u>The Project Raises "Substantial Questions" Whether Significant Effects on the Human Environment Will Occur.</u>

There is no question that the environmental impacts of the proposed Project and Permit Application are "highly controversial." 40 C.F.R. § 1508.27(b)(4). The Applicant proposes the filling of 1.11 acres of Seasonal Wetland and 2,306 linear feet of Ephemeral Drainage Channel in the largest remaining undeveloped open space area in the City of San Ramon. Additionally, wetlands are defined in the NEPA implementing regulations as a "unique characteristic" of a project site. *See* 40 C.F.R. § 1508.27(b)(3). The Project's effects on wetlands will, by definition, be significant. *See id.* at § 230.1(d) (filling of wetlands considered among "most severe" environmental impacts, representing irreversible loss of resources); § 230.41(b) ("[A]pparently minor loss of wetland acreage may result in major losses through secondary impacts.").[4]

As noted, the Corps must conduct its own analysis of wetland impacts under NEPA and may not rely solely on any prior CEQA analysis. However, it is especially critical that the Corps prepare an EIS for wetland impacts here because the

[4] "The discharge of dredged or fill material in wetlands is likely to damage or destroy habitat and adversely affect the biological productivity of wetlands ecosystems by smothering, by dewatering, by permanently flooding, or by altering substrate elevation or periodicity of water movement . . . . Disruption or elimination of the wetland system can degrade water quality by obstructing circulation patterns that flush large expanses of wetland systems, by interfering with the filtration function of wetlands, or by changing the aquifer recharge capability of a wetland. Discharges can also change the wetland habitat value for fish and wildlife . . . . When disruptions in flow and circulation patterns occur, apparently minor loss of wetland acreage may result in major losses through secondary impacts. Discharging fill material in wetlands as part of municipal, industrial or recreational development may modify the capacity of wetlands to retain and store floodwaters and to serve as a buffer zone shielding upland areas from wave actions, storm damage and erosion." 40 C.F.R. § 230.41(b) (emphasis added).

amount of impacted wetlands proposed under the 404 permit is significantly higher than that analyzed in the environmental documents prepared by the City of San Ramon for the Project under CEQA. According to those documents, the Project would impact between 0.77 and 0.81 acres of seasonal wetlands rather than the 1.11 acres allowed by the 404 permit. *See* Exhibit G (Faria Preserve Community Project, Draft Initial Study/Mitigated Negative Declaration, December 2013 ("IS/MND")), at p. 3.4-13(initially proposing to disturb only 0.77 acres of wetlands); Exhibit H, (Memorandum from K. Bennett to Cindy Yee, San Ramon Faria Community Preserve IS/MND Changes Summary, March 13, 2014) at pp. 9-10 (increasing disturbed wetlands to 0 .81 acres). Notably, the amount of wetlands fill allowed under the Permit Application is also 0.17 acres *more* than would have been allowed under the 2006 version of the Project that the Corps and RWQCB seriously questioned would comply with the CWA. Similarly, the City only anticipated the disturbance of 2,090 linear feet of drainage channel, rather than the 2,306 linear feet proposed under the Permit Application.[5] *Id.*

These unanalyzed increases in disturbance alone constitute significant impacts meriting preparation of an EIS. *Cf. Mira Monte Homeowners Ass'n v. County of Ventura (1985) 165 Cal.App.3d 357, 364-65* (requiring supplemental environmental review due to discovery of an additional, unanalyzed intrusion of one-quarter acre on a wetland). That the Applicant intends to "mitigate" for some of this loss does not alter the conclusion that an EIS must be prepared. *See* 40 C.F.R. § 1508.27(b)(1).

In addition to its direct effects on wetlands, the Project may significantly affect federally listed species and critical habitat, may affect potential health and safety by filling wetlands and drainage channels adjacent to the Calaveras Fault, and would result in a bad precedent of allowing the fill of wetlands where not necessary to fulfill the basic project purpose —factors that are expressly cited in the NEPA implementing regulations as indicating the need for an EIS. We discuss each of these potentially significant impacts below. The Corps must prepare an EIS before issuing a Section 404 permit for the Project. *See* 33 C.F.R. § 325.2(a)(4) (when permit application received, district engineer must follow environmental procedures required by NEPA); § 325.2(b)(5).

[5] In its Alternatives Analysis, the Applicant lists the filled areas as 0.85 acres of seasonal wetland and 1,552 linear feet of ephemeral/intermittent drainage channel habitat, which is significantly less than that indicated in the Notice. Alternatives Analysis at p. 2. The discrepancy must be explained and analyzed in the EIS.

1. Effects on Threatened Species and Critical Habitat.

The Permit Application raises substantial questions about whether the Project may significantly affect two federally listed species and their critical habitat: the Alameda whip snake (*Masticophis lateralis*) and the California red-legged frog (*Rana draytonii*). See 62 Fed.Reg. 64,306 (December 5, 1991); 71 Fed. Reg. 58,175 (October 2, 2006); 61 Fed. Reg. 25,813 (May 23, 1996); 73 Fed.Reg. 53,492 (Apr. 13, 2006).

Federal designated critical habitat for the Alameda whipsnake ("AWS") is present on the project site, encompassing the majority of the Project site. *See* Exhibit G (IS/MND at 3.4-4). Construction of the Project could include the removal of the existing annual grassland vegetation used by AWS. *Id.* at 3.4-12. In addition, as explained in the memorandum from Rana Resources, construction of the Project as proposed would not provide adequate buffers between the development and critical habitat for AWS and California red-legged frog ("CRLF"). *See* Exhibit I, Memorandum from Mark Jennings at Rana Resources, May 10, 2015; see Mark Jennings CV, attached as Exhibit J. The Biological Opinion recognizes potentially significant impacts from increased human presence and domestic pets, and the associated increase in harassment and predation of sensitive species, but the proposed mitigation is not adequate to protect the listed species. Jennings Report at 1.

According to Rana Resources, urban developments (such as the Faria Preserve), create sufficient food resources and cover to attract predatory species, such as coyotes, skunks, raccoons, opossums, feral cats, and ravens. For example, feeding domestic pets in fenced back yards provides a ready food supply for raccoons and feral cats that are known to kill and eat AWS and CRLF. The planting of fruit trees and ornamental vegetation, and use of refuse containers (as currently used by the City of San Ramon) provide ready food supplies for animals such as coyotes, skunks, opossums, and ravens, which invariably consume the prey of AWS (such as western fence lizards (*Sceloporus occidentalis*) and southern alligator lizards (*Elgaria multicarinata*)), and CRLF (such as invertebrates, amphibians, and small rodents). The Project's effects on these sensitive species must be part of an EIS-level review. *See* 40 C.F.R. § 1508.27(b). Whether the Project would impact only a portion of the population of either of these species is irrelevant, since it is not necessary to allege a potential impact on a species as a whole; significant effects on a local community of a listed species are sufficient to require an EIS. *Anderson v. Evans*, 371 F.3d 475, 489-90 (9th Cir. 2004) (substantial questions about hunting effects on local whale community sufficient to require EIS, even though species at large not affected).

2. Health and Safety Issues Due to Calaveras Fault.

The Permit Application also raises substantial questions about health and safety issues related to fill of wetlands and drainage channels located adjacent to the Calaveras Fault. Such potential impacts should be analyzed in an EIS. *See* 40 C.F.R. § 1508.27(b)(2) (EIS should examine ("[t]he degree to which the proposed action affects public health or safety"); *see also* 40 C.F.R. § 1508.27(b)(5) (EIS should be prepared where Project involves "unique or unknown risks."). Seismic activity along this active fault, directly fronting the eastern side of the Project site, requires more extensive study than has been done to date. Because the proposed Project involves cut and fill of wetlands and drainages adjacent to the fault line, the prospects of a significant earthquake here become even more alarming than would otherwise be the case.

According to the Crow Canyon Specific Plan Environmental Impact Report prepared by the City of San Ramon, there is an upper earthquake magnitude range along Calaveras of 6.6 to 7.0. This range is similar to another active local fault – the Hayward Fault, which ranges from 6.7 to 7.5. Further, the document notes specific hazards relevant to the Permit Application:

> Seismic hazards related to groundshaking could occur in the Project Area. Cut slopes could be susceptible to failure during excessive groundshaking, and areas where construction fills are present could experience differential settlement. Differential settlement could cause structural damage to foundations. Liquefaction potential is highest in the area in and directly adjacent to the San Ramon Creek .... Liquefaction related failures could damage foundations, disrupt utility service, and cause damage to roadways. *The potential for the project to be exposed to adverse effects due to surface fault rupture, ground shaking and/or localized liquefaction would be a significant impact.*

See Crow Canyon Specific Plan Environmental Impact Report, attached as Exhibit K at p. IV.E-15 (emphasis added). The EIS should evaluate these potential hazards and appropriate alternatives and mitigation for such impacts.

3. Approval of the Permit Application Would Set Bad Precedent.

NEPA regulations also recommend preparation of an EIS where, as here, approval of a project could set a precedent for future projects with significant effects. 40 C.F.R. § 1508.27(b)(6). As discussed above, the Regional Water Quality Control Board

has previously commented regarding proposed development on the property that, if an exception is made in the present case to allow the filling of wetlands on the basis of alleged financial and planning rationales, the exception would ultimately swallow the CWA rule. The Applicant has not provided a valid rationale as to why it cannot build a residential development that avoids or substantially lessens impacts to wetlands and drainage channels on the property. An EIS should evaluate an adequate range of alternatives to ensure that the granting of a 404 permit here would not have the effect of setting a bad precedent that would pave the way for future fill of wetlands where unnecessary to meet basic project objectives. Again, the Sierra Club respectfully requests that the EIS evaluate the Sierra Club Alternative, which avoids fill of the property's central drainage channel and most of the Project's wetlands.

V. The Proposed Permit Does Not Comply with the Endangered Species Act.

As the Notice properly acknowledges, under Section 7(a)(2) of the ESA, a federal agency must "insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an 'agency action') is not likely to jeopardize the continued existence of any endangered species or threatened species." 16 U.S.C. § 1536(a)(2). To "jeopardize the continued existence of" means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02. A federal agency must also insure that any agency action does not result in destruction or adverse modification of critical habitat. 16 U.S.C. § 1536(a)(2). "Destruction or adverse modification" means a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." 50 C.F.R. § 402.02.

The duty to insure that an agency action does not result in jeopardy or adverse modification of critical habitat is independent of the agency's duty to consult with the United States Fish and Wildlife Service. *Defenders of Wildlife v. Administrator, Environmental Protection Agency*, 882 F.2d 1294, 1300 (8th Cir. 1989) ("The ultimate burden remains on the acting agency to insure any action it pursues 'is not likely to jeopardize' protected species") (quoting 16 U.S.C. § 1536(a)(2)); *Northwest Environmental Advocates v. Environmental Protection Agency*, 268 F. Supp. 2d 1255, 1274 (D. Or. 2003) (action agency's duty to ensure no jeopardy to species is independent of duty to consult). A federal agency that decides to proceed with an action in the face of

reliable evidence that its action will jeopardize a species or adversely modify its habitat violates its obligation under section 7.

As described above and in the Rana Resources memorandum (attached as Exhibit I), the Project would increase predation on Alameda whip snake and California red-legged frog and would result in a decrease in prey for both species. These direct and indirect impacts will diminish the value of the remaining habitat and would therefore jeopardize the species' ability to thrive. An EIS must evaluate these impacts and identify appropriate alternatives and mitigation.

VI. A Public Hearing on the Permit Application Is Necessary.

On behalf of the Sierra Club, we request a public hearing on the Permit Application before the Corps determines whether to grant or deny a Section 404 permit. The Corps' decision raises substantial issues in which there is a valid public interest. *See* 33 C.F.R. § 327.4. The Corps should provide notice of the hearing at least 30 days prior to the hearing date. *See* 33 C.F.R. § 327.11.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Amy J. Bricker (By JHM)

Amy J. Bricker

Laurel L. Impett

Laurel L. Impett, AICP,
Urban Planner

cc: Kathryn Hart, San Francisco Bay RWQCB
Jim Blickenstaff, Sierra Club
Jim Gibbon, Sierra Club

List of Exhibits

Exhibit A	Memorandum from Matt Kowta, BAE Urban Economics, to Laurel Impett, Initial Review of Economic Analysis for Faria Preserve Alternatives, March 3, 2015; Matt Kowta's curriculum vitae
Exhibit B	Letter from Kathryn Hart, RWQCB, to Debbie Chamberlain, City of San Ramon, Northwest Specific Plan/Faria Preserve Community DEIR, September 11, 2006
Exhibit C	Sierra Club Alternative Site Plan
Exhibit D	Memorandum from John Leys, PE, Sherwood Design Engineers, to Laurel Impett, Faria Preserve Sierra Club Alternative Land Use Plan-Civil and Cost Estimate Comparison, May 4, 2015; John Leys' curriculum vitae
Exhibit E	Jared Ikeda's curriculum vitae
Exhibit F	Memorandum from Matt Kowta, BAE Urban Economics, to Laurel Impett, Economic Viability of Proposed Faria Preserve Alternative Land Use Plan, April 24, 2015
Exhibit G	Faria Preserve Community Project, Draft Initial Study/Mitigated Negative Declaration, December 2013, excerpts
Exhibit H	Memorandum from Kelsey Bennett, AECOM, to Cindy Yee, San Ramon Faria Community Preserve IS/MND Changes Summary, March 13, 2014
Exhibit I	Memorandum from Mark Jennings, Rana Resources, to Laurel Impett, USFWS Biological Opinion for The Faria Preserve Development Project, May 10, 2015
Exhibit J	Mark Jennings' curriculum vitae
Exhibit K	Crow Canyon Specific Plan Environmental Impact Report prepared by the City of San Ramon, excerpt

EXHIBIT D

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Urban Planner
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June 25, 2015

Kathryn Hart
San Francisco Bay Regional Water Quality
Control Board
1515 Clay Street
Oakland, CA 94612

Re: **Faria Project 401 Water Quality Certification**

Dear Katie:

The purpose of this letter is three-fold. First, we request that the San Francisco Bay Regional Water Quality Control Board ("Board") submit the letter dated May 15, 2015 from the Sierra Club to the Army Corps of Engineers ("Corps") into the Board's administrative record for the application for a Clean Water Act section 401 Water Quality Certification ("401 Permit") for the Faria Project. That letter and accompanying exhibits was sent to your office in May. As set forth in detail in that letter, the Clean Water Act and implementing regulations do not permit adverse impacts to the Project site's wetlands or other jurisdictional aquatic resources unless the Project constitutes the least environmentally damaging practicable alternative ("LEDPA"). The Sierra Club's letter further demonstrates that the applicant's proposed Project is not the LEDPA. In fact, the letter sets forth an alternative (the "Sierra Club Alternative") that is both less environmentally damaging and more profitable than the proposed Project. Thus, for the reasons set forth in the May 15, 2015 letter, we request that the Board deny the Faria Project applicant's request for a 401 Permit. We would welcome the opportunity to discuss the letter or the Sierra Club Alternative further with you.

Second, we reiterate the request submitted by Jim Blickenstaff that, if the Board does not deny the 401 Permit outright, the Board hold a public hearing on the matter in

San Ramon so that the community may weigh in on the issue. Third, we request that the Board provide us notice prior to any hearing or formal action on either the Sierra Club Alternative or the Faria applicant's request for a 401 Permit.

We very much appreciate your consideration of these requests.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Laurel L. Impett, AICP,
Urban Planner

cc: Jim Blickenstaff, Sierra Club
Jim Gibbon, Sierra Club

691239.1

EXHIBIT E

bae urban economics

Memorandum

To: Laurel Impett, Shute, Mihaly & Weinberger

From: Matt Kowta, Principal

Date: March 3, 2015

Re: Initial Review of Economic Analysis for Faria Preserve Alternatives

The purpose of this memo is to convey initial findings from my review of the Faria Preserve Economic Analysis Review, included as Attachment 6 to the U.S. Army Corps of Engineers 404(b)(1) Alternatives Analysis (Revised) for the Faria Preserve Project, dated December 2014. This memo provides my comments regarding the adequacy of the applicant's analysis to determine whether the specified land use alternatives for the Faria Preserve property are economically viable. Further, this memo also identifies additional information that the project applicant should provide, in order to substantiate the assumptions and conclusions of the economic analysis, and to give interested parties the opportunity to better understand the economic feasibility of various project alternatives.

Summary

As currently written, the applicant's economic analysis of alternatives is inadequate to conclude that Alternative E is the least environmentally damaging practical alternative (LEDPA). To make this conclusion based upon the information provided would be to do so without a reasonable understanding of the project economics, because the applicant has not provided sufficient information for interested parties to develop a full understanding of the estimated project development costs and revenues, which is necessary to have the basis upon which to judge whether the applicant's conclusions are reasonable.

As will be described below, at the minimum, the applicant should provide back-up information to substantiate key assumptions that drive the analysis and have a material impact on the conclusions, so that interested parties may have the basis to judge whether the assumptions and conclusions are reasonable and defensible. Beyond this, in BAE's opinion, it is likely that upon review of more detailed information to back up the analysis that the applicant has presented, it will be concluded that certain assumptions utilized in the applicant's analysis should be modified, and it is likely that these modifications will improve the project economics sufficiently such that Alternatives F and G, which the applicant deems "unviable" may become "viable", using the applicant's own analytical framework and feasibility criteria.

Introduction

The applicant's economic analysis takes the approach of comparing the lot development costs for each alternative to the corresponding lot sales revenues. The lot development costs are estimated by building up numerous development cost line items that are meant to represent the cost to develop the project site to the point where lots could be sold to homebuilders. The net lot sales revenues are estimated by subtracting the developer's cost to prepare the site for lot sales from the estimated lot sales revenues, net of marketing and selling costs. The applicant defines any alternative where the net lot sales revenues are positive (i.e., total sales revenues exceed total lot development and sales costs) as viable, while any alternative where total sales revenues are less than total lot development and sales costs as "unviable".

The applicant concludes that Alternatives B through E are viable, but that with a weighted average finished lot value of approximately $16,000 more than the average lot development cost, Alternative E is "not overly viable". The applicant asserts that Alterative E is the LEDPA. The Applicant concludes that average lot development costs exceed weighted average finished lot values for Alternatives F and G and that those two alternatives are therefore "unviable".

It should be noted that the applicant has not provided financial calculations to document the economic viability of Alternative A. While it may be more appropriate for the applicant to provide Alternative A treatment that is equal to the other alternatives in the economic analysis, the applicant's calculations indicate that this alternative would impact greater amounts of wetland and waterways than other alternatives, so the economic viability of this Alternative may be moot.

Following are BAE's observations regarding the applicant's economic analysis, and recommendations for additional information that the applicant should provide in order to substantiate the analysis and justify its conclusions. Our focus is on issues with the economic analysis that would tend to understate the economic viability of the different project alternatives. First, is a review of the various development cost portions of the applicant's analysis, followed by a review of the lot sales revenue portion of the analysis. To the extent that development costs are overstated, the applicant's analysis will tend to understate the economic viability of various alternatives. To the extent that the lot sales revenues are understated, this will also tend to understate the economic viability of alternatives.

Land Development Costs

1. Land development costs were estimated by the Carlson, Barbee and Gibson engineering firm. The land development costs are presented at a summary level, which makes it impossible for an interested party to evaluate whether the land development cost estimates provided by the applicant vary appropriately among the alternatives, given the significant variance in the land area, site configuration, and mix of housing unit types included in the different alternatives. For example, within the

"Other Major Roadways and Project Features" cost category, the Alternative F water tank cost is $6 million versus $8 million in all the other alternatives, but no explanation is given as to why Alternative F is the only alternative to have a reduced cost, nor is any explanation given as to what type or size of tank is assumed to be built for $6 million versus $8 million, or how the size and type of water tank required relates to the type and number of units within the different alternatives. The applicant should provide backup worksheets to show in more detail the assumptions and calculations that were used to calculate all of the various land development cost elements and provide discussion to explain the variances in infrastructure requirements and costs (or lack thereof), for each of the alternatives.

2. The land acquisition cost is fixed at $26.7 million across all alternatives. This suggests that the landowner will receive the same price for the land, regardless of what can be built on it. It would be unusual for a prudent developer of a project this size to agree to a purchase price before determining what could be built upon the land and determining the purchase price that the entitled development could justify, given project economics. For example, if the environmental constraints of the land are found to be such that only a limited number of housing units can be built upon it, then the market value of the land, as determined by the price that a reasonably well-informed developer would be willing to pay, would be less than the price for the land if the site did not have environmental constraints and a developer could build many more housing units on the land. Similarly, if the physical condition of the land is such that it is very expensive to develop, this would tend to depress the price that developers would be willing to pay for the land, in order to achieve a reasonable profit on the development. Considering this, it does not seem appropriate to assume that the value of the land is the same, regardless of the number of units in a given alternative. In fact, the applicant's own analysis endorses this concept by calculating the residual land value of finished lots that the developer would sell to homebuilders, in order to estimate the applicant's potential land sales revenues. The assumption that the value of the land is $26.7 million across all alternatives distorts the economic viability of alternatives that have lower unit counts and for which the market would establish a reduced land purchase price. The applicant should provide more information regarding the current ownership status of the property, how the land price was determined for the purposes of the economic analysis, whether the price ultimately paid for the property could in fact vary according to the quantity and type of development that is ultimately entitled, and if so, how the price would be determined.

3. The same $10.5 million "Mitigation" cost item applies across all of the alternatives. It is not clear how this figure was determined, and why it does not vary by alternative, given that the alternatives have significantly different footprints, development programs, etc. It would be expected that alternatives with lower unit counts and smaller footprints would create fewer impacts requiring mitigation, and that the

mitigation costs would be reduced accordingly. This would tend help improve the economics of alternatives that have fewer units. The applicant should provide additional discussion and details regarding how the mitigation cost estimate was produced, and why the mitigation costs do not vary among alternatives.

4. We have identified a number of cost items above, for which it may be appropriate to reduce land development costs for certain alternatives. If this occurs, then the Land Development Soft Costs, which are calculated as 15 percent of land development "hard costs", will also decline. The economic analysis also adds a "Fees" line item to the land development costs which is calculated as 12 percent of other land development costs. This line item will be reduced if other costs discussed above are reduced, and economic feasibility will improve.

Lot Sales Revenues

1. The applicant has acknowledged that they are assuming zero revenue from the sale of the sites for the multifamily housing components of the project, in all alternatives. The stated rationale is that because two-thirds of the multifamily units are to be affordable, they have negative land value, and whatever positive land value the market rate multifamily units have does no more than offset the loss from the affordable housing site. BAE disagrees with this logic. First, it is not necessarily the case that sites for affordable apartment development have a negative land value. Many developers of affordable housing purchase their sites. For example, a statewide study of affordable housing development costs released by the State Department of Housing and Community Development, in October 2014, identified over 250 affordable housing projects for which the developers purchased the land in arms-length transactions. In this group, the median price per acre was $400,000 while the average price per acre was $1 million. Per unit land costs averaged $24,000. Given that the Bay Area is one of the most expensive regions in California in which to purchase land for residential development, this suggests that it is very likely that the Faria Preserve developer would be able to realize not only some revenue from sale of land for the affordable apartment units, but likely even greater amounts of revenue per unit for market rate apartment units. In addition, it could likely be assumed that the affordable and market rate apartment projects could also bear some share of the overall project backbone infrastructure costs, which will reduce costs for the single-family residential units, and make them more profitable than what is indicated in the applicant's financial model. The applicant should provide a better explanation of how the land for affordable and market rate multifamily units will be sold and explain the basis for any assumptions about the land sale prices, including providing any details on contractual arrangements they may have with the former developer/landowner covering the southwest corner of the property, which we understand to be the primary location of the affordable housing component of the overall plan. Such additional information

should explain how, to the extent it may apply, this contract/arrangement is a constraint to the proponent achieving overall revenue goals. The applicant should also provide discussion of how the multifamily units' share of overall land development costs is factored into the analysis so as not to overstate the land development costs attributable to the remaining single-family home lots.

2. In addition to the exclusion of revenues from sale of land for apartments, the applicant has also excluded potential revenues from sale of land for an educational facility (2.2 acres), and a house of worship (1.5 acres) from analysis of alternatives where these land use components are applicable. If potential project revenues have been excluded, the economic viability of alternatives will tend to be understated. The applicant should provide additional discussion to justify why no revenues have been attributed to sale of these sites, where applicable. If these potential revenues have been omitted, they should be added to the analysis in order to provide a more realistic assessment of overall economic viability for the different alternatives.

3. A starting point for the applicant's estimates of lot sales revenues, for all of the alternatives, is a market analysis completed by John Burns Real Estate Consulting, a summary of which is included in the applicant's economic analysis. John Burns provided the applicant with a recommended home selling price for each of the different for-sale home products that is contemplated in the different alternatives. The home sales prices vary according to the housing type (i.e., Flats, Townhomes, and Single Family Units) and by size of lot and square feet of living area. For the different product types, the recommended total average price per square foot ranges from a low of $315 to a high of $349 per square foot. For comparison, BAE reviewed sales prices for San Ramon home sales, which are readily available from Zillow.com. Zillow's data indicate that the median home sales price per square foot for San Ramon as of December, 2014, was approximately $394. Considering that the Zillow data include resales of older homes as well as sales of new homes, it is BAE's opinion that it is likely that the home sales price assumptions used in the applicant's analysis understate the potential revenues for the sale of the new homes that would be sold in the Faria Preserve project. If the applicant has understated the potential home sales prices, this will flow through the economic analysis and result in underestimating the potential lot sales prices. As a result, the applicant's analysis may understate the economic viability of the various alternatives. The applicant should provide additional data and explanation of how the home sales price assumptions were determined, and explain what price adjustments were made to in order to establish sales price assumptions for the Faria Preserve alternatives.

5. Within the residual land value calculations for the various residential lot types, building permit and impact fees for individual homes are assumed to be $60,000 per unit, regardless of unit size. The only exception is Townhouses, for which building permit

and impact fees are assumed to be $58,000 per unit. Given that many building permit and impact fees are assessed based on the size of the structure (i.e., square footage of floor area) or based on the type of structure (e.g., single-family homes versus multifamily homes), there should be more variation in the permit and impact fee costs for the different residential unit types. This may be distorting the relative economic viability of the different alternatives, since they contain different mixes of unit types. The applicant should provide additional detail and explanation of how this cost item was estimated for the different residential unit types.

4. All of the alternatives include a large (13.2 to 13.6-acre) park site that is larger than what would likely be required to serve the proposed residential units exclusively. Instead, the City of San Ramon's Northwest Specific Plan (NWSP) views this park as a facility that would serve a larger area, beyond the Faria Preserve property. According to page 7-24 of the NWSP document, "Backbone infrastructure and community facilities serve all land uses within the Plan Area and will be financed by a master project developer. Reimbursement agreements for installation of backbone infrastructure will spread the cost equitably among all benefiting landowners. To the extent that a facility serves an area significantly larger than the Plan Area itself, costs will be shared with the City, other agencies, and/or landowners/developments. For example, park fees contributed by Neighborhood E that are not spent on improvements to the park proposed for this neighborhood would help fund a portion of the new 12.7 acre Community Park in the eastern portion of the Plan Area." It is not clear if any offsetting revenues from the provision of excess parkland have been included in the applicant's economic analysis for the different alternatives. If the applicant has incorrectly excluded such revenues from the economic analysis, then the analysis would tend to understate the economic viability of the alternatives. The applicant should provide additional discussion and analysis of whether reimbursements for park development costs from other parts of the NWSP or development in other parts of the City will generate project revenues that would help to improve the economic viability of alternatives. If reimbursements are not likely, the applicant should explain why the park size is not reduced in the alternatives which have fewer housing units, since park demand will be reduced.

6. The issue of potential reimbursement for park development costs raises the question of whether other Faria Preserve backbone infrastructure costs included the applicant's economic analysis may also be reimbursed by development elsewhere in the NWSP or elsewhere in the City. If so, the applicant's economic analysis would tend to understate the economic viability of the alternatives. The applicant should provide additional discussion and analysis of the potential for reimbursements from development outside Faria Preserve to provide revenue that would help to offset backbone infrastructure costs and help to improve economic viability of alternatives.

Conclusion

This review has identified numerous portions of the applicant's economic analysis where project development costs may be overstated, and project revenues may be understated, either of which would lead to understating the economic viability of different project alternatives. For these reasons, it would not be reasonable to rely on the existing analysis to conclude that any of the alternatives analyzed are not economically viable. The applicant should provide more information and analysis to substantiate the findings of the economic analysis, and to allow interested parties to make an informed decision about the reasonableness of the applicant's conclusions.

EXHIBIT F

California Regional Water Quality Control Board
San Francisco Bay Region

Linda S. Adams
Secretary for
Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger
Governor

Date: September 11, 2006
File No. 2188.03 (/KRH/JLB)

Ms. Debbie Chamberlain
Planning Services Manager
City of San Ramon
2222 Camino Ramon
San Ramon, CA 94583

Subject: Northwest Specific Plan/Faria Preserve Community Draft Environmental Impact Report SCH No. 2003022102

Dear Ms. Chamberlain:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff have reviewed the Northwest Specific Plan/Faria Preserve Community Draft Environmental Impact Report (DEIR). We have serious concerns about the nature and extent of this plan and the proposed Faria project that comprises the majority of the development within the Northwest Specific Plan area (NWSP). The proposed Faria project would fill almost a mile of creeks that are tributary to San Ramon Creek. In addition, the wetlands and riparian areas in the vicinity of these creeks would also be filled, resulting in the permanent loss of creek and wetland function and wildlife habitat that is essentially irreplaceable. These creeks support significant areas of riparian vegetation, and also contain pools that support aquatic habitat into the late summer during some years. We do not agree with the DEIR finding that the loss of these locally significant habitats is "less than significant" after mitigation. The impacts associated with the permanent loss of this aquatic ecosystem have not been adequately analyzed or described in the DEIR, and the proposed mitigation does not provide compensation for the as yet inadequately quantified impacts. Further, it is critical to acknowledge that compensatory mitigation for the permanent burial of streams such as that proposed on the Faria project site is extremely difficult, if not impossible to find and implement.

The DEIR evaluates the potential environmental impacts of the two different, but related, items. The first, the City of San Ramon NWSP, is the planning document that provides the framework for development of this 354-acre portion of the City of San Ramon. Under the NWSP up to 830 single- and multi-family homes may be constructed along with related community facilities, such as parks and schools. The NWSP also provides guidance on implementation of elements of the City of San Ramon General Plan related to housing development including density and

affordability, preservation of open space, and provision of public services and community facilities. The second component of the DEIR is an evaluation of the potential environmental impact of the Faria Preserve Planned Community, which comprises the overwhelming majority of the land area within the NWSP. The 290-acre Faria Preserve site is proposed for development of 786 homes and attendant community facilities. A second parcel, known as the Western Plan Area, consisting of 63.5 acres (near, but not contiguous with the Faria site), would involve construction of about 44 homes. The comments in this letter are focused primarily on those portions of the DEIR that evaluate the Faria Preserve project and are based both on review of the DEIR and a visit to the Faria Preserve project site on August 7, 2006.

Comment 1. Western Plan Area

The DEIR is intended to evaluate the NWSP and the Faria Preserve. It is not entirely clear from the document as it is currently written, but it appears that it is also intended to cover future development of the Western Plan Area, since that site is also within the NWSP. However, given the lack of detail for the project in the Western Plan Area (for example a jurisdictional delineation for wetlands has not even been conducted in this area), it is not possible to evaluate the potential impacts to waters of the State on that site. Any comments that are provided here pertaining to such things as stormwater treatment, mitigation requirements, and creek setbacks apply to the Western Plan Area in a general way, but the Water Board would need to see specific, detailed plans in order to properly consider the affects of development in this area.

One specific comment that we do have regarding the Western Plan Area is that development of the site would require construction of a bridge over Bollinger Creek. The current bridge design would not provide for the attachment of water and sewer lines to the structure. Instead, the DEIR indicates that these pipelines may be buried beneath the creek. If the bridge design could not be altered to accommodate the sewer and water lines, then the Water Board would require that these pipelines be installed below grade at sufficient depth to ensure that they do not encroach on the bed of Bollinger Creek during any reasonably anticipated incision of the creek. Further, the bridge itself should be designed such that any necessary support structures are high enough and sufficiently separated from the creek channel to maintain their integrity in spite of vertical or lateral movement of the creek.

Comment 2. The Faria Preserve Planned Community

One of the Water Board's main concerns with the Faria Preserve project is the proposed extensive fill of natural streams and seasonal wetlands at the project site. Nearly a mile of creeks (5,055 linear feet) and at least 0.39 acres of wetlands will be filled under the preferred design. The DEIR rates the loss of these locally significant habitats as "less than significant" after mitigation. The mitigation for the project is far from adequate compensation for the impacts the project will cause and does not merit rating the project's impacts as less than significant. The Water Board wishes to stress that the water resources found at the Faria site provide important functions and habitats that are becoming increasingly rare locally as well as around the State. While the General Plan and the NWSP may call for construction of additional housing in this

part of San Ramon, it is imperative to make every effort to protect these high quality waters and water-related habitats, and their associated species. This effort shall include a greater emphasis on other options, such as higher density development, more in-fill projects, or using additional sites to meet housing goals. The costs and inconvenience associated with such alternatives need to be weighed against the losses of the invaluable resources such as those found at the Faria Project site.

Under the provisions of the Clean Water Act (CWA) and the *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan), a Project Sponsor is required to avoid impacts to waters of the U.S. and waters of the State in conformance with the U.S. Environmental Protection Agency's (EPA) CWA 404(b)(1) Guidelines (Guidelines). The policy of the State with respect to the environmental impacts to water resources is to require – in ranked order – first, avoidance, and second, where impacts are unavoidable, to minimize such impacts and last, to mitigate impacts that cannot be either avoided or fully minimized as a last resort. This means that no discharge of fill shall be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impacts on the aquatic ecosystem. The Project Sponsor has not demonstrated that the proposed project constitutes the least damaging practicable alternative (LEDPA) as specified in the Guidelines.

The information presented in the DEIR implies that fill of wetlands at the site cannot be avoided in order to meet the goals of providing additional housing as specified in the General Plan, and as identified by the California Department of Housing and Community Development as critical components of the Housing Element. According to the DEIR, avoidance of such fill would be both too expensive (due to off-haul costs), would result in eliminating housing called for in the Housing Element (including affordable housing units), and would fail to provide many of the major public facilities called for in the General Plan. However, these stated reasons do not provide sufficient justification for a failure to avoid the fill of wetlands under the CWA. If the rationale in the DEIR were correct, almost any wetland could be filled, as long as the housing placed over the filled wetland were determined to be necessary according to a General Plan, and/or if it could be marketed as affordable. Such a justification is clearly not consistent with the requirements of the CWA, as it is not clear that other options with fewer impacts are not available for construction of new housing.

Comment 3. Chapter 8 – Appendices, Conceptual Biological Mitigation/Enhancement Plan for the Faria Preserve Planned Community

The proposed mitigation would include the creation of a roughly 8.9 acre riparian corridor that would be comprised of a drainage swale, seasonal wetlands, and riparian vegetation. This riparian corridor would be created on top of engineered fill in the valley where the westerly creek on the project site is located. The proposed mitigation also includes the preservation of about of land to the west of the project site on the opposite side of Bollinger Canyon Road. This area includes several creek drainages that would be fenced to control grazing impacts.

The proposed mitigation for the Faria Preserve project is unsatisfactory in several ways. First, it is not clear how the proposed swale within the riparian corridor would compensate for the loss of almost a mile of natural creek channel on the site. Is this swale intended to function as a creek, thus compensating for the lost functions associated with the filled creeks? The DEIR states that urban stormwater will be used to provide water to the riparian corridor, and that the aquatic features within the mitigation area would serve as treatment of stormwater from the newly created development. This is unacceptable. Mitigation areas cannot be used as stormwater treatment because as such, they are subject to urban runoff that could include pollutants such as petroleum products, fertilizers, or pesticides that are associated with homes and streets. These pollutants could substantially degrade water quality in the creek and wetlands, making them unsuitable as habitat for native plants and wildlife. In addition, under well-established Water Board policy double-counting (using a single area to fulfill more than requirement where mitigation is one of the purposes) is simply not allowed.

Second, the Water Board does not support the notion of creating a creek on top of engineered fill material as mitigation for impacts. Such a practice would be experimental, with a high risk of failure to provide the stream and wetland functions necessary to compensate for impacts. Creation of water features on top of engineered fill would likely require a substantial amount of rock in the design to provide stability, and would not likely receive groundwater inflow as the natural creek does at present, as the engineered fill would be artificially drained.

Another issue with the mitigation plan as currently proposed is that it relies primarily on creating an 8.9 acre riparian corridor with three small ponds/pools at intervals along its course. These ponds do not fully mitigate for the loss of the seasonal wetlands observed during my site visit because the newly created ponds are out-of-kind. New seasonal wetlands would have to be established – or preferably preserved on-site – at a minimum ratio of 2:1 (replaced to lost) depending on such factors as the lapse of time between loss and creation and whether the mitigation areas are located in the same watershed. Out-of-kind mitigation, which is only acceptable as a last resort, must be made at substantially higher ratios.

As noted above, the benefits of the biological and chemical contribution to downstream waters (San Ramon Creek, Walnut Creek, and Suisun Bay) from the onsite tributary streams have not been adequately detailed and acknowledged. Such benefits are largely difficult to quantify, and as such the impacts also would be difficult to quantify. In order to compensate for such an un-quantified loss, any mitigation plan is likely to be a compromise. However, such mitigation would have to include substantial on the ground creek restoration and enhancement in the watershed where the impacts occur. Ideally, such mitigation would occur on-site. Considering that there may be limited opportunities for on-site creek restoration, then off-site creek restoration would be considered with a higher ratio of restoration required for the losses. The Faria Project Sponsor should also evaluate the cost and feasibility of providing substantial, on-the-ground mitigation to compensate for the creeks filled on the project site. Suitable creeks that

would qualify for such work within the area are limited in number and it may be difficult to obtain the rights to carry out the amount and degree of restoration required for mitigation.

Furthermore, currently proposed riparian corridor is planned to cover some 8.9 acres and appears to be comprised of several components. However, the figures for these components are confusing and do not appear total 8.9 acres. At a minimum, in order to determine the suitability of mitigation areas proposed in the future, we need to see a direct, clear explanation of precisely how many acres of each type of aquatic feature and habitat, including riparian vegetation will be lost compared to how much of each type will be created. The text of the final EIR could easily summarize this in a readily comprehensible table.

Comment 4. Jurisdictional Delineation for Wetlands and Waters of the U.S. & the State: As indicated by a site visit, there are several areas that are likely waters of the State and the ACOE and thus under the jurisdiction of the Water Board (see Comment 6) that were not included in the Project Sponsor's calculations of the extent of impacts and corresponding amount of required mitigation. A final resolution of the full extent of wetlands present at the site has not yet been reached and may, in fact, require either resubmittal of a new draft environmental impact report or a supplemental environmental impact report that more accurately characterizes the presence of wetlands on the Faria site and provides a mitigation plan that is more closely approaches what would be required given the magnitude of the project's impacts.

Comment 5. Assessment for California Red Legged Frog: During the site visit, tadpoles were observed in small pools on the main drainage found on the Faria Preserve site. Given the presence of these as-yet unidentified amphibians, the Water Board expects to see a reevaluation of the area as possible habitat for the California red-legged frog (*Rana aurora draytonii*) (CRLF). This is particularly important because of the close proximity of CRLF which is found in nearby Bollinger Creek and given the pressure that development in this part of Contra Costa County is placing on this federally listed species. The information provided in the DEIR and other project documents does not provide adequate support for the conclusion that the proposed Faria project will not adversely affect the CRLF.

Comment 6. Chapter 4 Environmental Evaluation, Section 4.7: Hydrology/Water Quality, Regulatory Framework (page 4.7-7 to 4.7-10):
This section of the DEIR explains which agencies of the State are involved in regulation of water resources in their various forms. This portion of the text properly acknowledges the authority of the Water Board to regulate water quality under section 401 of the Clean Water Act (CWA) through issuance of water quality certifications in conjunction with the U.S. Army Corps of Engineers (ACOE) and the Water Board's jurisdiction with respect to countywide National Pollution Discharge Elimination Permits (NPDES). However, the text in this section fails to recognize the authority granted to the Water Board under the State's Porter-Cologne Water Quality Control Act (California Water Code, Division 7) to regulate projects with impacts to

waters of the State, such as isolated wetlands, vernal pools, or stream banks above the ordinary high water mark.

This is particularly relevant to the Faria Preserve project because the jurisdictional delineation is currently being re-evaluated as a result of observations made during the above noted site visit. This reassessment is likely to result in recognition of several additional areas at the project site as within ACOE jurisdiction and may also result in identification of areas that are waters of the State but not Corps jurisdictional. Text in this section of the final EIR, should be revised to include discussion of the regulatory role of the Water Board in waters that lie outside of ACOE jurisdiction. Further, it should be noted that the Water Board's jurisdiction extends to include not only isolated waters, but to stream bed and banks, riparian zones and includes both current and potential beneficial uses of such waters, such as habitat values, as well.

Comment 7, Chapter 4 Environmental Evaluation, Section 4.7.3, Environmental Evaluation, Mitigation Measures Hydrology 1a .1b, and 1c (pages 4.7-14 to4.7-17). These two short sections of the DEIR address the requirements for compliance with NPDES permits and preparation of a Stormwater Pollution Prevention Plan (SWPPP). The Water Board would like to stress that for new residential development, stormwater management should be provided to the maximum extent possible through landscape based treatment techniques such as biofilters and vegetated swales. Because a landscape-based strategy for stormwater treatment requires allocation of land for proper implementation, especially related to appropriate sizing of such features, it is important to incorporate such measures, with specific consideration given to sizing, in the earliest possible design phases. These sections are very general and, other than the brief mention of a detention basin and other "treatment features," provide no discussion of proper sizing or few clear indications of specific steps that will be taken to control and treat runoff from the proposed Faria Preserve's homes and related facilities.

Under the NPDES permit, post-construction stormwater best management practices (BMPs) are required to provide treatment that meets the maximum extent practicable (MEP) treatment standard in the Clean Water Act (CWA). To meet the MEP standard, treatment BMPs are to be constructed that incorporate, at a minimum, the following hydraulic sizing design criteria to treat stormwater runoff. As appropriate for each criterion, local rainfall data are to be used or appropriately analyzed for the design of BMPs.

Volume Hydraulic Design Basis: Treatment BMPs whose primary mode of action depends on volume capacity, such as detention/retention units or infiltration structures, shall be designed to treat stormwater runoff equal to:

1. the maximized stormwater quality capture volume for the area, based on historical rainfall records, determined using the formula and volume capture coefficients set forth in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE*

Manual of Practice No. 87, (1998), pages 175-178 (e.g., approximately the 85th percentile 24-hour storm runoff event); or

2. the volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Appendix D of the *California Stormwater Best Management Practices Handbook*, (1993), using local rainfall data.

Flow Hydraulic Design Basis: Treatment BMPs whose primary mode of action depends on flow capacity, such as swales, sand filters, or wetlands, shall be sized to treat:

1. 10% of the 50-year peak flow rate;

2. or the flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or

3. the flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.

The purpose of an Environmental Impact Report prepared under the guidelines of the California Environmental Quality Act (CEQA) is to evaluate all of the reasonable anticipated environmental impacts of a project and their mitigation. On this basis, it clear that the text in this section must be expanded to provide sufficient information to assess if the measures proposed for landscape-based treatment of stormwater are both effective and adequate.

Comment 8. Chapter 4 – Environmental Evaluation, Section 4.7, Hydrology/Water Quality, Mitigation Measure Hydrology – 5 (page 4.7-20). This section states that the NWSP and Faria project would not affect groundwater quality, substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. Because the Faria site's aquatic features do receive flows from groundwater at the site, we are concerned that implementation of the project as proposed, or a modified project with a smaller development footprint, could result in impacts to wetlands and water features outside the development footprint. Groundwater connections do appear to be a source of hydrology for the site's aquatic features, and could be critical for maintenance of the riparian ecosystem. Mass grading of the site, and installation of subdrain systems are likely to result in modification to groundwater hydrology. This concern has not been addressed in the DEIR. Evaluation of this impact should be included as part of the final document.

Comment 9. Chapter 7 – Alternatives. We find that the discussion regarding alternatives presented in the DEIR does not provide sufficiently detailed description and discussion to adequately assess both on- and off-site options. Although the housing need in California, and in the San Francisco Bay area specifically, may be real and of some urgency, it has not been demonstrated that the permanent loss of creeks and wetlands on the Faria project site are necessary in order to accommodate provision of new housing units. More detail on each of the off-site options for housing, and other amenities should be included in the DEIR, along with detailed descriptions and characterization of the aquatic resources on each site.

The cut and fill aspects of each of the on-site alternatives must be substantiated as part of the Alternatives Analysis review of the project under the 401 certification program. The Project Sponsor has not demonstrated that a less damaging practicable alternative does not exist for development of housing at the site. The discussions and maps that depict Alternatives for the project are very general in nature and do not provide the degree of detail needed to support the elimination of the alternatives from further consideration. Specific discussion regarding the cut-and-fill options for each alternative should be provided. For example, why has the cut-and-fill configuration for each alternative been established in the manner shown? Are there other ways that the site could be graded without generating such large quantities of excess soil?

Further, it is interesting to note that the ridgeline development prohibition of the General Plan for the City of San Ramon dictates to a large degree the type of development allowed to occur on the various parcels throughout the city. It would be useful to know what kinds of development options with fewer impacts to water resources would be available at the site without adherence to this prohibition. For example, how could Alternatives 1, 2, 3, and 4 be modified to accommodate project needs if the ridgeline prohibition were not incorporated into the General Plan? We recognize that the City of San Ramon has a responsibility to follow the General Plan requirements. However, there appear to be competing and/or conflicting interests at stake with the desire for unimpaired view sheds on the one hand, and the need for protection of State waters on the other. The General Plan requirements for protection of the view shed does not override the need to protect aquatic resources. In our view, it may be that this area within the City of San Ramon is built-out, and that housing and other community needs will need to be accommodated elsewhere in the City at higher densities. The goals of a local plan do not supersede state and federal policy regarding fill of wetlands and streams. *

The NWSP only offers guidelines for building up to 830 homes, but does not mandate that exactly 830 homes must be built. The Faria Preserve is not the only site available for meeting the need for housing in the City of San Ramon area. Some of the alternative options were rejected as too expensive, based primarily on the cost associated with disposal of earthen material resulting from the widespread re-grading called for in the preferred design option. The Project Sponsor must consider the economic viability of a project with smaller footprint.

Comment 10. Chapter 2 – Summary, Section 2.2 – Areas of Controversy/Issues to be Resolved.

While this list is merely an attempt to summarize the most significant issues raised in public meeting with the NWSP and the Faria Preserve Planned Community, it is an important indicator for many reviewers – particularly among those among public – of the major expected environmental impacts that are associated with the project under review. The Faria Preserve will substantially impact waters of the U.S. and the State through extensive fill of the seasonal wetlands and creeks on the site. This is a major impact that should be acknowledged as one of the most important environmentally significant aspects of the project. The text in this section should be revised to reflect this fact.

Comment 11. General comment on Maps and Figures.

In general, a number of the maps included as part of the DEIR are difficult to interpret, poorly labeled, and at a scale that is of little use in actually improving understanding of which resources occur where – especially relative to the proposed Faria Preserve Community's building plan. For example, Figure 3-3, the map titled *Natural Setting*, does not mark and identify any seasonal wetlands, or the creek that are on the site. In fact, the only waters of any type it labels is Bollinger Creek – which is not within the Faria Preserve area that is targeted for the majority of development. This is misleading since only a select set of the natural features present in the area are shown; this omission is difficult to understand since, at a minimum the presence of water resources already identified (and shown in Figure 4.3-3) by a wetland delineation could easily be added. Also, the maps in Figures 4.3-1 and 4.3-2, which depict biological resources and do indicate where some seasonal wetlands are found, are at a different scale than the maps illustrating development related to the project. This makes it difficult to compare the drawings for assessment of resources that may be lost as a result of construction of the project as currently proposed.

Summary & Conclusion

Water Board and State policy require avoidance of wetlands and creek habitat to the maximum extent feasible. Projects which do not adequately demonstrate avoidance and minimization of impacts to wetlands and other waters of the State may result in our inability to issue required water quality certification and/or waste discharge requirements for the project as proposed.

The State Water Resources Control Board has adopted a policy directing Water Board staff to promote a Low Impact Development (LID) approach to land development per our policies and site specific regulatory actions. The LID approach:

- Maintains natural waters, drainage paths, landscape features and other water-holding areas to promote stormwater retention and groundwater recharge;
- Preserves the amenity and other values of natural waters;
- Minimizes generation of urban pollutants;

- Designs communities and landscaping to minimize stormwater generation, runoff, and concentration, and
- Promotes water conservation.

As currently proposed, the Faria project does not comply with this stated policy.

In closing, we question why the water quality permitting process for the Faria project was initiated by the Project Sponsor prior to the completion of the environmental review process. The Water Board received a Clean Water Act Section 401 water quality certification application for the Faria project earlier this year. The fact that the 401 application was submitted prior to the completion of the environmental review process for the specific plan area suggests that the Project Sponsor does not take seriously the water quality and wetland issues that need to be addressed during the environmental review process.

Thank you for the opportunity to comment on this project. If you have any questions, please contact me at (510) 622-2356, or via e-mail at KHart@waterboards.ca.gov.

Sincerely,

Kathryn R. Hart
Water Resource Engineer

cc:

SWRQB-DWQ, Attn: Oscar Balaguer
Tyson Eckerly, U.S. Army Corps of Engineers
Marcia Grefstrud, CDFG, Yountville
United States Fish & Wildlife Service, Attention: Kim Squires, 2800 Cottage Way, Room W2605, Sacramento, CA 95825
Richard Loeke, Urban & Environmental Planning, 55 Oak Trail Ct., Alamo, CA 94507 (Certified Mail)
Robert Perrera, Huffman & Associates, Inc.- Broadway & Associates, Inc., 828 Mission Avenue, San Rafael, CA 94901

EXHIBIT G

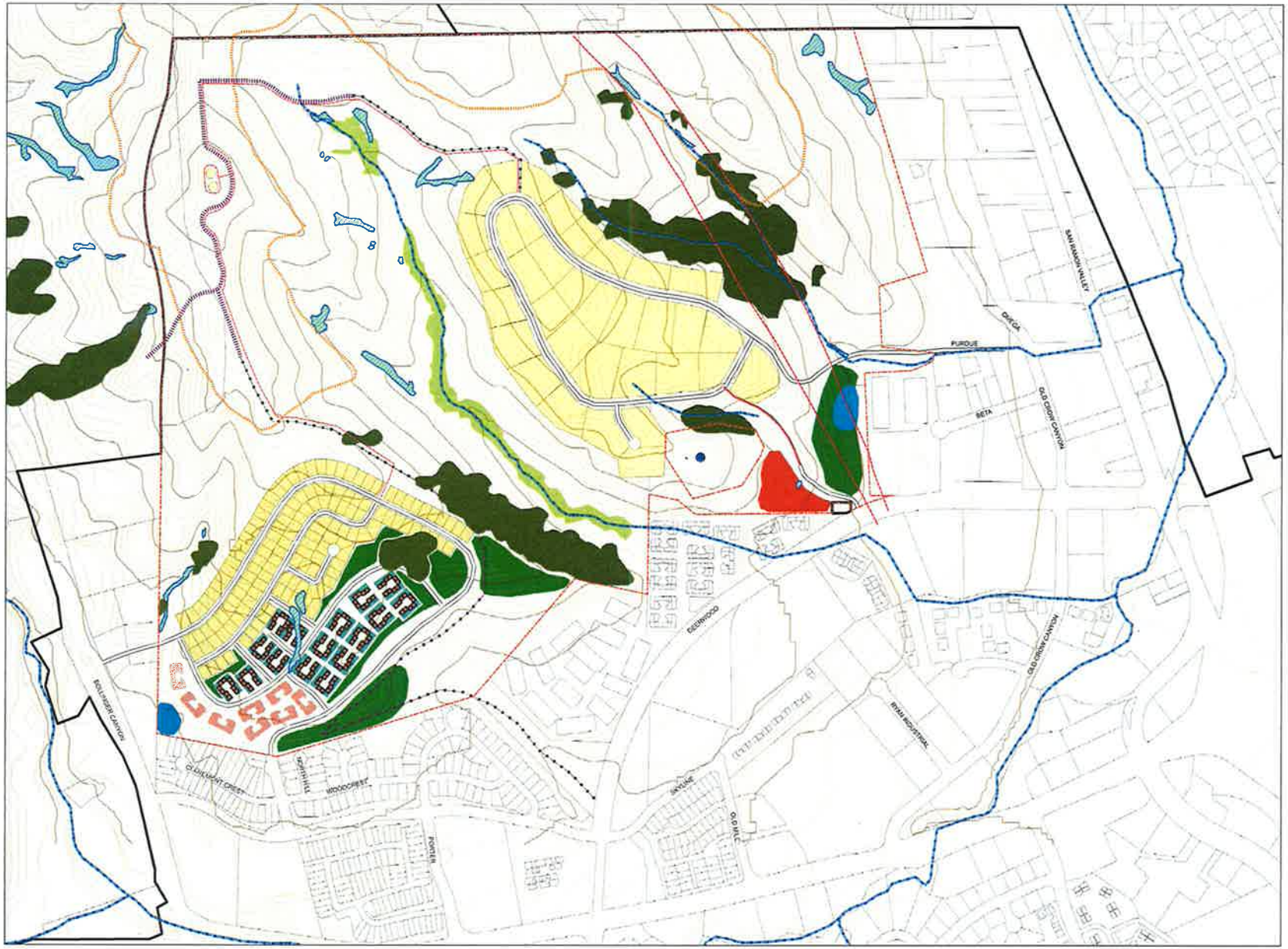
FARIA PRESERVE
Sierra Club
Alternative Study
4/23/2015
Legend
(E) Trails
Calaveras Fault Setback Zone
Creeks-Drainage Way
GP Ridgeline Protection Zone
(E) Contours (50 ft)
(E) Contours (10 ft)
(C) EBMUD Water Tank
Cityboy
Riparian Vegetation
Oak Woodland
Wetlands
PL
WaterTankAccess
20' EVA
ROW
EVA
(P) Trails
(P) EBMUD Tanks
Apartments - 89
SFR (East Lots) - 35
SFR (West Lots) - 140
Church Site - 2 ac
Stormwater Management
Parks
Townhouses
Feet
0
250
500
1,000

EXHIBIT H

SHERWOOD
DESIGN ENGINEERS

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MEMORANDUM

To: Laurel Impett, Urban Planner, Shute, Mihaly & Weinberger, LLP
From: John Leys, PE, Principal, Sherwood Design Engineers
Date: May 4, 2015
Re: Faria Preserve Sierra Club Alternative Land Use Plan—Civil and cost estimate comparison

The purpose of this memo is to outline the basis of design and assumptions used in development of the Faria Preserve alternative site plan, as presented by the Shute, Mihaly & Weinberger (SMW) team on behalf of the Sierra Club. Sherwood Design Engineers performed a review of the Sierra Club Alternative site plan to: (1) evaluate feasibility and provide recommendations from a land development and civil infrastructure perspective; and (2) develop a cost estimate that can be directly compared against the land development costs for the Developer's "Alternative E" site plan, as presented in the U.S. Army Corps of Engineers (USACE) Alternatives Analysis.[1] The cost comparison analysis (Attachment 2) was developed based on the Sierra Club Alternative site plan developed by the team (Attachment 1), which seeks to: (1) minimize impact on existing wetland and riparian areas present on the site; (2) maintain the Developer's profit margin; and (3) ensure the Alternative does not result in other significant environmental consequences. The estimations provided in the Economic Analysis (Attachment 6 of the USACE Alternatives Analysis) were used as a baseline and, where noted, costs were scaled from or matched to those presented in the Alternatives Analysis in order to ensure comparability between the estimates. The cost estimate provided for Alternative F was also used as a basis for comparison given the similarity to the Sierra Club Plan Alternative in development footprint and avoidance of the central drainage.

A summary of the key differences between the Sierra Club Alternative and Alternative E, and assumptions used to develop the alternative site plan and cost comparison are detailed below.

1. Site Layout, Grading & Earthwork

The Sierra Club Alternative plan aims to avoid impacts to the central drainage and riparian corridor, minimize major earthwork requirements across the site, and balance cut-fill on-site. The Alternative would accomplish these objectives by maintaining existing grades along the eastern ridgeline to the maximum extent feasible, thereby greatly reducing cut volumes required for Alternative E. To facilitate preserving the existing ridgeline grades, larger estate lots (ranging from 0.6 to 1.5 ac) are proposed in lieu of the denser, single-family residential lots and townhomes proposed in Alternative E.

Site Layout & Roadways

Faria Parkway and the housing in the central neighborhood (Alternative E, Neighborhood III) are eliminated from the Sierra Club Alternative plan to avoid impacting the central drainage. In order to maintain two points of access into each neighborhood, the following site layout and access modifications are suggested:

[1] U.S. Army Corps of Engineers 404(b)(1) Alternatives Analysis (Revised) for the Faria Preserve Development Project, San Ramon, CA (Corps File Number: 29678S). December 2014. Prepared by Olberding Environmental, Inc. Alternative E is presented as the Least Environmentally Damaging Practicable Alternative (LEDPA).

- **Western neighborhood**
  The Sierra Club Alternative maintains the primary entrance connection at Bollinger Canyon Road, at a similar alignment as shown in Alternative E. An additional new residential roadway would extend north from Claremont Crest Way, which connects to Deerwood Road.

- **Eastern neighborhood**
  Primary access would be provided via connection to Purdue Road, as also proposed in Alternative E. Associated off-site improvements to connect Purdue Road to San Ramon Valley Boulevard to the east are also included. A secondary point of access is proposed from Deerwood Road. A residential roadway connection would provide access from Deerwood Road to the proposed Church Site. From the Church site, a gated Emergency Vehicle Access (EVA) roadway would provide secondary access to the eastern neighborhood's residential loop road. The EVA would be an approximately 20-ft wide, paved access road, designed per City of San Ramon requirements for Emergency Vehicle Access.

Grading

A grading and earthwork analysis for the Sierra Club Alternative Plan was performed to assess the feasibility of balancing cut and fill on-site and maintaining acceptable residential lot and roadway grades. Based on the analysis, a balanced cut-fill scenario is feasible for the Sierra Club Alternative (see Table 1, below). In addition, major earthwork requirements are drastically reduced—from 4-million cubic yards of civil cut and fill estimated for Alternative E—to approximately 1-million cubic yards for the Sierra Club Alternative. Allowances for corrective grading, retaining walls, rock cut, clearing and grubbing and finished pads are included in the Sierra Club Alternative cost estimate; these assumptions are noted in Attachment 2. Minimizing required cut at the eastern ridgeline and avoiding filling the central drainage drive the reduction in land development costs for the Sierra Club Alternative, and also provides a lighter touch development approach and greatly reduces impact on existing landscape features, biological resources and environmental amenities present on the site.[2]

Table 1—Estimated Major Earthwork Quantities

	Cut (cy)	Fill (cy)	Net
Western	700,000	650,000	50,000 (Cut)
Eastern	250,000	300,000	50,000 (Fill)
Total	950,000	950,000	-Balanced-

[2] The Alternatives Analysis (p. 36) notes underlying landslide activity and geotechnical stability issues within the central drainage channel. Alternative E addresses these issues, in part, by altering the ridgeline and filling the central drainage, i.e., removing and stabilizing landslide activity. The Alternative F narrative notes that it would forego repair of these landslides and potentially incur on-going downstream repair costs. The Alternatives Analysis does not discuss potential methods or estimate a cost for landslide stabilization that could be implemented under Alternative F.

The Sierra Club Alternative would forego stabilization of slopes adjacent to the central drainage. Alternatively, slopes could be stabilized using alternative methods that do not require filling the drainage and drastic alterations to the ridgeline. Removal/stabilization of steep slopes and seeps would require methods approved by a licensed geotechnical engineer, to provide the required stabilization and avoid future impacts to the existing detention basin and utilities downstream.

2. In-Tract Improvements

In-tract improvements include all roadways, curb & gutter, paving, storm drains, sewer, water, electrical, lighting and street landscaping within the site development footprint. The lower density of development proposed in the Sierra Club Alternative (particularly on the east side) correspondingly reduces in-tract roadway and utility infrastructure and associated costs. The costs for all in-tract roadway and utility improvements were estimated via a quantity take-off approach[3] and compared against Alternative E in-tract costs. Based on these analyses, the Sierra Club Alternative in-tract improvements are estimated to be approximately 85% of Alternative E costs, as presented in Attachment 2. Primary connection points into City of San Ramon water, storm and sanitary sewer infrastructure remain at Purdue Road and Deerwood Road as is proposed for Alternative E.

3. Major Infrastructure

Major infrastructure requirements were estimated from information provided in the USACE Alternatives Analysis. The major infrastructure section includes costs for: design and construction of new water tanks and associated transmission main and access road improvements; centralized bioretention and detention facilities required for stormwater management and Provision C.3 compliance[4]; Faria Parkway improvements (Alternative E only); and required drainage channel improvements at the western drainage (Alternative E only).

Water Tanks

Given the elimination of the Faria Parkway connection between the central and eastern neighborhoods, the design and routing of transmission mains and domestic water and fire infrastructure serving the development will need to be altered from the Alternative E proposal. It is anticipated that a secondary utility corridor and access road would need to be constructed along the existing trail alignment, extending from the north end of the eastern neighborhood to the proposed tank location (See Attachment 1 for suggested routing).

Stormwater management

Stormwater runoff from the site must be managed in accordance with Provision C.3 requirements for water quality and flow control. Alternative E includes several centralized bioretention facilities for water quality; two new detention facilities and a connection to an existing detention facility are proposed to provide the required flow control (See Figure 2-8 of the Initial Study). A total of 95,806 square-feet dedicated to bioretention facilities are required for Alternative E, per Table 3.9-1 of the Initial Study. Given the reduced development footprint, density and imperviousness proposed for the Sierra Club Alternative, the required designation for bioretention facilities is estimated to be reduced to approximately 65,000 square-feet. For the purposes of the cost comparison analysis, it is assumed that bioretention and detention facilities will be centralized, as proposed in Alternative E.

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[3] The quantity take-off approach uses the Sierra Club Alternative Site Plan revisions to quantify the required linear feet of roadway sections and associated utility mains (storm, sanitary, water, electrical) and service connections. The cost estimate is based on these measured quantities and industry standard unit costs for all labor, materials, piping, and appurtenances required for the associated improvements.

[4] Proposed Low Impact Development (LID) components would be designed and constructed in accordance with Provision C.3 of the National Pollutant Discharge Elimination System (NPDES) permit and the Contra Costa County Clean Water Program Stormwater C.3 Guidebook for stormwater quality control and discharges from development projects and municipal storm drain systems.

It is anticipated, however, that the Sierra Club Alternative plan would allow for stormwater to be managed in a more decentralized manner than suggested for Alternative E. Decentralized approaches to stormwater management are typically more effective both at improving water quality and managing peak flows and runoff volumes than are centralized facilities. General stormwater management strategies envisioned for the Sierra Club Alternative include:

- Decentralize bioretention facilities to be located within lots and right-of-ways, reducing requirement for centralized bioretention.
- Where centralized stormwater facilities are required, collocate and integrate facilities within parks and open spaces.
- On the west side: incorporate outfalls to the existing detention pond at the southern end of the central drainage and to a new detention facility connecting into City of San Ramon storm drainage system in Deerwood Road.
- On the east side: lower density development would reduce required bioretention and detention considerably. Each lot would incorporate bioretention to treat runoff from impervious surfaces. Incorporate storm drain infrastructure and outfalls to the existing detention pond, and new detention pond with connection into Purdue Road drainage (similar to Alternative E plan).

In the cost comparison analysis, the cost designated for stormwater management facilities is conservatively assigned the same value as Alternative E to account for potential additional expense of decentralized management.

Major Roadway & Other Project Features

Faria Parkway is eliminated from the Sierra Club Alternative plan. Other project features such as entry features and fencing are scaled from the Alternative E cost estimate. Assumptions are noted in Attachment 2.

4. Off-site Improvements

Costs allocated for off-site improvements are assumed to comparable to Alternative E. Primary roadway connections are maintained at Purdue and Deerwood Roads. Assumptions are noted in Attachment 2.

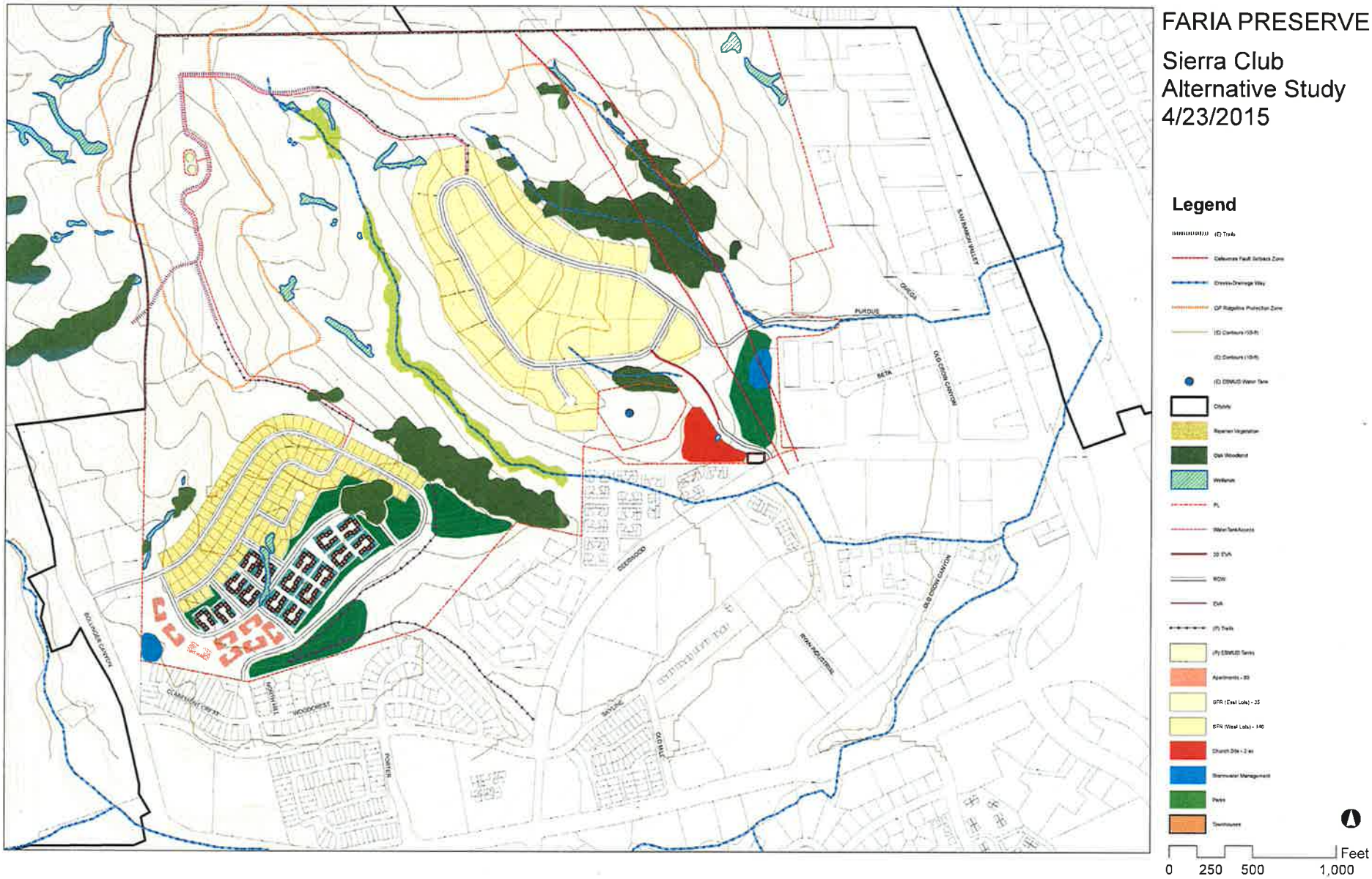
5. Parks & Recreation

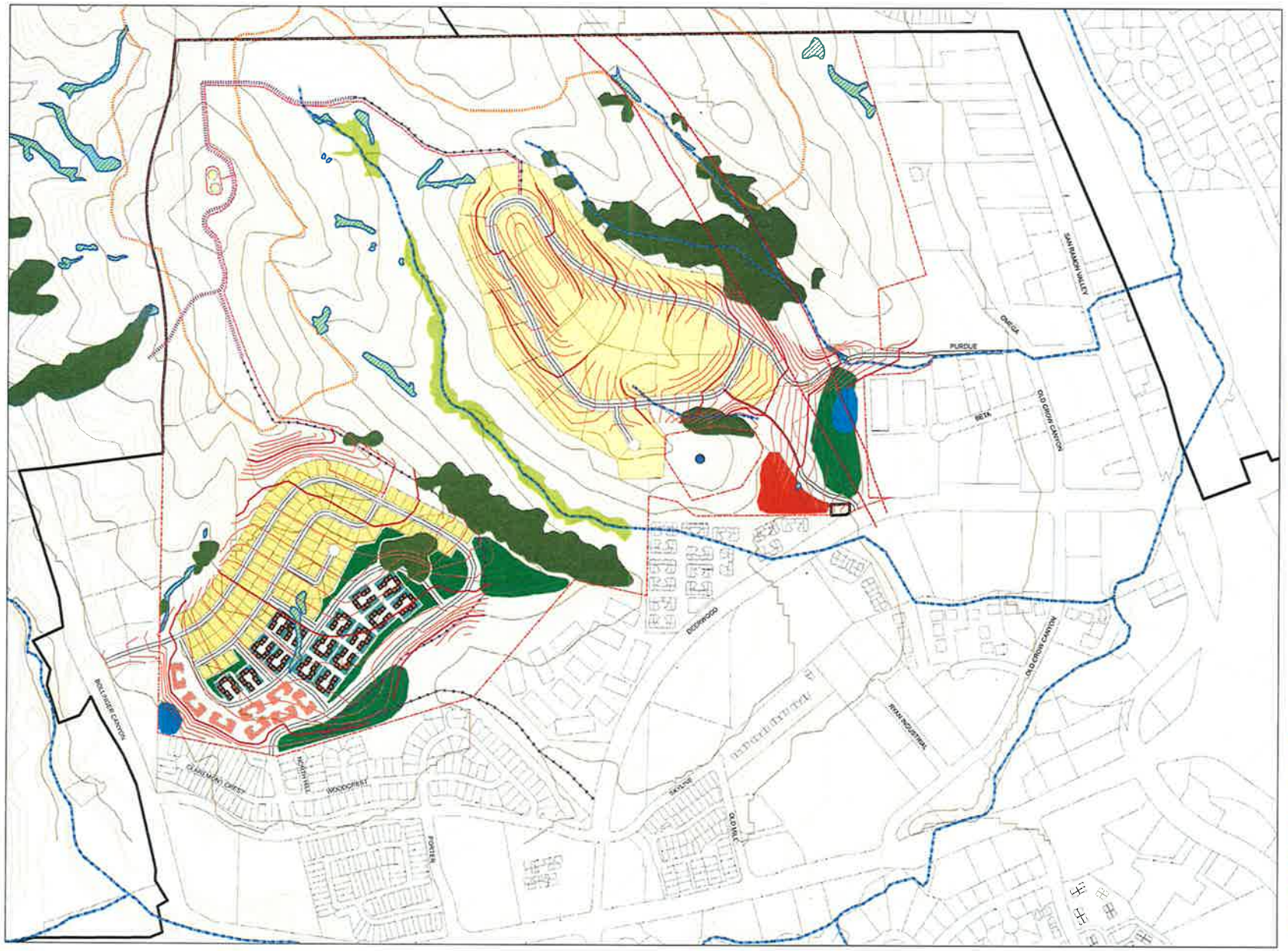
The Sierra Club Alternative reduces on-site public park acreage from 12.7 acres in Alternative E to 10.7 acres. Correspondingly, costs allocated for public parks are scaled to 90% of Alternative E. Recreation facilities are assumed to be consistent with those in Alternative E.

Based on this analysis, it is our opinion that the Sierra Club Alternative is viable from a site civil and land development perspective, while providing significant environmental benefits by preserving existing wetlands and riparian corridors.

John Leys, PE
Principal
Sherwood Design Engineers

Attachment 1


FARIA PRESERVE
Sierra Club
Alternative Study
4/23/2015
Legend
Feet
0
250
500
1,000



FARIA PRESERVE

Sierra Club Alternative Study 4/23/2015

Legend

- (E) Trails
- Calaveras Fault Setback Zone
- Creeks-Drainage Way
- GP Ridgeline Protection Zone
- (E) Contours (50-ft)
- (E) Contours (10-ft)
- (E) EBMUD Water Tank
- City/city
- Riparian Vegetation
- Oak Woodland
- Wetlands
- PL
- Water Tank Access
- 35' EVA
- (P) Contours (50-ft)
- (P) Contours (10-ft)
- ROW
- EVA
- (P) Trails
- (P) EBMUD Tanks
- Apartments - 80
- SFR (East Lots) - 35
- SFR (West Lots) - 143
- Church Site - 2 ac
- Stormwater Management
- Parks
- Townhouses

0 250 500 1,000 Feet

Attachment 2

SHERWOOD
DESIGN ENGINEERS

Faria Preserve Estimate of Probable Cost
Cost comparison of Sierra Club Alternative Analysis with Alternative E Maximum Avoidance Plan
23-Apr-15

SUMMARY

ITEM	Alternative Study[1]	"Alt E" [2]
MAJOR INFRASTRUCTURE *Site prep/earthwork; water tanks; centralized stormwater management; parks, and off-site roadway improvements.*	$ 32,511,750	$ 78,892,000
IN-TRACT	$ 12,800,000	$ 14,901,000
SUBTOTAL	**$ 45,311,750**	**$ 93,793,000**
EIR & Approval	*$ 320,000*	*$ 320,000*
Additional Contingency (0%)	$ -	$ -
TOTAL *w/contingency*	**$ 45,631,750**	**$ 94,113,000**
Land Acquisition	*$ 26,712,306*	*$ 26,712,306*
Wetland Mitigation	*$ 5,250,000*	*$ 10,500,000*
Soft Costs (15%); Fees (12%) of Land Development Cost	*$ 12,320,573*	*$ 25,410,510*
GRAND TOTALS	**$ 89,920,000**	**$ 156,735,816**

NOTES:

1. Estimate of Probable Cost based on the Faria Preserve "Sierra Club Alternative Study" - (Attachment 1), dated 4/23/2015

2. Alternative E (Developer's preferred alternative) costs are based on Attachment 6 in the US Army Corps of Engineers 404 (b) (1) Alternatives Analysis (Revised), Dated December 2014 (Corps File Number: 29678S).

SHERWOOD DESIGN ENGINEERS IS NOT AN ENGINEERING CONTRACTOR, NOR SHOULD OUR RENDERING OF COST ESTIMATES BE CONSIDERED EQUIVALENT TO THE NATURE AND EXTENT OF SERVICE AN ENGINEERING CONTRACTOR WOULD PROVIDE. THIS ESTIMATE IS BASED SOLELY ON OUR OWN ANALYSIS, WHICH IS AS ACCURATE AS THE INFORMATION PROVIDED TO US IN REGARDS TO CONCEPTUAL MASTER PLANS. THIS ANALYSIS WILL NOT REFLECT THE LOCALIZED SITE CONDITIONS, NOR DETAILED ROAD DESIGN OR BUILDING LOCATIONS. THIS INFRASTRUCTURE COST ESTIMATE SHOULD NOT BE USED FOR BID PURPOSES. DUE TO THESE FACTORS, SHERWOOD DESIGN ENGINEERS CANNOT GUARANTEE THE ACCURACY OF OUR COST ESTIMATE BEYOND USE AS A PLANNING TOOL.

SHERWOOD
DESIGN ENGINEERS

Faria Preserve Estimate of Probable Cost
Cost comparison of Sierra Club Alternative Analysis with Alternative E Mountain Avoidance Plan
23 Apr-15

DESCRIPTION	PRELIMINARY SITEWORK, GRADING & EARTHWORK				"IN-TRACT" IMPROVEMENTS & MAJOR ROADWAYS/PROJECT FEATURES				OFF-SITE IMPROVEMENTS				PARKS & RECREATION			
	Site preparation, erosion control, mass grading, geotechnical				*Roadways and utilities*				*Required streetscape & traffic improvements off-site*				*Parks & "Other Items"*			
	Sierra Club Alternative		Alternative E	Notes:	Alternative Study		"Alt E"	Notes:	Alternative Study Estimate		"Alt E"	Notes:	Alternative Study Estimate		"Alt E"	Delta
MAJOR INFRASTRUCTURE	$ 13,390,000		$ 46,270,000	All Site prep, erosion control & mass grading	$ 10,518,750		$ 23,692,000	Includeds other Major Roadways & Project Features described in line items 16-28 below.	$ 3,585,000		$ 3,355,000	Assumes same allowance for off-site requirements similar to Alternative E	$ 5,018,000		$ 5,575,000	
IN-TRACT (Roadway & Utilities)	$ -		$ -	-	$ 12,800,000		$ 14,901,000	Includes in-Tract only (Curb & Gutter, Paving, Storm Drains, Sewer, Water, Electrical, Lighting, Street Landscaping). Sierra Club Alternative estimated to be approximately 85% of Alternative E in-tract costs.	$ -		$ -	-	$ -		$ -	-
TOTAL	$ 13,390,000		$ 46,270,000		$ 23,319,000		$ 38,593,000		$ 3,585,000		$ 3,355,000		$ 5,018,000		$ 5,575,000	
Line-item comparison with USACE Alternative Study - Attachment 6 in the US Army Corps of Engineers 404 (b) (1) Alternatives Analysis (Revised), Dated December 2014 (Corps File Number: 29678S).	Line-Item Number / Description	Sierra Club Alt.	Alt E	Notes:	Line-Item Number / Description	Sierra Club Alt.	Alt E	Notes:	Line-Item Number / Description	Sierra Club Alt.	Alt E	Notes:	Line-Item Number / Description	Sierra Club Alt.	Alt E	Delta
	1. Clearing & Grubbing	$ 447,483	$ 720,000	Scaled by ratio of developed acreage (Sierra Club Alt. Alt E)	16-22: Faria Parkway	NA	$ 9,347,000	Faria Parkway eliminated from Sierra Club Alternative. Roadway and EVA connections on property included in in-tract estimate.	26. Bollinger Canyon Rd	$ 280,000	$ 280,000		34. Neighborhood Park	$ 3,360,000	$ 4,400,000	Scaled by 50%
	2. Grading & Earthwork	$ 6,800,000	$ 13,300,000	Sierra Club Alternative cost estimate per grading and earthwork analysis	23. Via Sassone	NA	$ 330,000	Not applicable for Sierra Club Alt.	27. Off-Site Faria Preserve Pkwy	NA	$ 450,000		35. Rose Garden	$ 175,000	$ 175,000	Assumed included
	3. Corrective grading, geogrid, subdrains	$ 5,000,000	$ 12,200,000	Assumed equivalent to Alternative F Avoidance Plan	24. Appian Way	NA	$ 100,000	Not applicable for Sierra Club Alt.	28. Purdue Road	$ 2,040,000	$ 2,040,000	Primary access remains at Purdue Road	41. Community Pool	$ 1,000,000	$ 1,000,000	Assumed included
	4. Hard Rock Cut	$ 575,000	$ 2,300,000	Assumed equivalent to Alternative F Avoidance Plan	25. City Required Drainage Channel	NA	$ 1,400,000	Not applicable for Sierra Club Alt.	29. Deerwood Rd	$ 680,000	NA	Connection at Deerwood Road, assume similar to Alternative F improvement costs at Deerwood Road.				
	5. Finished Pads	$ 542,000	$ 720,000	Scaled by ratio of developed lots (Sierra Club Alt. Alt E)	26. Detention/Bioretention Basins	$ 600,000	$ 690,000	Cost maintained per Alt E	40. Traffic Signals	$ 575,000	$ 575,000					
	6. Block Retaining Walls	$ 800,000	$ 2,200,000	Assumed equivalent to Alternative F Avoidance Plan.	27. Access Road /Trail	$ 2,269,000	$ 630,000	water tank access road and trail to extend along trail connecting to eastern neighborhood.								
	7. 20' Retaining Wall (multi-use parcel)	NA	$ 6,750,000		28. Bridge/Culvert x ing	$ 290,000	$ 950,000	Sierra Club Alternative costs based on Alternative F avoidance plan cost; Creek & Culvert at Purdue Road Connection								
	8. Soil Nail Retaining Wall	NA	$ 2,350,000		29. Bridges	NA	NA									
	9. Concrete V-ditch	$ 210,000	$ 350,000	Assumed equivalent to Alternative F Avoidance Plan.	30. Entry Features*	$ 712,500	$ 950,000	Sierra Club Alternative scaled to 75% of "Alt E" Costs								
	10. Erosion Control BMPs	$ 1,750,000	$ 2,880,000	Scaled from ratio of developed acreage (Sierra Club Alt. Alt E)	31. Fencing*	$ 521,250	$ 695,000	Sierra Club Alternative scaled to 75% of "Alt E" Costs								
					32. Water Tank (Design & Construction)	$ 6,800,000	$ 8,000,000	Sierra Club Alt comparable to Alternative F avoidance plan (reduced lots and water demand). Allowance added for additional access roadway and water main at secondary connection.								
					33. Oak Tree Woodland Veg*	$ 165,000	$ 220,000	Sierra Club Alternative scaled to 75% of Alternative E Costs								

EXHIBIT I

bae urban economics

Memorandum

To: Laurel Impett, Urban Planner, Shute, Mihaly & Weinberger

From: Matt Kowta, Principal

Date: April 24, 2015

Re: Economic Viability of Proposed Faria Preserve Alternative Land Use Plan

The purpose of this memo is to convey the findings from an economic comparison between the applicant's proposed Alternative E Least Environmentally Damaging Practical Alternative (LEDPA) and the proposed alternative developed by the Shute, Mihaly & Weinberger team on behalf of the Sierra Club. The site plan for the team's alternative is attached as Exhibit 1. In brief, this analysis indicates that the Shute, Mihaly & Weinberger team's proposed alternative would generate a substantially larger total developer profit, and a substantially greater profit margin, with a lower overall unit count. As other team members will elaborate, the team's proposed alternative would also create reduced environmental impacts compared to the applicant's Alternative E. Based on these findings, the team's proposed alternative site plan should be considered the LEDPA, in comparison to the applicant's Alternative E. The remainder of this memo presents and explains the economic comparison and the results, which are summarized in Exhibit 2, below.

Land Use Summary for Sierra Club Alternative

The Shute, Mihaly & Weinberger team alternative (hereafter, Sierra Club Alternative) proposes development of 414 total housing units, including 34 estate lots on the east side of the property. Development on the west side would include 15 lots ranging between 5,900 and 4,480 square feet in size, 125 lots ranging from 4,464 to 3,268 square feet, 160 townhome units, and 80 apartment units. Of the townhomes and the apartments, 24 and 80 units, respectively, are assumed to be designated as below market rate (BMR) affordable units. The Sierra Club Alternative therefore includes 25 percent BMR affordable units. The east side of the project would also include a two-acre church site, and approximately 10.7 acres of parkland would be distributed across both sides of the project.

Economic Assumptions Used for This Analysis

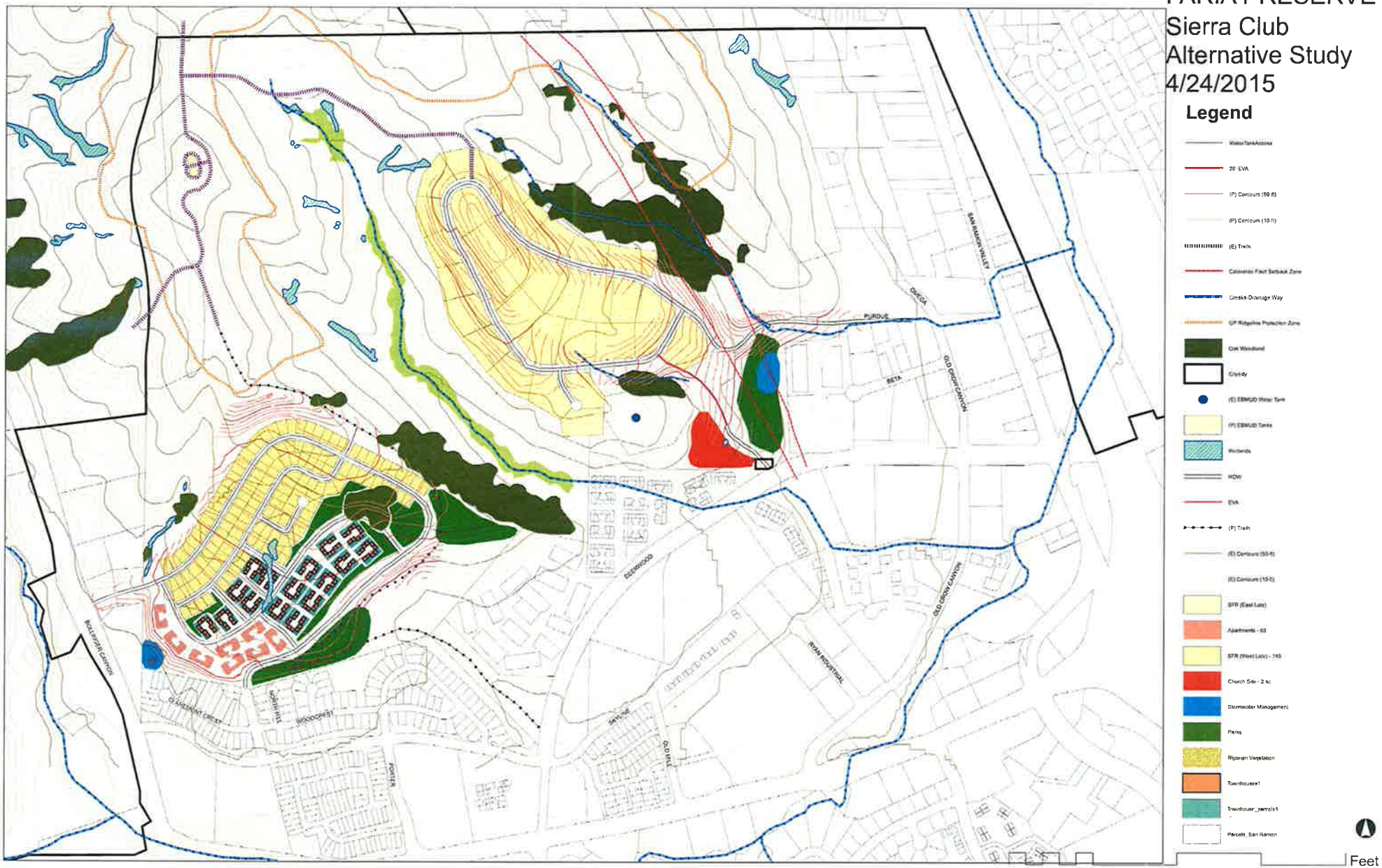
My previous memo, dated March 3, 2015 reviewed the economic analysis that the applicant included as an attachment to the US Army Corps of Engineers 404 (b) (1) Alternatives Analysis (Revised), dated December 2014. In the March 3 memo, I raised a number of issues regarding various assumptions used in the applicant's economic analysis, including the possibility that various project-related revenues may have been understated and that various

project-related costs might have been over-stated, with the effect being that it was not possible to reliably conclude that Alternative E is the LEDPA. My understanding is that the applicant is reviewing my March 3 memo and is preparing responses. Pending receipt of any clarifying or augmenting information from the applicant, for the purposes of this comparison, I have incorporated all of the applicant's cost and revenue assumptions for Alternative E, for comparison with the economics of the Sierra Club Alternative.

For the Sierra Club Alternative, I have conservatively used the applicant's residual lot value revenue assumptions wherever applicable. Because the applicant did not include lots larger than 5,000 square feet in the 404 (b) (1) analysis, I needed to develop an estimate of the average residual lot value for the "Estate Lots" that the Sierra Club Alternative incorporates on the east side of the property. Although the buildable area of these lots ranges from 0.6 to 1.5 acres and the actual properties may be much larger if non-buildable adjacent open space is included in the parcels, I have conservatively assumed that the average residual value for the Estate Lots is 20% greater than the applicant's value assumption for 5,000 square foot lots. Similarly, I have assumed that lots in the Sierra Club Alternative that range in size between 5,900 and 4,480 square feet will have an average value that is equal to the applicant's assumption for 5,000 square foot lots, and that Sierra Club Alternative lots ranging in size between 4,464 and 3,268 square feet would have an average value that is equal to the applicant's assumption for 3,200 square foot lots. Thus, if anything, it is likely that I have understated the value of the lot types in the Sierra Club Alternative just discussed. I have utilized the applicant's assumptions for the residual lot value for the Sierra Club Alternative's townhome units. Although I do not believe this would necessarily be the case for either the applicant's proposed plan or the Sierra Club Alternative, for a conservative and "apples to apples" comparison between the two alternatives, this analysis incorporates the applicant's assumption that no revenues would be realized from the sale of sites for development of BMR units in either of the alternatives.

I have utilized updated site development cost estimates prepared by Sherwood Design Engineers, dated April 23, 2015, to reflect the grading, backbone infrastructure, in-tract infrastructure, other public improvement requirements, and wetland mitigation associated with the Sierra Club Alternative. Again, for the sake of an apples-to-apples comparison between the two alternatives, I have incorporated the applicant's cost assumption for "EIR & Approval" and "Land Cost" and I have utilized the same percentage cost assumptions for "Soft Costs" and for "Fees" (15% and 12% of land development costs, respectively), as assumed in the applicant's analysis.

Exhibit 1: Sierra Club Alternative Site Plan



Source: Sherwood Design Engineers

Economic Feasibility Results and Comparison

As indicated in the applicant's 404 (b) (1) analysis, and summarized in Exhibit 1, the total residual lot values associated with the Applicant's Alternative E would be $163,767,639. The estimated total lot value associated with the Sierra Club Alternative, based on the assumptions described above, would be $114,644,580. As shown in Exhibit 2, the average land value per market rate residential unit is significantly higher for the Sierra Club Alternative, at approximately $370,000, versus an average of about $313,000 per unit for the applicant's Alternative E.

As would be expected for the Sierra Club Alternative, with its reduced unit count compared to the applicant's Alternative E, the overall development costs are substantially reduced, compared to the applicant's Alternative E; however, due primarily to its improved design which drastically reduces the need for filling in the central canyon area and eliminates the connector road between the east and west sides of the project, the "Major Infrastructure" costs are reduced by approximately 60 percent for the Sierra Club Alternative. As a result of this, and other cost savings, the overall development cost for the Sierra Club Alternative is approximately 43 percent less than the development cost for the applicant's Alternative E. As a result, the average land development cost per market rate residential unit under the Sierra Club Alternative is $290,047, versus $299,114 for the applicant's Alternative E.

Due to the development cost savings, the Sierra Club Alternative would generate a gross land development profit of $24.7 million, compared to the applicant's estimate of $7.0 million for Alternative E. In addition, because of the smaller number of market rate units, the average profit per market rate residential unit would be $79,774 under the Sierra Club Alternative, compared to $13,420 per market rate residential unit for the applicant's Alternative E. Given the conservative nature of the revenue assumptions that I have utilized for the Sierra Club Alternative, and given the very large difference in profitability between the Sierra Club Alternative and the applicant's Alternative E, I am very comfortable with the conclusion that the Sierra Club Alternative is, in fact, the more economically viable plan of the two.

Exhibit 2: Faria Preserve Development Summary Comparison

Lot Types	Residual Lot Value	Applicant's Alternative E Lots	Applicant's Alternative E Value	Sierra Club Alternative Lots	Sierra Club Alternative Value	Notes on Proposed Alternative
Estate Lots	$614,694	0	$0	34	$20,899,596	20% premium over 5,000 sq. ft. lots. Developable sites from 0.6 to 1.5 ac.
50 x 100 (5,000 sq. ft.)	$512,245	121	$61,981,645	15	$7,683,675	5,900 to 4,480 sq. ft. size range
46 x 70 (3,220 sq. ft.)	$406,705	72	$29,282,760	125	$50,838,125	4,464 to 3,268 sq. ft. size range
35 x 65 (2.275 sq. ft.)	$346,880	63	$21,853,440	0	$0	
Mkt. Rate Townhome	$258,994	104	$26,935,376	136	$35,223,184	
Mkt. Rate Flats	$304,031	78	$23,714,418	0	$0	
Mkt. Rate Apartments	$0	86	$0	0	$0	
Affordable Townhome	$0	0	$0	24	$0	Total # of affordable townhomes and apartments to equal 25% of project.
Affordable Apartments	$0	216	$0	80	$0	Total # of affordable townhomes and apartments to equal 25% of project.
TOTAL		**740**	**$163,767,639**	**414**	**$114,644,580**	
Land Value Per Market Rate Unit			*$312,534 (a)*		*$369,821*	

Development Costs	Applicant's Alternative E	Sierra Club Alternative	
Major Infrastructure	$78,892,000	$32,511,750	Sherwood Design Engineers, 4-23-15
In-Tract Infrastructure	$14,901,000	$12,800,000	Sherwood Design Engineers, 4-23-15
EIR & Approval	$320,000	$320,000	
Sub-Total Land Development Costs	**$94,113,000**	**$45,631,750**	
Wetland Mitigation	**$10,500,000**	**$5,250,000**	Sherwood Design Engineers, 4-23-15
Soft Costs (15% of Land Development Costs)	**$14,116,950**	**$6,844,763**	Applies applicant % to new land development costs
Fees (12% of Land Development Costs)	**$11,293,560**	**$5,475,810**	Applies applicant % to new land development costs
Land Cost	**$26,712,306**	**$26,712,306**	
TOTAL DEVELOPMENT COST	**$156,735,816**	**$89,914,629**	
Average Development Cost Per Market Rate Unit	*$299,114 (a)*	*$290,047*	
GROSS PROFIT	**$7,031,823**	**$24,729,952**	
Profit as % of Costs	*4.5%*	*27.5%*	
Average Profit Per Market Rate Lot	*$13,420 (a)*	*$79,774*	

Note:
(a) These figures vary from the figures reported by the applicant on PDF page 157 of the December 2014 404 (b) (1) analysis submitted by the applicant, because the applicant excluded market rate apartments from the average revenue, average cost, and average profit calcualations.

Sources: Lafferty Communities, Jared Ikeda, Sherwood Design Engineers, BAE.

EXHIBIT J

SHUTE, MIHALY
& WEINBERGER LLP

396 HAYES STREET, SAN FRANCISCO, CA 94102
T: (415) 552-7272 F: (415) 552-5816
www.smwlaw.com

SARA A. CLARK
Attorney
clark@smwlaw.com

July 21, 2015

Via Email and U.S. Mail

San Francisco Bay RWQCB
Attention: Melinda Wong - PRA Request
1515 Clay Street, #1400
Oakland, CA 94612
Email: mwong@waterboards.ca.gov

Re: Public Records Act Request: Faria Preserve Water Quality Certification

Dear Ms. Wong:

Pursuant to the California Public Records Act, Gov't Code § 6250 et seq., and Article 1, Section 3 of the California Constitution (collectively "PRA"), we hereby request on behalf of Sierra Club that the San Francisco Bay Regional Water Quality Control Board ("Water Board") provide us with the following documents:

(1) All documents relating to a Section 401 Water Quality Certification or any waste discharge requirements for the Faria Preserve in the City of San Ramon and Contra Costa County.

(2) All documents constituting or referring to communication between the Water Board and Olberding Environmental, Inc. or Faria LT Ventures, LLC ("Applicant"), including communication between any agent, employee and contractor of the Water Board and any agent, employee and contractor of the Applicant related to the Faria Preserve. Throughout this request, "communication" includes, but is not limited to, correspondence (including email), telephone, and in-person conversations.

(3) Any documents related to or constituting communications between two or more employees, officers, or agents of the Water Board relating to the Faria Preserve.

For the purposes of this request, the term "documents" includes any "handwriting, typewriting, printing, photographing, photocopying, transmitting by electronic mail or facsimile, and every other means of recording upon any tangible thing

any form of communication or representation, including letters, words, pictures, sounds, or symbols, or combinations thereof, and any record thereby created, regardless of the manner in which the record has been stored." Gov't Code § 6252(g). A "document" also includes all appendices and exhibits referred to in the document. The term "or" means "and/or."

Pursuant to Government Code section 6253(c), please make a determination on and respond to this request within 10 days of your receipt of it. If you determine that any of the information is exempt from disclosure under the PRA, we request that: (1) you exercise your discretion to disclose the record notwithstanding the exemption; or (2) pursuant to Government Code section 6253(c), provide a written response describing the legal authority on which you rely.

If any of the requested records are currently in electronic format, we request electronic transmission of these records. These electronic records may be placed on an FTP site or mailed on a CD to the above address. *Please also notify me of the direct cost of making any paper copies of the requested records before such copies are made. See* Gov't Code § 6253(d) (fees may only be charged for the direct costs of duplication). If the cost is too high, I may request inspection of records instead.

Thank you for your attention to this request. Please contact me at (415) 552-7272 or clark@smwlaw.com if you have any questions or concerns.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Sara A. Clark

cc: Jim Blickenstaff (jpblick@comcast.net, via email only)
Jim Gibbon (jim.gibbon42@gmail.com, via email only)

696567.1

EXHIBIT K

WETLANDS PROTECTION THROUGH IMPACT AVOIDANCE: A DISCUSSION OF THE 404(b)(1) ALTERNATIVES ANALYSIS

Thomas G. Yocom, Robert A. Leidy, and Clyde A. Morris

*United States Environmental Protection Agency**
Region IX
San Francisco, CA 94105

Abstract: In order to receive a Department of Army permit to discharge dredged or fill material into "waters of the United States," including wetlands, a permit applicant may have to clearly demonstrate that the proposed discharge is unavoidable and the least environmentally-damaging practicable alternative. Failure to do so as required under EPA's 404(b)(1) Guidelines (40 CFR 230) may result in permit denial. Generally, the practicable alternative that involves the least amount of filled "waters" will be considered the least damaging; practicable alternatives that avoid "special aquatic sites" such as wetlands are always presumed to be less damaging environmentally than those that do not. "Practicable" alternatives are not unreasonably costly, but may produce less return on investment than is desired by the permit applicant. Such alternatives are considered available if they are owned by the applicant or if they can be obtained, utilized, expanded, or managed during the planning and permitting phases of the proposed project. In order for the analysis of alternatives to be useful to the permitting process, the project purpose must be defined generically, and separate analyses may be required for each component of a multiple-purpose project. The geographic scope of analysis must remain broad enough to reasonably consider all environmentally-preferable sites where the basic project purpose could be achieved. We conclude that an alternative analysis, performed properly and early in the project formulation stage can reduce project costs, increase certainty, and most importantly, result in avoidance and protection of valuable wetland resources.

Key Words: Clean Water Act, 404(b)(1) Guidelines, practicable alternatives, basic project purpose, avoidance, wetlands.

* Views represented in this paper are those of the authors and do not necessarily represent those of the Environmental Protection Agency.

INTRODUCTION

The objective of the Clean Water Act (CWA) is to restore and maintain the physical, chemical, and biological integrity of the nation's waters through the elimination of discharges of pollutants (33 U.S.C. 466 et seq.); among areas defined as waters of the United States are wetlands [40 CFR 230.3(s) (7)], and pollutants include dredged and fill materials [40 CFR 230.3(o)]. Inasmuch as the CWA identifies the goal of eliminating all discharges of pollutants after 1985 [Section 101(a) (1) of the CWA], there is little question that Congress intends the federal government to strongly discourage all discharges into the nation's waters, including wetlands.

The Environmental Protection Agency's (EPA) 404(b)(1) Guidelines (40 CFR 230) are the substantive environmental criteria used in evaluating permit applications to the U.S. Army Corps of Engineers (Corps), to discharge dredged or fill material into "waters of the United States," including wetlands [definitions at 40 CFR 230.3(s) and (t)]. Under the Guidelines, a primary screening mechanism to determine the necessity of permitting a discharge of dredged or fill material is the analysis of practicable alternatives [see 40 CFR 230.10(a)]. The Guidelines prohibit all discharges of dredged or fill material into regulated "waters," including wetlands, unless a discharge, as proposed, constitutes the least environmentally-damaging practicable alternative that will achieve the basic project purpose. However, even if a proposed discharge constitutes the least environmentally-damaging practicable alternative, it may be prohibited by other portions of the Guidelines and Corps' regulations.

The Guidelines recognize that certain areas regulated by the CWA ("special aquatic sites") are deserving of special protection because of their ecological significance and positive contributions to the overall health or vitality of an ecosystem of a region [40 CFR 230.3(q-l)]. "Special aquatic sites" include wetlands, mudflats, coral reefs, riffle-and-pool complexes, vegetated shallows, and sanctuaries and refuges (40 CFR 230.40-230.45). In addition, the Guidelines recognize that water-dependent projects (i.e., projects such as certain port or marina facilities that require access or proximity to, or siting within, "special aquatic sites" to fulfill their basic purpose), by their very nature are more likely to actually require discharges of dredged and fill material than are non-water-dependent projects.

Thus, if a project is 1) not water-dependent *and* 2) the project proposes to discharge dredged or fill material into a "special aquatic site," the Guidelines establish a regulatory presumption that a less environmentally-damaging practicable alternative exists, unless the permit applicant can clearly demonstrate otherwise [see 40 CFR 230.10(a)(3)]. If this presumption is not clearly rebutted, no permit may be issued for the proposed project.

It is this clear demonstration by the permit applicant that has been a significant source of frustration to applicants and regulators alike. Despite the

strong reliance of EPA and the Corps upon alternatives analysis in screening the permissibility of proposed discharges, very little formal agency guidance has been provided until very recently (Department of Army 1989) on how to properly conduct such an analysis. In this paper, we summarize the specific guidance that EPA Region IX has provided to applicants regarding alternatives analysis, and we discuss the most common areas of misunderstanding between federal regulators and the regulated public, using examples from selected projects within Region IX (California, Nevada, Arizona, Hawaii, and the Pacific Islands).

EPA'S 404(b)(l) GUIDELINES

Determination of the Least Environmentally-damaging Alternative

Projects that avoid discharges of dredged or fill material into "waters of the United States," including wetlands, are assumed generally to have less adverse impact to the aquatic environment than projects that require fill in such "waters." Similarly, projects that propose to minimize fill and/or that avoid ecologically-significant areas are assumed generally to be less harmful to the aquatic environment than those projects or project alternatives that do not.

Projects that do not propose discharges into "special aquatic sites" are always presumed to have less adverse impact on the aquatic ecosystem than projects that do [40 CFR 230.10(a)(3)]. These assumptions may be rebuttable in individual cases, but our experience indicates that these situations are rare.

Whether or not the activity associated with the discharge is water-dependent or proposes discharges of dredged or fill material into a "special aquatic site," it must constitute the least environmentally-damaging practicable alternative to be considered for permitting under the regulations. Applicants should realize that the "water-dependency" determination has more to do with the burden of proof than it does with any inherent permittability of water-dependent versus non-water-dependent projects. The applicant proposing a non-water-dependent project in a wetland, for example, will have the burden of demonstrating clearly that there are no less damaging practicable alternatives.

Mitigation and the Determination of Practicable Alternatives

Applicants often contend that their project, with proposed mitigation measures included, has no net adverse impacts and that, therefore, there are no less environmentally-damaging alternatives. These applicants argue that on-site or off-site alternatives that might reduce or avoid discharges of dredged or fill material will not have less impact than their proposal (with mitigation included) that has none. EPA Region IX disagrees with this argument and has rejected alternatives analyses that are based on these assumptions for the following reasons.

..We believe that EPA's 404(b)(1) Guidelines are written hierarchically to ensure that maximum efforts are made to achieve the objective of the CWA to eliminate all discharges of pollutants into the nation's waters. Discharges of pollutants that can be avoided reasonably should be avoided [see preamble to EPA's 404(b)(1) Guidelines--Alternatives--40 CFR 230]. The basic premise is that compensatory mitigation should not be used to offset avoidable impacts. To allow such mitigation proposals to determine the acceptability of a proposed discharge thwarts the objectives of the CWA. Accordingly, EPA generally will not judge the appropriateness of compensatory mitigation measures until the least environmentally-damaging practicable alternative has been identified.

Another important reason that EPA rejects the concept that compensatory mitigation take precedence over avoidance is that certain types of wetland mitigation proposals commonly fail to offset the impacts they are designed to mitigate (Baker 1984, Race 1985, Kusler and Kentula, in press). It has been our experience regionally and nationally that compensatory mitigation to replace lost functional values through habitat creation, restoration, or enhancement is only partially successful for many aquatic and wetland habitats (Kusler and Kentula, in press).

As a result of the uncertain success rate of many past mitigation proposals, mitigation measures now required in Department of Army permits have become much more complex and expensive. Often an applicant may not only have to buy mitigation property and deed it to a third party, but may have to fund extensive planning, grading, planting, and hydrologic modifications, as well as monitoring studies, to ensure that specified performance standards are met. In addition, the applicant may have to post performance bonds to provide for remedial actions if the mitigation proposal is not successful and to pay for long-term operation and maintenance costs of the mitigation in perpetuity or over the life of the project.

Increasingly, Department of Army permits require that mitigation be implemented and proven successful in meeting stated mitigation goals before project construction proceeds. Thus, projects that require extensive and complex mitigation measures may prove very expensive in terms of investments of initial capital costs and subsequent time delays. Clearly, a proposal that avoids or minimizes discharges of dredged or fill material into "waters" also avoids or reduces costs and delays associated with the 404 permitting process.

We believe that the financial costs and regulatory requirements associated with the 404 permitting process are creating an economic incentive for potential permit applicants to relocate proposed projects out of "waters of the United States." In fact, some developers have found that incorporation of natural water features into their site plans has real market value in its own right (i.e., avoidance can increase profitability). In one case in San Mateo County, California, a housing developer spent approximately $200,000 in preliminary site analysis and design in order to avoid impacts to aquatic resources on the site. Not only did this planning and design effort result in avoidance of the federal 404 permitting process, including documen-

tation under the National Environmental Policy Act, but the developer estimates that the value of the development exceeds $120 million (Del Davis, Ailanto Properties, Oakland, CA, personal communication, May 20, 1989).

Determination of Practicability

The Guidelines define "practicable" as available and capable of being done, taking into account cost, existing technology, and logistics, in light of overall project purposes [40 CFR 230.10(a)(2)]. For example, an alternative for a commercial project that is so unreasonably costly as to be unprofitable would not be practicable under the Guidelines. Similarly, an alternative site that is seismically unsound may, technically or logistically, not be a practicable alternative, even though the site could be obtained reasonably. However, a project alternative that achieves a smaller return on investment than the applicant's preferred alternative may be considered practicable for the purposes of 404 permitting, even though that alternative may not be financially acceptable to a particular applicant.

Availability

"Available" means obtainable for meeting the project purpose. Available sites may include property already owned by a permit applicant, as well as properties that could be obtained, utilized, expanded, or managed. In evaluating the availability of alternatives, a "look back in time" may be considered appropriate, particularly when a project has a long planning history. In certain cases, it may be determined that an alternative that was available in the planning phases of a project, but that is no longer available at the time of permit application, may be, nonetheless, practicable. In general, EPA Region IX has limited this "look back in time" to no earlier than the period during which the analysis of practicable alternatives has been a regulatory requirement (EPA's 404(b)(1) Guidelines were promulgated on December 24, 1980).

The most well-known example of EPA's requiring such a retroactive analysis of alternatives involved a proposed shopping mall in North Attleboro, Massachusetts. In that case, EPA determined that a previously available site was a less environmentally-damaging practicable alternative, even though the site was allegedly no longer available to the applicant at the time that a permit application was submitted to the Corps. In litigation at the U.S. District Court and on appeal to the U.S. Circuit Court of Appeals, EPA was upheld in its decision (*Bersani* v. *U.S. Environmental Protection Agency*, 694 F. Supp. 405 [N.D.N.Y. 1987]; *Bersani* v. *Robichaud*, 850 F. 2d 3b [2nd Cir. 1988]).

In evaluating the availability of off-site alternatives, it may be appropriate to review city and county records to determine whether upland sites upon which the proposed project purpose could be achieved have been bought, sold, optioned, or

leased within the planning period of the proposed project. In many cases, applicants cite zoning restrictions as rationales for eliminating alternative sites as impracticable. In certain cases, zoning may, in fact, be a legitimate measure of practicability. However, in areas where zoning variances or zoning changes are common, the zoned status of a parcel may be given little weight in determining the practicability of using that site under the Guidelines.

For example, several county general or specific plans in California have zoned wetlands for housing developments and related facilities, while restricting such development on certain upland locations (e.g., ridge tops zoned for open space). In this situation, EPA Region IX may determine that upland sites are available for housing regardless of local zoning restrictions. In one case in Los Angeles County, a parcel containing wetlands and zoned as a "mountain preserve" was purchased by an applicant, after which the property received a variance and was re-zoned residential. EPA did not consider this new zoning status as eliminating the need for the applicant to consider other sites for the proposed housing development.

In addition to considering undeveloped properties, sites with existing development could be considered practicable alternatives if the existing development could be converted (or removed) to accommodate the basic project purpose profitably. When considering the costs of 1) filling a regulated site, 2) developing the site, and 3) mitigating unavoidable impacts, use of a previously developed site may be less environmentally damaging, less costly to develop, and therefore, practicable.

Although it may appear that the Guidelines are land-use regulations, EPA does not, in fact, regulate local growth. EPA regulatory actions are not intended to affect growth management or control. However, it may be that an unintended but unavoidable result of a particular action is to regulate growth to some extent, where that growth requires the discharge of dredged or fill material into regulated "waters," including wetlands.

Capable of Being Done

"Capable of being done" means that it is possible to achieve the basic project purpose on a given site, after considering cost, existing technology, and logistics. Construction of a dam in a site that is seismically unsound would not be considered "capable of being done," for example, even though it may physically possible to construct a dam on that site in a cost-effective manner. Similarly, an applicant may be incapable of constructing a nuclear power plant on a site that is too near to a human population center, even though the costs and technical considerations would not preclude its construction.

Overall Project Purpose

It is the legal opinion of EPA Region IX that the term "overall project purposes" means the basic project purpose plus consideration of costs and technical and logistical feasibility. The term "overall project purposes" does not include 1) project amenities, 2) a particular return on investment (unless a certain minimum return can be shown to render a project impracticable--i.e., a negative benefit/cost ratio), 3) "highest and best use of land", or 4) certain desired size requirements. "Overall project purposes" also may not include a market-area that is so narrow as to only include an applicant's specific desires, such as "upscale" or "water-oriented" housing.

For example, a permit applicant in Alameda County, California, proposed a "rail-served" warehouse development and only considered alternative development parcels in a narrow geographic area that could accommodate a rail spur. EPA did not question the advantages of a "rail-served" amenity but did, however, reject the alternative analysis because it artificially narrowed the basic project purpose of warehousing. An analysis of the market supported EPA's rejection of the rail-served amenity because "non-rail-served" warehousing had been successfully developed recently within the area.

EPA Region IX also reviewed and rejected analyses for two reservoir projects in which the permit applicants stated that their overall project purposes included site-specific secondary requirements. In one instance, an agency proposing a dam and reservoir project in San Diego County, California, argued that the "overall project purposes" included capturing unregulated run-off in the very stream where the proposed dam was to be constructed. The obvious consequence of EPA's accepting such an argument would have been to automatically reject all otherwise legitimate reservoir alternatives in other watersheds, even if they could practicably supply equivalent water to proposed service areas in environmentally-preferable ways.

In a similar instance, EPA Region IX rejected an argument that the basic or overall project purposes of a proposed dam and reservoir in Monterey County, California included flow releases at the dam site for enhancement of downstream fish habitat. Region IX accepted that such enhancement is a desirable aspect or secondary benefit of the applicant's preferred alternative. However, EPA rejected the premise that other viable alternatives to supply water to the people of Monterey County should be rejected, simply because those alternatives might not be capable of the site-specific secondary operations (i.e., flow releases for fisheries) of the applicants preferred alternative.

It is noteworthy that in each of these two reservoir cases, less environmentally-damaging practicable alternatives were identified ultimately that would supply equivalent or greater quantities of water with similar or reduced costs. Such results should be the rule, rather than the exception, if the alternatives test is applied

properly. Thus in simple terms, the least environmentally-damaging practicable alternative is that project proposal whose discharge of dredged or fill material into "waters of the United States" a) has the minimal adverse environmental impact, b) achieves the basic project purpose, and (for profit-making ventures) c) is profitable.

Determination of the Basic Project Purpose

Although defining the basic project purpose would seem obvious, this determination has been among the most controversial aspects of the analysis of alternatives. EPA Region IX consistently treats the basic project purpose as the generic function of the activity. From a regulatory perspective, for example, the basic purpose of a residential development is to house people or provide shelter, whether an applicant has proposed "water-oriented housing" with finger piers, upscale, single-family housing, or resort housing with a golf course. Similarly, the basic purpose of a restaurant is to feed people, even though the applicant may be proposing a waterfront restaurant [See preamble to EPA's 404(b)(1) Guidelines--Water Dependency--40 CFR 230].

In adopting a generic viewpoint, Region IX is not questioning the validity of an applicant's business decision, nor suggesting that an applicant adopt a different basic project purpose. Rather, EPA is seeking to evaluate whether or not an activity has available options in order to comply with the CWA goal of eliminating all discharges into "waters of the United States."

EPA, therefore, would not question whether a waterfront restaurant, for example, would be a better business opportunity than the same restaurant on a site not on or near the water. Instead, EPA must provide a means to screen projects to ensure that only projects that absolutely need to be sited in "waters" and/or "special aquatic sites" receive what amounts to a "waiver" from the objective of the CWA to eliminate all discharges after 1985.

Analysis of Multipurpose Projects

Multiple-purpose projects are considerably more complicated. In some cases, the basic project purpose is the activity that is driving the project financially. Under the regulations, a planned community development, for example, may be viewed essentially as housing, even though it seeks to include recreational and commercial facilities. Similarly, a "world-class destination resort" may, for regulatory purposes, be viewed as a hotel. Again, EPA is not suggesting that a destination resort or planned community are not valid purposes from the applicant's perspective, or that they are not sound business proposals. EPA's regulatory role is rather to evaluate whether discharges of pollutants into the nation's waters should be permitted, particularly if the activities can be practicably relocated into uplands.

Certain multiple-purpose projects really are multiple projects. For example, an applicant in Alameda County, California, proposed a "world-class"

horse-racing facility in association with an office park, hotel, commercial development, recreational vehicle parking area, and family amusement park. The permit applicant stated that the racetrack by itself would not be feasible financially, and that the other project components had to be built to financially support the race track. In this case, EPA and the Corps required that the alternatives analysis be structured to evaluate options that included placing the various components in separate locations. As a general rule, separate project components that are not linked functionally will be considered separate projects for the purpose of the 404(b)(1) alternatives analysis. The rationale is that if some of the project purposes can be built practicably in uplands, they should be (see preamble to EPA's 404(b)(1) Guidelines--Alternatives--40 CFR 230).

Even if an applicant can demonstrate that certain elements of a multiple-purpose project are necessary to financially support other elements, as the applicant contended in the Alameda County case, the alternatives analysis process will assume that this financial support can be provided, even if certain project elements are built on upland sites. In other words, financial linkage does not constitute the functional linkage justifying permitting of the entire project in a "water of the United States." Unless there is a compelling functional reason that the projects be on the same site, the analysis of alternatives will consider other sites that could accommodate the entire multiple-purpose project and/or smaller, individual project purpose elements.

Obviously, project proponents ultimately design their projects to utilize particular parcels of land. If that parcel happens to be on or in the water, it may be wise from a developer's perspective to incorporate water-oriented facilities and/or amenities to maximize the use and potential profits from that parcel. For example, an applicant in Contra Costa County, California, proposed an "historic entertainment park" in a tidal wetland. A "Chinese fishing village," complete with fishing boats, was added to the proposal to take advantage of the waterfront location. In order to comply with EPA's regulations, the applicant was asked to consider the practicability of alternatives that avoided "waters," such as an entertainment park without a fishing village or with a substitute "dry-based" fishing village.

To have considered these site-specific facilities and amenities as the basic purpose of the project for regulatory purposes would have eliminated consideration of any alternative sites or configurations that were not in or near the water. The result would have been to reduce the scope of alternatives to "waters of the United States," the very areas that the CWA seeks to avoid as discharge sites.

Unacceptable Project Purposes

There are no basic project purposes that are invalid under the 404(b)(1) Guidelines but many unacceptable ways of defining them. As stated earlier, EPA and the Corps do not, for example, consider "waterfront housing" to be an accept-

able basic or overall project purpose under the Guidelines. Similarly, "development" or "redevelopment" is not a valid basic or overall project purpose for regulatory purposes, being too general to allow an applicant to conduct a meaningful search for alternative sites or configurations.

"Making money" or "increasing a tax base" or "generating revenues for redevelopment" are further examples of inappropriate basic project purposes under the Guidelines. Given that there are an infinite number of ways to "make money," an applicant proposing an undefined project to achieve this basic project purpose would theoretically have to consider all alternative ways to achieve this purpose and all available sites where money could be made. Such an analysis would be impossible, and the applicant would be unable to rebut the presumption that less environmentally-damaging practicable alternatives are available.

An example of another difficult purpose to evaluate is flood control. In general, we consider flood control to be a valid project purpose where the proposed activity is designed to protect existing upland development, recognizing that in many instances EPA Region IX believes that flood control can be built outside of "waters of the United States" (set-back levees, for example). However, if the project is being built in order to enable development in a floodplain or wetland, we consider the project purpose to be the basic purpose of the enabled development, rather than flood control.

For example, EPA Region IX reviewed a proposed "flood control" project in Sacramento County, California, where the stream course was known to flood, but where there was no existing development in need of immediate protection. The project included plans to channelize and levee the stream, and to construct housing behind the levees. The permit applicant argued that the housing was necessary in order to provide funding for the flood control project through property assessments. EPA rejected that the project purpose was flood control and asked that the applicant evaluate alternatives available to achieve the basic project purpose of housing.

For EPA to have done otherwise would have led to an unworkable situation, since virtually any project that requires fill in "waters of the United States" is placing that fill for the main purpose of raising the base of the project so that the project does not flood. Taken to the extreme, one could argue that all fill projects are flood control projects.

Finally, there are instances where the "no-project" or "no-action" alternative may be considered a practicable means of achieving the basic project purpose. This situation may arise in cases where the basic project purpose is defined by the applicant as expansion of an existing, profitable operation. From a regulatory perspective, it may be considered practicable to achieve the regulatory basic project purpose without the expansion.

For example, a ski resort at Lake Tahoe, California, proposed construction of a reservoir in a sub-alpine wetland to increase water storage for snow-making. This project would allow the resort to extend the ski season and increase revenues.

However, because the resort already had snow-making capability in certain areas and was operating profitably, EPA considered the "no-project" alternative as a less-damaging practicable alternative to achieve the basic purpose of skiing.

Geographic Scope of the Alternatives Analysis

The geographic scope of analysis will, to some extent, be determined on a case-by-case basis and may vary, depending on a number of factors. For example, the basic purpose of a project will in many cases serve to set the reasonable scope. Constraints that are inherent to siting a nuclear power plant are obviously different from those governing the siting of housing or restaurants. In general, the scope will include all areas that would be reasonable to consider in the particular industry.

A developer seeking to build housing within a certain community may be forced under 404 regulations to consider sites somewhat removed from that community should the developer propose a project in a regulated wetland site. Clearly, there are no 404 regulatory concerns if the developer selects a site within the desired community that has no regulated "waters of the United States" that would be filled. If, however, a regulated wetland site is proposed, the developer may be required to consider other nearby communities within which housing could be built practicably without filling wetlands or other "waters of the United States," or where such filling would have less adverse environmental impacts. This requirement may lead to conflicts between 404 regulations and local zoning ordinances.

Certain projects may entail very large geographical scopes if the project purpose is one that could be built practicably almost anywhere and/or that cannot be tied reasonably to any particular market. For example, a "destination" resort proposed on a scale to attract clients from great distances could, by its very nature, achieve its basic purpose on sites in a large geographic area. In such cases, a proposed "destination" resort should consider a multi-state geographic area.

In cases where a local or county government seeks to sponsor a project, the basic project purpose generally will determine the appropriate geographic scope. Thus, if a city is seeking a permit for housing as part of a redevelopment plan, the scope of alternatives will be similar to that which would be required of a private housing developer and generally should include sites outside of the city boundaries.

EPA addressed this problem in two cases involving housing developments. In one case, a city in Solano County, California, sought a permit to fill a regulated wetland as part of its redevelopment plan. The city argued that its proposal to build housing on the site was necessary to generate sufficient revenues to support nearby commercial aspects of the redevelopment plan. EPA Region IX rejected "redevelopment" as a legitimate basic project purpose under the regulatory framework of the 404(b)(1) Guidelines. Rather, EPA considered the basic project purpose to be housing. Similarly, EPA rejected the notion that filling wetlands could be justified by the need for revenues to support other projects on other sites.

In another case, an applicant in Los Angeles County, California, sought to limit the geographic scope of analysis by stating that the basic project purpose included providing tax revenues to the city within which the housing project had received local approvals. The applicant did not consider any alternative sites outside of the limits of that city. EPA rejected this analysis and recommended that the Corps direct the applicant to consider other sites within the Los Angeles Basin.

Assessment of Project Scale and Configuration

In determining which alternative constitutes the least environmentally-damaging practicable alternative for 404 permitting, any project that achieves the basic project purpose practicably should be considered. Thus, a housing project that can avoid or reduce impacts by alteration of its configuration ("footprint"), reduction of units, and/or relocation to an alternate site or sites and remain practicable will not be permittable as originally configured by the applicant. By regulation, only the least-damaging practicable alternative can be permitted.

For example, an applicant in Alameda County, California proposed a project that, among other features, required "upscale, single family houses" on a parcel that contained both wetlands and uplands. While EPA recognized that the applicant could receive a higher return on his investment by building single family units, the basic project purpose of housing could be fulfilled by building higher density, multi-family units on uplands and avoid wetlands.

Assignment of Project Costs Under the Alternatives Analysis

In general, the "sunk costs" associated with one site cannot be assigned to alternatives. For example, consider a developer who has invested in site-specific architectural designs or has installed infrastructure on a regulated site. In evaluating alternatives under the Guidelines, these "sunk costs" cannot be added to the costs of developing a less-damaging design or site. The project proponent assumes a certain risk in moving forward financially for a project that requires, but has not received, 404 authorization. This risk cannot be transferred to the costs of another site, nor can these "sunk costs" be used to justify a finding that another site is not practicable on the basis of costs.

For example, an applicant in Santa Clara County, California had already completed considerable work on development, design, and mitigation plans on a research and development facility proposed in a regulated wetland. In the alternatives analysis, several alternative upland sites were eliminated as too costly after the "sunk costs" associated with developing the wetland parcel were added to the costs of utilizing each upland parcel. EPA did not consider these "sunk costs" to be a valid justification for eliminating otherwise practicable alternatives, and recommended that these costs be removed from the economic evaluations.

Financial Standing of the Applicant Under the Alternatives Analysis

In general, the financial standing of an applicant is not considered applicable in determining whether or not the basic project purpose can be achieved practicably. The Guidelines state specifically that the term "cost" was used in defining "practicable" so as to avoid construing the term to "... include consideration of the applicant's financial standing, or investment, or market share, a cumbersome inquiry which is not necessarily material to the objectives of the Guidelines" (Preamble to EPA's 404(b)(1) Guidelines--Alternatives--40 CFR 230).

Accordingly, a developer with insufficient resources to acquire an available upland site where the project could be built profitably will be unable to obtain a permit for the project on a wetland site. Similarly, a large, multinational development corporation generally will be asked to consider the same market area and constraints as a local developer seeking to build for the same basic project purpose.

The Relationship Between the 404(b)(I) Alternatives Analysis and the Corps' Public Interest Determination

Before granting a permit pursuant to Section 404 of the Clean Water Act, the Corps must determine that the project complies fully with EPA's 404(b) (1) Guidelines and that the project is not contrary to the public interest (33 CFR 323.6). Therefore, a project that the Corps finds to be not contrary to the public interest will not qualify for a permit if it fails to comply with the Guidelines. Similarly, although a project might comply with the Guidelines, it will not receive a permit if the Corps determines that issuance of the permit would be contrary to the public interest.

For example, the Corps requested that an applicant proposing a research and development park in wetlands in Santa Clara County, California, supply information on the vacancy rate of similar existing facilities within the project area. The Corps was questioning whether, under its regulations, it would be contrary to the public interest to discharge fill material into a "water of the United States," if there was evidence of little public need for this type of development. In this case, the reported 90 percent vacancy rate for research and development parks was leading the Corps toward permit denial when the applicant withdrew the application.

CONCLUSIONS

In order for the analysis of practicable alternatives to serve its intended purpose as a planning and screening tool, the analysis must be applied by potential permit applicants as early in the planning phases of their projects as possible. This analysis process should streamline the permitting process rather than hinder and

... delay it, but the degree to which this streamlining is successful will largely depend upon the applicant. Obviously, if the analysis has identified practicable alternatives that avoid discharges of dredged or fill material into "waters of the United States", the delays and uncertainty associated with Section 404 permit processing can be avoided altogether.

On the other hand, if the analysis is improperly designed to simply justify an applicant's preconceived proposal and does not seriously consider alternative sites and configurations, delays and uncertainties are likely to be magnified, as will be the possibility of permit denial. In this latter regard, the federal government has an important role in providing strong incentive to prospective permit applicants to thoroughly analyze practicable alternatives early in their planning processes. This incentive should come not only from the denial of permit applications that have not clearly demonstrated that the proposed discharge of dredged or fill material is unavoidable, but from improved regulatory guidance to the regulated public and to regulators that establishes criteria on how to conduct and how to evaluate a proper analysis of alternatives.

We believe that alternatives analysis potentially is the best and most useful means to achieving the goals and intent of the CWA in a reasonable manner. The analysis, if performed 1) early in the project planning stages and 2) in good faith by regulators and permit applicants, should ensure that most projects are sited out of the nation's waters, and that only projects that are absolutely necessary and environmentally acceptable receive permits. The analysis should be a process that helps planners and developers rather than hindering them.

ACKNOWLEDGMENTS

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EXHIBIT L

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF

CECW-OR

17 AUG 1989

MEMORANDUM THRU COMMANDER, NORTH ATLANTIC DIVISION

FOR COMMANDER, NEW YORK DISTRICT

SUBJECT: Permit Elevation, Hartz Mountain Development Corporation

1. By memorandum dated 26 May 1989, the Assistant Secretary of the Army (Civil Works) advised me that he had granted the request of the Environmental Protection Agency (EPA) and the Department of Interior (DOI) to elevate the permit case for Hartz Mountain Development Corporation. In this regard, the case was elevated to HQUSACE for national policy level review of issues concerning the mitigation and practicable alternatives provisions of the 404(b)(1) Guidelines.

2. Based on our review of the administrative record and meetings with your staff, the applicant, EPA and DOI, we have determined certain aspects of interpreting and implementing the guidelines should be clarified. Our conclusions are stated in the enclosed report titled Hartz Mountain 404(q) Elevation, HQUSACE Findings.

3. Please re-evaluate the subject permit in light of the guidance provided in our findings and take action accordingly. In order for us to comply with paragraph 8 of the Department of the Army/EPA Memorandum of Agreement, please notify HQUSACE Regulatory Branch as soon as you reach a permit decision. Questions or comments concerning this elevated case may be directed to Mr. Michael Davis of my regulatory staff at (202) 272-0201.

FOR THE COMMANDER:

Enclosure

PATRICK J. KELLY
Brigadier General (P), USA
Director of Civil Works

WASHINGTON, D.C. 20310-0103

Mike Davis
504 4197

17 AUG 1989

MEMORANDUM FOR THE DIRECTOR OF CIVIL WORKS

SUBJECT: Hartz Mountain Permit Elevation Case

This is in reply to your memorandum of July 26, 1989, concerning the subject elevated permit case. We have reviewed your draft findings and concur with your conclusions. You should notify the New York District to proceed in light of the guidance provided in your findings.

The findings provide an excellent analysis of the issues in a complex case. We particularly like the format used to present your analysis and recommend it be used as a model in the future. Mr. Michael Davis, the case action officer, is to be commended for his efforts.

Since much of the guidance and information contained in the findings is applicable to all Section 404 permit applications, please distribute to Corps FOAs.

Robert W. Page
Assistant Secretary of the Army
(Civil Works)

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

CECW-OR

17 AUG 1990

Ms. Rebecca Hanmer
Acting Assistant Administrator
for Water
Environmental Protection Agency
Washington, DC 20460

Dear Ms. Hanmer:

Pursuant to the Section 404(q) Memorandum of Agreement (MOA) between the Department of the Army and the Environmental Protection Agency, we are enclosing a copy of our "Findings" which addresses the policy issues you raised in reference to the Hartz Mountain permit case.

We have directed the Army Corps of Engineers, New York District to undertake additional review of the Hartz Mountain permit application in light of the conclusions presented in our findings. Specifically, additional information on practicable alternatives and the baseline values of the existing wetland and proposed wetland enhancement is required before a permit decision can be made. In accordance with paragraph 8 of the MOA we will notify you of the District's decision.

Your interest in this matter and the cooperation of your staff is appreciated. Questions or comments concerning this elevated case may be directed to Mr. Michael Davis of my regulatory staff at (202) 272-0201.

Sincerely,

Patrick J. Kelly
Brigadier General (P), U. S. Army
Director of Civil Works

Enclosure

HARTZ MOUNTAIN 404(q) ELEVATION

HQUSACE FINDINGS

PREPARED BY CECW-OR
25 JULY 1989

HQUSACE REVIEW FINDINGS
HARTZ MOUNTAIN PERMIT ELEVATION

The purpose of this document is to present the findings of the Headquarters Corps of Engineers (HQUSACE) review of policy issues associated with a permit application before the New York District (District). This review was undertaken in accordance with the 1985 Memoranda of Agreement (MOAs) between the Department of the Army and the Environmental Protection Agency (EPA) and the Department of Interior (DOI).

I. BACKGROUND

On 4 August 1986 the Hartz Mountain Development Corporation requested Department of the Army authorization to discharge fill material into 97.41 acres of tidal wetlands within the New Jersey Hackensack Meadowlands District for the purpose of constructing a 3,301 unit residential housing development. Specifically, the project involves the discharge of approximately 950,000 cubic yards of fill material into wetlands dominated by common reed (*Phragmites communis*). A public notice describing the proposal was issued on 22 May 1987, and a public hearing was conducted in June of 1987. A number of comments both for and against the project were received in response to the public notice and hearing. Three Federal agencies, EPA, Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) all objected to the issuance of a permit for the proposed project.

Interagency coordination on the permit application proceeded for approximately 18 months during which time additional information was submitted by Hartz Mountain and their consultants. In July 1988 the District completed the preliminary permit decision process and determined that the project was not contrary to the public interest provided that Hartz Mountain comply with certain restrictions and conditions aimed at minimizing the environmental impacts of the project. Since the Federal resource agencies continued to object to permit issuance, a meeting was held with each agency in accordance with the procedures of the MOAs. As a result of these meetings, each agency provided detailed written comments on their specific concerns. In general each agency's concerns centered on the application of the 404(b)(1) Guidelines practicable alternative requirements, the District's contention that the wetland was of very low value, and the adequacy of the mitigation plan to offset environmental impacts. The District forwarded these comments to Hartz Mountain for response and/or rebuttal. After considering the information contained within the

administrative record, the District completed decision-making in January 1989. Again, the District determined that the permit should be issued. In response to the District's decision, EPA, FWS and NMFS requested meetings with the North Atlantic Division Engineer (NAD) to discuss the permit decision in accordance with Paragraph 6 of the MOAs. As a result of these meetings, NAD forwarded comments and suggestions to the District on 8 March 1989. The comments and suggestions concerned the language of four special conditions which NAD recommended be reworded to increase the viability of the mitigation requirements. The District incorporated these recommendations into the permit conditions and a decision to issue the permit was made on 28 March 1989. On 28 March 1989, EPA, FWS and NMFS were given written notice of the District's "Intent to Issue" the permit.

In accordance with the MOAs, in letters of April 24 and 25, the DOI and EPA, respectively, requested that the Assistant Secretary of the Army (Civil Works) [ASA(CW)] elevate the Hartz Mountain permit decision for higher level review. NMFS, while continuing to object to the project, did not request elevation. On 26 May 1989, ASA(CW), based on recommendations from HQUSACE, granted the DOI and EPA elevation request. ASA(CW) granted the request and forwarded the action to HQUSACE for national policy level review of 404(b)(1) Guidelines issues concerning mitigation and the analysis of practicable alternatives. The elevation request was not based on insufficient interagency coordination.

The information in the following sections presents the results of the HQUSACE review of the complete administrative record of the Hartz Mountain permit application. Clarification of information contained in the record was obtained through meetings with the applicant and associated consultants, the District and NAD staff, the FWS and EPA.

In terms of environmental protection, the 404(b)(1) Guidelines (Guidelines) form an essential component of the Corps' 404 regulatory program. The Guidelines (40 CFR 230) are the substantive environmental criteria to be used in evaluating the impacts of discharges of dredged or fill material. In accordance with the Corps regulations (33 CFR 320 - 330), a 404 permit cannot be issued unless it complies with the Guidelines. HQUSACE's review of this case focused on the policy issues concerning compliance with the Guidelines.

II. PRACTICABLE ALTERNATIVES

A key provision of the Guidelines is the practicable alternative test which provides that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse

impact on the aquatic ecosystem" [40 CFR 230.10(a)]. In this respect, if a 404 discharge may reasonably be avoided, "it should be avoided."

In addition to the basic alternatives test, 230.10(a)(3) establishes a rebuttable presumption against discharges into "special aquatic sites" for non-water dependent activities. A non-water dependent activity does not require access or proximity to or siting within a special aquatic site to fulfill its "basic purpose." Practicable alternatives to non-water dependent activities are presumed to be available and to result in less environmental loss unless clearly demonstrated otherwise by the applicant. The Hartz Mountain project (housing) is clearly a non-water dependent activity. This fact is well documented in the District's decision documents and has not been contested by the applicant. Therefore, the burden of proving that no practicable alternative exists is the sole responsibility of Hartz Mountain, not the District or resource agencies.

A prerequisite to evaluating practicable alternatives is the establishment of the "basic purpose" of the proposed activity. It is the responsibility of the Corps districts to control this, as well as all other aspects of the Guidelines analysis. While the Corps should consider the applicant's views and information regarding the project purpose and existence of practicable alternatives, this must be undertaken without undue deference to the applicant's wishes. These general issues were discussed and guidance provided in the HQUSACE findings for the "Permit Elevation, Plantation Landing Resort, Inc." dated 21 April 1989, a copy of which has been provided to all Corps divisions and districts. Much of the legal and policy guidance in that document is generally applicable to this case, and need not be repeated herein.

In this case, Hartz has clearly stated that their project purpose was to construct 3,301 units of residential housing in the IR-2 area. In fact, a July 86 "planners report" submitted with the permit application stated that "a site geographically located outside the Meadowlands District would not fulfill the 'basic project purpose' of 401(b)(1) [sic] of the Permit program." The IR-2 site is an area designated by the Hackensack Meadowlands Development Commission's (HMDC) master plan as "Island Residential" housing. Hartz acquired ownership to 194 acres of the 238 acre site in 1979. Based on concerns of the District, Hartz ultimately modified the project purpose to expand the potential project area to New Jersey Housing Region 1 (Hudson, Passaic and Bergen Counties). However, Hartz asserts that its purpose remains the construction of a large scale (3,301 units) housing development. While it appears that the District made a conscious effort to view the project from a more basic purpose perspective, this was not the approach taken by Hartz in evaluating potential alternative sites [404(b)(1) evaluation page 5]. This was verified by Dr. Harvey

Moskowitz, Community Planner and consultant for the applicant, who conducted the analysis of alternative sites. This approach seriously flaws the validity of the alternatives analysis and is inconsistent with the Guidelines. Limiting project sites to those that can facilitate a 3,301 unit development may preclude the evaluation of otherwise practicable alternatives. Acceptance of this very restrictive alternatives analysis negates all attempts to otherwise more generically define basic project purpose. In this case, in the "Summary Discussion of the Availability of Practicable Alternatives" [404(b)(1) evaluation page 13] the District states that "There are no practicable alternative sites that are reasonably available to the applicant for the proposed construction activities within the Northeastern New Jersey Region which would meet the applicant's project purpose and the stated need for the project" (emphasis added).

The Guidelines alternatives analysis must use the "basic project purpose", which cannot be defined narrowly by the applicant to preclude the existence of practicable alternatives. On the other hand, the Corps has some discretion in defining the "basic project purpose" for each Section 404 permit application in a manner which seems reasonable and equitable for that particular case. It is recognized that this particular case may be unusual, because it involves unique issues of zoning and land use planning by the HMDC and the apparent scarcity of undeveloped land in the Region 1 area. However, federal concerns over the environment, health and/or safety will often result in decisions that are inconsistent with local land use approvals. In this respect, the Corps should not give undue deference to HMDC or any other zoning body.

At the request of the District, Hartz conducted a search for potential alternative sites in Region 1. Ultimately, 43 sites were identified and evaluated by Hartz's consultant, Dr. Moskowitz. Each site was evaluated based on a set of criteria developed by Hartz. The District reviewed the criteria and concluded that they were "appropriate for reviewing sites for practicability with regard to the Section 404(b)(1) Guidelines." While this approach may be an acceptable method for evaluating alternative sites, we are concerned that some of the criteria were biased to the extent that only sites that meet the applicant's purpose were considered. For example, alternative sites less than 50 acres were not considered practicable because they would not facilitate a 3,301 unit development and therefore "achieve the applicant's stated project goals" [404(b)(1) evaluation page 8]. On this subject the District states:

> "Based on the applicants goal's for a profit, it must be presumed that the size of a potential alternative site is of primary importance. A smaller parcel of land could be considered a practicable alternative for a residential housing project although it could not accommodate a

project nearly the size that is the subject of the present permit application." [404(b)(1) evaluation page 7]

In this case the District's administrative record gives the appearance of having given too much deference to the applicant's narrowly defined project purpose. This may have very well resulted in the exclusion of otherwise practicable alternatives.

The District goes to great length to explain the criteria utilized by the applicant and the justification for each [404(b)(1) evaluation page 8]. However, no information is provided in the decision documents on the specific sites, the ratings they received, or why they failed as practicable alternatives. At a minimum, a table of the sites listing this information should have been included in the 404(b)(1) evaluation. In regard to the actual evaluation of the 43 potential sites, we observed at least a few discrepancies in the data submitted by the applicant. For example, two adjacent sites (4 and 5) were given different ratings on accessibility to public transportation. Of more significance is the fact that the IR-2 site was not evaluated against the criteria used for the other sites. Our estimates indicate that the site may in fact not pass as a practicable alternative based on the applicant's own system for analyzing alternatives. Failing to evaluate the project site when using this type of evaluation system is inappropriate and indicates that the applicant has not rebutted the presumption against the discharge of fill material into special aquatic sites.

Throughout the decision documents the District mentions the need for housing in the Region and references New Jersey Council on Affordable Housing (COAH) information [Statement of Findings (SOF) page 14, 404(b)(1) evaluation page 11, Environmental Assessment (EA) page 2]. While the need for all types of housing in the Region may be very real, we are concerned that the administrative record does not clearly demonstrate the existence of such a need. The COAH information focuses on the need for low to moderate income housing and this portion of the housing need is not questioned. However, it appears that the District relied on the COAH data to substantiate the need for housing above the moderate income level. Admittedly the COAH information translates an actual need of 42,534 low/moderate units to an overall figure of 213,000 housing units. This is based on the number of market rate units that may be required to support the actual low/moderate housing needs. Use of this information to justify an overall housing need may not be appropriate. Further, reference to a COAH letter on page 11 of the 404(b)(1) evaluation is misleading if not inaccurate. The District states:

"The 27 September 1988 correspondence from the State of New Jersey's Council on Affordable Housing (COAH) substantiates the applicant's showing that no reasonably available

practicable alternative sites to the proposed development exist by focusing on the 'compelling need' for locating the housing in Secaucus at the Mill Creek site, at the densities mandated by the Hackensack Meadowlands Development Commission zoning regulations."

What the referenced COAH letter really states is that there is a need for 42,534 low to moderate income units and that it may take four market units per low/moderate unit to support such housing. In regard to the "compelling need" at the Mill Creek site (IR-2), the COAH letter states:

> "The COAH supports the development of affordable housing units at the Mill Creek site as a meaningful step toward addressing the compelling need for such housing in Secaucus and Region 1." (emphasis added)

The proposed project will provide a maximum of 330 (10% of total) low to moderate income units at the IR-2 site. The administrative record and discussions with the applicant indicate that it is likely that only one half of the 330 units will actually be built at the IR-2 site. The decision documents consistently state that 10% to 20% of the project will be dedicated to low to moderate housing. This is clearly not the case and the record should reflect such. Further, the need for housing of any type and the zoning requirements of HMDC cannot override the Guideline's requirement to select the least damaging practicable alternative.

CONCLUSIONS:

1. For purposes of this case only, the basic project purpose should be defined as "construction of a large scale, high density housing project in the Region 1 area." That does not necessarily mean a project of 3,301 units in one contiguous location as proposed by Hartz. The District should determine the minimum feasible size, circumstances, etc., which characterize a viable large scale, high density housing project. The District may require the applicant to provide information that facilitates completion of this determination. Clearly Hartz has previously determined that a development of 2,748 units would be feasible. It may very well be that a smaller development (i.e., < 2,748 units) would also be viable. The permit decision documents should be corrected to reflect the project purpose noted above (i.e., references to satisfying the applicant's project purpose should be deleted).

2. Once the minimum feasible size, etc. has been determined in accordance with (1.) above, a revised alternative analysis should be completed by Hartz. The District must carefully evaluate the criteria used to compare alternative sites. The alternatives analysis must be objective and balanced, and not be used to provide a rationalization for the applicant's preferred result (i.e., that

no practicable alternative exists). The IR-2 site must be included in the alternatives evaluation and added to the administrative record.

3. The alternative site data should be made part of the decision documents. This should include a listing of all sites, their evaluation scores and a summary of the final determination of practicability.

4. Information on the need for housing must be accurately cited in the decision documents and additional information on the overall housing need (i.e., above moderate level) should be provided.

III. MITIGATION[1]

As previously discussed, the Guidelines establish the substantive environmental criteria to be applied in the evaluation of potential impacts associated with discharges of dredged or fill material into waters of the United States. In addition to the "practicable alternative" test in 230.10(a), the Guidelines state that a discharge cannot be approved, except as provided under 404(b)(2), if it results in significant degradation of waters of the United States and, unless all appropriate and practicable steps have been taken to minimize potential adverse impacts on the aquatic ecosystem [230.10 (c) and (d)]. These form an important part of the current approach of requiring mitigation in the 404 regulatory program. Mitigation is also a required consideration under the Corps' Public Interest Review [33 CFR 320.4(r)].

As a general rule, once the least damaging practicable alternative has been selected, appropriate and practicable steps must be taken to mitigate the project impacts. Determining the amount and type of mitigation is often difficult at best. In particular, compensatory mitigation for wetlands loss engenders a considerable amount of controversy and discussion among regulatory and resource agencies and the development community. In order to improve consistency, Army and EPA are currently working on a 404 mitigation policy.

Pending the promulgation of the joint mitigation policy, the Corps should require mitigation measures which will provide compensation, to the maximum extent practicable, for all values and functions that are lost or adversely impacted as a result of

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[1]The discussion of mitigation that follows, and any subsequent requirements, have no bearing on the previous discussion and requirements concerning the availability of practicable alternatives.

a proposed development in waters of the United States. As with other permit specific Guidelines and public interest decisions, a determination of mitigation requirements will be made by the Corps. Such decisions should be made after appropriate consultation with Federal and state resource agencies. The Corps decision must be made in a manner that recognizes the ecological functions of special aquatic sites, in this case wetlands.

A prerequisite to developing a wetlands compensatory mitigation plan is the establishment of values and functions of the existing wetland system. Without the benefit of baseline information, the permit decision-maker cannot determine an appropriate mitigation level to find compliance with the Guidelines. As a matter of policy, the Corps should not make permit decisions before obtaining the necessary and appropriate information on the value of the specific resource that would be lost to a proposed discharge of dredged or fill material if the permit is granted. This information may be obtained from the applicant, in-house studies, technical assistance from experts at the Corps Waterways Experiment Station (WES) or universities and previously published reports to mention only a few sources. It is incumbent upon the Corps to review the data carefully to ensure that the information is scientifically sound and can be supported if challenged.

In the Hartz Mountain case an extensive mitigation "concept" was proposed by the applicant. The District relied heavily on the potential success of this concept in reaching a decision to issue the permit. The basic premise of the Hartz mitigation concept was that the existing wetland system was highly degraded and of very low value. In this regard, Hartz maintained that they could enhance low value wetlands (both on-site and at two off-site locations) to a point where they could compensate for the direct loss of 97.41 acres. This assumption is based on a presumed "successful" mitigation project currently under way by Hartz on another part of the IR-2 site. This 63 acre mitigation project was required as part of a 1983 Department of the Army Permit to fill 127 acres of wetlands for commercial and industrial development. To date, no comprehensive evaluations have been completed to substantiate the claims of success on this mitigation project in terms of overall wetland values. For the current project, Hartz determined, using the FWS Habitat Evaluation Procedure (HEP), that they would have to enhance 93.74 acres of wetland and create 22.12 acres of open water canals to compensate for the loss of 97.41 acres. In addition, Hartz proposed 8.84 acres of "raised islands" for upland habitat and 9.40 acres of wetlands preservation.

Throughout the District's review of this case there as been significant disagreement between Hartz and the resource agencies on the actual value of the *Phragmites* dominated wetlands within the project area. The applicant's HEP, which was modified several times, concluded that the area has "relatively low existing fish

and wildlife and ecological value" (emphasis added) (EA page 6). An Advanced Identification field team from the District, EPA, FWS, NMFS, New Jersey Department of Environmental Protection and HMDC conducted a analysis of the Hackensack area using the Corps Wetland Evaluation Technique (WET). According to the District, the "draft WET documents have shown that the general regions encompassing the proposed development site and mitigation areas have high value potential for fish and wildlife, as well as the potential for having moderate to high general ecological value ..." (emphasis added) (EA page 6). The District has indicated that the WET analysis was not specific to the project area and was more of a "windshield" survey. EPA and FWS requests for permit elevation were based, in part, on the lack of definitive data on the values of the project and mitigation sites. FWS continues to question the validity of the applicant's application of the HEP (a FWS methodology) process.

Based on the decision documents for this application, it appears that the District generally concurred with Hartz on the low wetland value of the project area. Their position was based on the HEP evaluation and other environmental data collected by the applicant. However, the addition of Special Conditions (A.) and (D.) seem to indicate that their support was somewhat tacit and that questions on the wetland values remained. Condition (A.) requires Hartz to perform a site specific WET using environmental data from other agencies and the HEP generated information. This information is to be used to "confirm that the proposed wetland mitigation values compensate for the aggregate value of the wetland functions lost to the filling activities..." Special Condition (D.) requires Hartz to undertake a comprehensive sampling and data collection program which includes the establishment of baseline information for the project area. While Hartz has provided biological, chemical and physical data in the form of various surveys and studies conducted over the years, an updated comprehensive scientific report on the existing conditions does not exist in the administrative record. From a policy perspective, we believe that a valid Guidelines determination cannot be made without the benefit of an appropriate assessment of the pre-project values of the impacted resource. This information is equally important in making the Corps public interest determination. Further, this assessment should be completed before a final permit decision is reached. The level and sophistication of information required will vary from application to application depending on the size and nature of the project. It is recognized that in a small number of cases (e.g., unauthorized fill), baseline information may not be readily obtainable and best professional judgement must prevail. However, the piecemeal approach of assessing current wetland values and the reliance on such information as an "April 1986 comprehensive, natural resources survey of the subject parcels and the Hackensack River" are causes for concern.

According to Hartz, completing the proposed mitigation would result in a 20% net increase in overall estuarine value in the project area. For purposes of the mitigation discussion the project area is defined as the 231.51 acre universe of the IR-2 site and the two off-site mitigation areas. The existing estuarine value of the project area was estimated at 38% of its potential. A 20% increase would result in a project area that functions at 46% of its potential estuarine value. When the 97.41 acres of project fill, 8.84 acres of "islands" and the 9.40 acres of preservation are removed from the project area[2], 115.86 acres remain for marsh enhancement and open water. In order to obtain their estimated 20% overall increase Hartz will have to enhance the 115.86 acres to 91% of their potential estuarine value. In this respect, we are concerned about Hartz's, or anyones, ability to increase values to such a level. If the open water is subtracted, the remaining 93.74 acres of wetland would have to be enhanced to 113% of its potential estuarine value. Clearly, this would not be possible. In either case additional acreage may be required to achieve the 20% net increase in values required.

Another issue that is of concern is the inclusion of "fringe" wetlands and open water in the mitigation plan. Over 33 acres of the mitigation credit consist of a series of canals and adjacent narrow strips (fringe) of intertidal plantings among 3,301 housing units. The overall wetland value of this part of the mitigation should be documented. The HEP evaluation looked at this area as one 33.85 acre tract and not as one that was dissected by a large residential development. The applicant's main purpose for this part of the plan may very well be aesthetics.

An issue that was initially discussed in the HQUSACE permit elevation recommendations to ASA(CW), was the proposed issuance of the Hartz permit prior to receipt of a detailed mitigation plan. In this case, permit conditioning appears sufficient to ensure that a detailed plan will be submitted for District approval prior to the discharge of fill material. However, at a minimum, the permit plans should have provided enough information to accurately reflect the work proposed (e.g., typical cross sections, etc.).

CONCLUSIONS:

1. Hartz should be required to complete a comprehensive baseline study of the IR-2 site, off-site mitigation areas, and the previous 63 acre mitigation site before a final permit decision is made. The District, in consultation with FWS, EPA and NMFS will determine the scope of the study and the methods used. The final call on the study will be the District's.

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[2]Correctly, these areas were not counted by the applicant or the District in determining the amount of marsh enhancement required.

2. The District, not Hartz, should complete a site specific WET evaluation before making a permit decision. We strongly encourage the District to utilize experts from WES to undertake this task. Funding for work of this nature has previously been provided to WES by HQUSACE and initial discussions have confirmed the availability of the appropriate WES staff.

3. The wetland replacement value of the fringe wetlands and open water at the IR-2 site should be reevaluated. Documentation of its value should be included in the record.

4. Once information is obtained from the studies noted in paragraphs one through three above, a determination of the value of the existing *Phragmites* marsh and, as appropriate, the amount of compensatory mitigation required to compensate for the lost resource should be completed. Based on those determinations, a final permit decision should be made.

5. After completion of the above, if a decision is made to issue the permit, Hartz should be required to submit more detailed permit plans. While we do not expect final drawings, basic information such as access between islands at the IR-2 site and typical pre and post project cross sections at all mitigation sites should be included.

IV. GENERAL CONCLUSIONS

A review of the voluminous administrative record reveals the extensive amount of effort on the part of the District to evaluate this application. Severely understaffed and working in a difficult geographic area, they should be commended for their overall accomplishments in the regulatory program.

From the guidance presented in this document, the general conclusion should be drawn that the Army Corps of Engineers is serious about protecting waters of the United States, including wetlands, from unnecessary and avoidable loss. The Corps districts should interpret and implement the Guidelines in a manner that recognizes this. Further, the Corps should inform developers that special aquatic sites are not preferred sites for development and that non-water dependent activities will generally be discouraged in accordance with the Guidelines. When unavoidable impacts do occur, the Corps will ensure that all appropriate and practicable action is required to mitigate such impacts. The mitigation must be properly planned with stringent permit conditions to ensure that it accomplishes stated objectives. Compliance monitoring by Corps districts must be an integral part of this process.

EXHIBIT M

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August 12, 2015

Via FedEx

Bruce H. Wolfe, Executive Officer
San Francisco Bay Regional Water Quality
Control Board
1515 Clay St., Suite 1400
Oakland, CA 94512

Re: Staff Record for the Faria Preserve Project Section 401 Certification

Dear Mr. Wolfe:

As required by 23 California Code of Regulations Section 3867(d)(9), Sierra Club requests that Bruce Wolfe, as Executive Officer of the San Francisco Bay Regional Water Quality Control Board, prepare the Staff Record for the Section 401 Water Quality Certification issued for the Faria Preserve Project on July 15, 2015. The Sierra Club is concurrently filing its Petition for Reconsideration of the Water Quality Certification with the State Water Resources Control Board.

Thank you for your attention to this matter. If you have any questions, please contact me at (415) 552-7272.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Sara A. Clark

701717.1

EXHIBIT N

8
Open Space and Conservation

San Ramon's beautiful settings—the surrounding hills, ridges, creeks, and canyons—are highly cherished by residents. These open space resources are important, not only for aesthetic value, but also for environmental quality, character, habitat protection, recreation, water resources, and agriculture. These many functions of open space underscore the importance of careful land use planning.

In 1999, Measure G mandated the preparation of a new General Plan based on the principles of smart growth. A key component of this mandate was the preparation of a plan for the acquisition of ridgeline areas and agricultural lands contiguous to the City of San Ramon. These lands are to be preserved for open space purposes in perpetuity. In response to this mandate, this element of the General Plan includes an open space action plan that creates a structure for implementation by establishing and strengthening partnerships and coordination with relevant groups and agencies, securing funding sources, and establishing preservation priorities.

This element also encourages rural conservation through compatible development that preserves natural features, sensitive habitats, and agricultural resources. Water quality is also a key component of conservation and the quality of life in San Ramon. As such, this element includes policies to preserve and enhance water quality in the San Ramon Planning Area by working closely with responsible regional agencies and by incorporating these considerations into land use planning decisions. Finally, the preservation of archaeological, paleontological, and historic resources is also an important goal of this General Plan, and relevant policies are included in this element.

8.1 BIOLOGICAL RESOURCES IN SAN RAMON

Preparation of a habitat protection plan may be required by General Plan Land Use Element Implementing Policy 4.6-I-7 as part of the development review process where rural development could affect potentially sensitive habitat areas, sensitive habitat species, etc. Sensitive habitat resources are outlined below and illustrated in Figure 8-1a and Figure 8-1b.

VEGETATION

Natural vegetation throughout the San Ramon Planning Area is typical of that occurring in the coast ranges and interior valleys of central California. Non-native grassland is the dominant vegetation type throughout the area with perennial species occurring infrequently on ridgetops and east-facing slopes. Scattered oak savannahs, comprised of mostly deciduous oak species, occur in grasslands at middle elevations while live oak woodland is best suited to the moister north- and east-facing hillsides. Denser oak woodland occurs along drainages and riparian habitat, often in combination with arroyo willow riparian forest. Chaparral or scrub vegetation occurs on dry south and west facing

slopes and along margins or openings in oak woodland at higher elevations. Freshwater emergent vegetation is associated with perennial standing water and seeps, which are scattered throughout the area.

SPECIAL-STATUS SPECIES

Special-status species are those animal and plant species that, in the judgment of the resource agencies, trustee agencies, and certain non-governmental organizations, warrant special consideration in the California Environmental Quality Act (CEQA) process. This includes the following species:

- Officially designated "threatened," "endangered," or "candidate" species federally listed by the United States Fish and Wildlife Service (USFWS) and protected under the Federal Endangered Species Act.
- Officially designated "rare," "threatened," "endangered," or "candidate" species state listed by the California Department of Fish and Game (CDFG) and protected under the California Endangered Species Act. CDFG also maintains a list of "Fully Protected" species as well as "California Special Concern" species that are also generally included as special-status species under CEQA.
- Species considered rare, threatened, or endangered under the conditions of Section 15380 of the CEQA Guidelines, such as plant species identified on lists 1A, 1B, and 2 in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California.
- Bat species listed as Medium or High Priority by the Western Bat Working Group.
- Other species considered sensitive, such as nesting birds listed in the Migratory Bird Treaty Act (MBTA), which includes most native birds, and plants included in lists 3 and 4 in the CNPS Inventory.

Plant Species

Four special-status plant species have been recorded as occurring within the San Ramon Planning Area boundaries. Recorded occurrences are shown on Figure 8-1a. The species include:

- Congdon's tar plant
- Diablo helianthella
- Mt. Diablo buckwheat
- San Joaquin spearscale

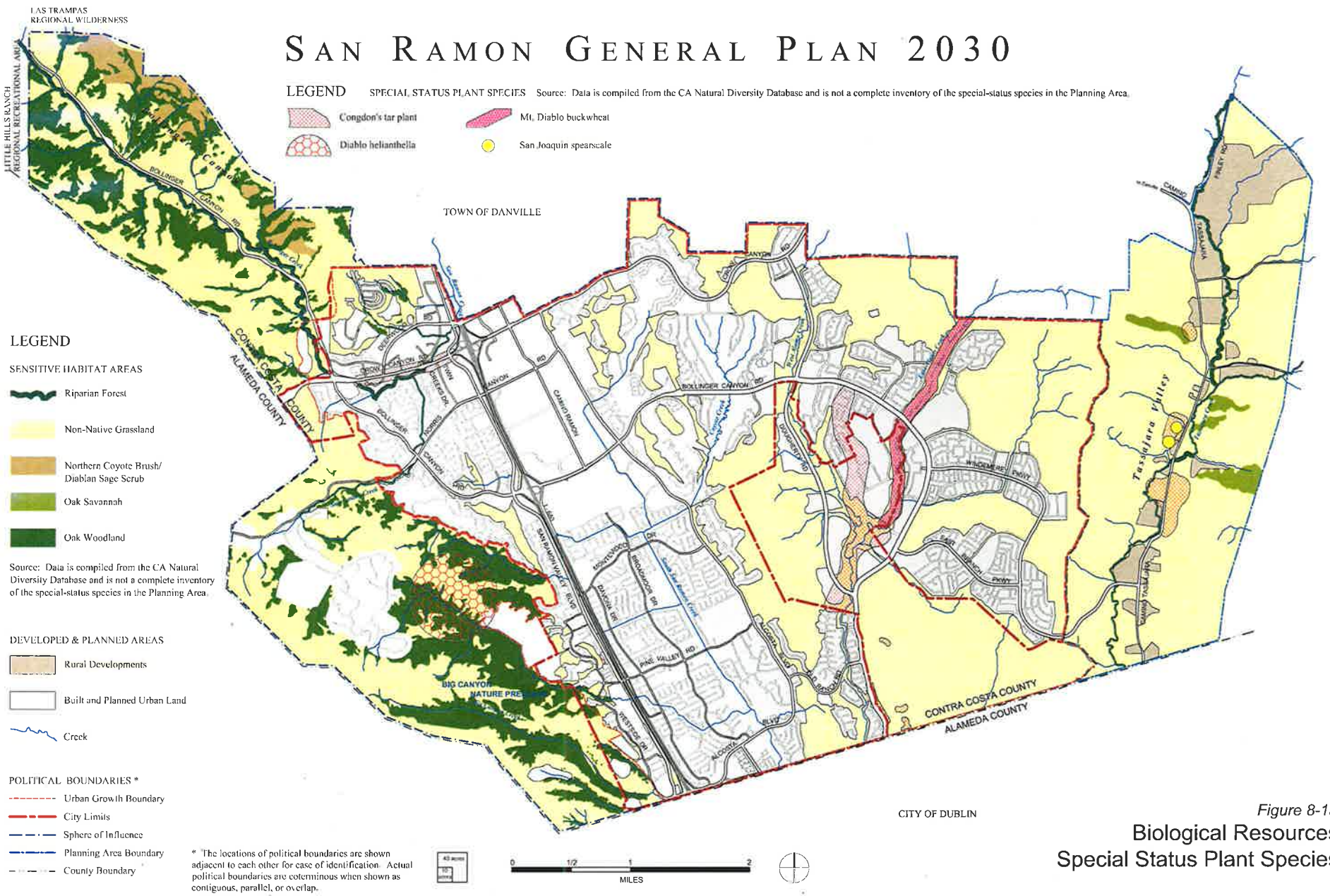

Figure 8-1a

Biological Resources
Special Status Plant Species

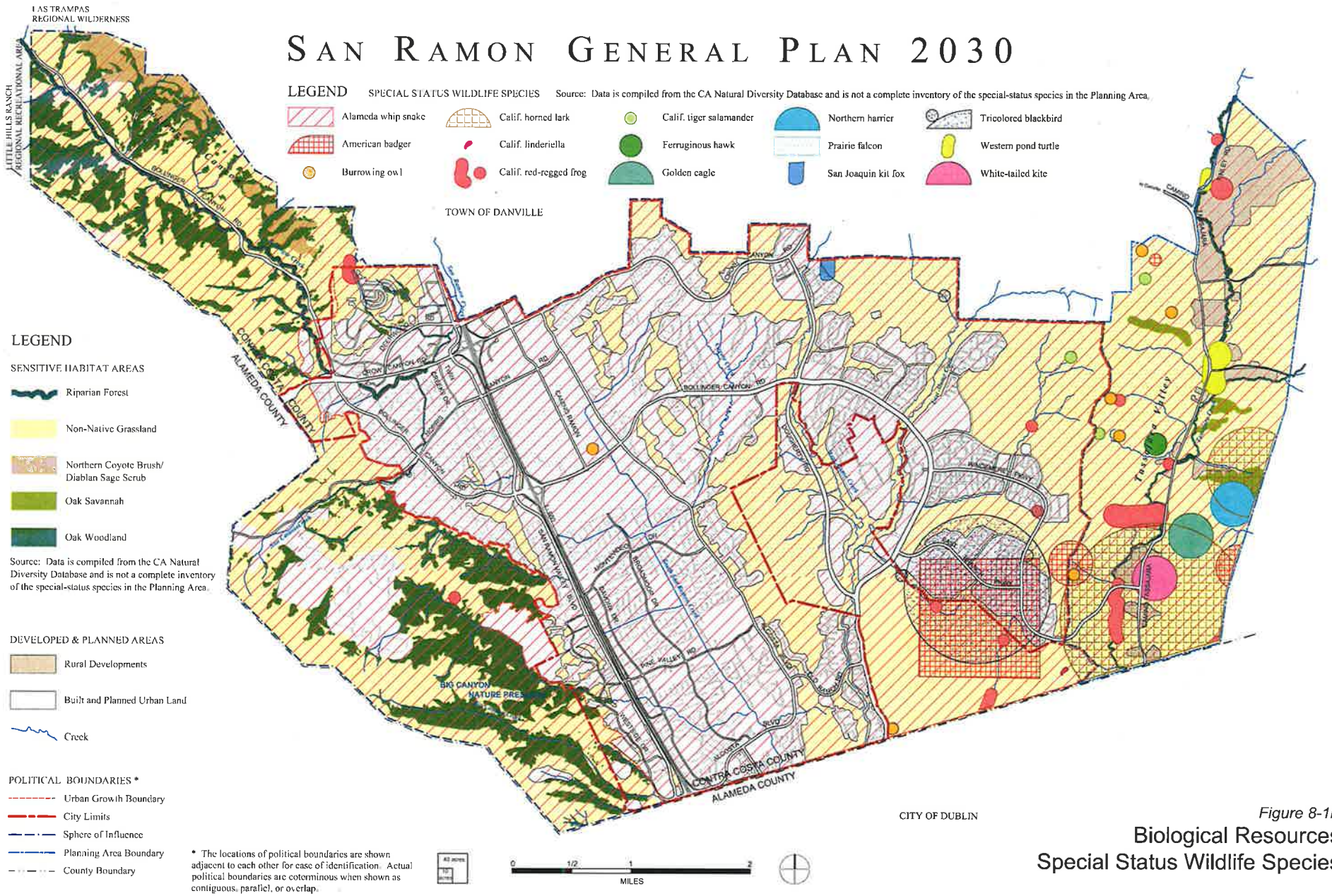

Figure 8-1b

Biological Resources
Special Status Wildlife Species

Wildlife Species

Fifteen special-status wildlife species have been recorded as occurring within the San Ramon Planning Area boundaries. Recorded occurrences are shown on Figure 8-1b. The species include:

- Alameda whip snake
- American badger
- California horned lark
- California linderiella
- California red-legged frog
- California tiger salamander
- San Joaquin kit fox
- Burrowing owl
- Ferruginous hawk
- Golden eagle
- Northern harrier
- Prairie falcon
- Tricolored blackbird
- Western pond turtle
- White-tailed kite

DEVELOPMENT AFFECTING BIOLOGICAL RESOURCES

Under General Plan policies, any rural residential development proposed in Bollinger Canyon and the Westside subareas, both of which are primarily designated Rural Conservation and Hillside Residential by the General Plan, would have to ensure minimal disruption or loss of habitat that could support special-status animal species. Clustering of residential development to preserve such habitat would be required within the Hillside Residential designation and encouraged within the Rural Conservation designation, as proposed in the policies of the Land Use Element. A habitat protection plan may be required for development that could potentially affect sensitive habitat, sensitive habitat species, etc. and along with required CEQA mitigation measures will ensure that any biological resources are protected.

GUIDING POLICY

8.1-G-1 Protect and maintain the quality of biological resources in the San Ramon Planning Area, while also balancing the needs of growth and development.

IMPLEMENTING POLICIES

8.1-I-1 Continue to require new land use and development activities to comply with applicable laws and regulations concerning special status species.

Applicable laws and regulations include the Federal Endangered Species Act, the Migratory Bird Treaty Act, the California Endangered Species Act, and California Fish and Game Code.

8.1-I-2 When special status species and/or critical habitat may be adversely affected by land use or development activities, require appropriate and feasible mitigation measures in accordance with regulatory agency guidance.

8.1-I-3 Monitor and, as appropriate, engage regulatory agencies on any proposals to designate critical habitat and/or other special-status species protection designations within the Planning Area.

USFWS has proposed several extensive critical habitat designations in the San Francisco Bay Area in recent years. New land use and development activities within critical habitat designations are often subject to lengthy consultation and permitting requirements. Given the economic implications of critical habitat designations, the intent of this policy is to ensure that San Ramon is informed about any such proposals and has the ability to be engaged in the decision making process.

8.1-I-4 Ensure that the rights of private property owners are considered during the biological review process and encourage mutually acceptable solutions to special status species and/or critical habitat protection.

Most of the lands where special status plant and wildlife species may occur are in private ownership in the Planning Area. This policy is intended to acknowledge that special-status species protection measures may have implications on private property rights and, therefore, mutually acceptable solutions should be sought whenever possible.

8.2 OPEN SPACE INVENTORY

Growth in San Ramon has included the preservation of steep hillsides and ridges in the area. West of the City, undeveloped land, including peaks rising 1,400 feet above the valley floor, form an impressive backdrop for San Ramon. Several specific plans throughout the City (Westside, Dougherty Valley, and Northwest) reflect the importance of open space protection in the City by setting aside a significant amount of their respective plan areas as open space. There is more than 3,500 acres of open space within the City limits, including portions of Dougherty Valley, set aside as a condition of development approval, much of which is located on the open ridges and hills that ring the valley.

CLASSIFICATION OF OPEN SPACE

State planning law provides a structure for the preservation of open space by identifying the following open space categories:

- Open space for public health and safety including, but not limited to, areas that require special management or regulation due to hazardous or special conditions. This type of open space might include earthquake fault zones, unstable soil areas, floodplains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality. In addition to Figure 8-1a and Figure 8-1b, the Safety Element includes open space classified as Geotechnical Hazards (Figure 9-1), Flood Zone Hazards (Figure 9-2), and Wildfire Hazards (Figure 9-3).

- Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including: habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; coastal beaches, lakeshores, banks of rivers and streams; and watershed lands.
- Open space used for the managed production of resources including, but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of ground water basins; bays, estuaries, marshes, rivers and streams that are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.
- Open space for outdoor recreation including, but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas that serve as links between major recreation and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.

Figure 8-2 illustrates a composite of these open space classifications established in state law. In addition to these classifications provided for in state law, an additional classification is proposed as a means of implementing the Urban Growth Boundary (UGB) established in the Land Use Element of this General Plan:

- Open space to shape and limit urban form including, but not limited to, areas meeting other open space objectives, such as greenbelts and open space corridors established to implement community design goals or objectives. Some open space in Dougherty Valley and in the Northwest Specific Plan and Westside Specific Plan areas could also be classified as open space to shape and limit urban form.

The open space resources illustrated in Figure 8-2 are not intended to imply that the public interest would be best served by prohibiting development on all lands. Rather, these open space resources likely signify one of three possible scenarios depending upon the hazard potential, biological fragility, location, regulatory constraints, and other pertinent factors:

- All development should be prohibited.
- Development should be permitted on part of the land and the balance preserved as open space—a clustering concept.
- Development should be permitted subject to site plan and architectural review and the imposition of specific conditions to protect against hazards and preserve the integrity of the land and the environment.

In addition, the City of San Ramon has relied on a combination of zoning, land donation/acquisition, and Geologic Hazard Abatement Districts (GHADs) to secure and protect open space lands.

GHADs are independent governmental bodies that provide for activity that is necessary or incidental to the prevention, mitigation, abatement or control of a geologic hazard. These activities may include, but are not limited to, acquisition of property, and construction, repair and maintenance of improvements. The first GHAD that was created in San Ramon was the Canyon Lakes GHAD, which was formed in 1985. Geologic Hazard Abatement District 1990-01 was formed in 1990 to cover the Westbranch area of San Ramon and was subsequently expanded with the annexations of Dougherty Valley, Old Ranch Summit and the Windemere, BLC Property, which includes the Windemere Parkway extension. The Wiedemann Ranch GHAD was formed in 1998 to provide services to the Wiedemann Ranch development in Contra Costa County and it subsequently annexed Subdivision 8118 (Henry Ranch) within the City of San Ramon in 2000. The City Council of San Ramon also serves as the Board of Directors for GHAD 1990-01, and the County Board of Supervisors serves as the Board of Directors for the Canyon Lakes and Wiedemann Ranch GHADs. GHAD 1990-01 is currently the largest GHAD in California and owns substantial amounts of open space, most of which is also overlain by a conservation easement.

8.3 RESOURCE MANAGEMENT

Conservation and protection of natural open space and scenic resources has always been and continues to be a vital goal to the quality of life and community character provided in the City of San Ramon. As a result of the City's 1986 General Plan policies, the City adopted the Resource Conservation Overlay District (RCOD) in 1988. The RCOD was one of the City's first set of comprehensive open space regulations implemented through the Zoning Ordinance. In 1990, the San Ramon electorate circulated and qualified an initiative petition, which the City Council adopted as Ordinance 197, that required land within the City limits, or land annexed to the City, above the 500-foot elevation limit to be subject to the Resource Conservation Overlay District (RCOD). The principles of Ordinance 197 were, during subsequent years, strengthened, implemented, and integrated into the Zoning Ordinance. As a result of the expiration of Ordinance 197 on December 31, 2010, General Plan 2030 continues the City's history of open space conservation and protection by restricting development adjacent to ridgelines, on steep slopes, and along creek corridors.

Figure 8-3 shows lands subject to the hillside, creek, and ridgeline regulations of the Resource Management Division of the Zoning Ordinance and identifies the approximate locations of ridgelines and creeks.

San Ramon General Plan 2030

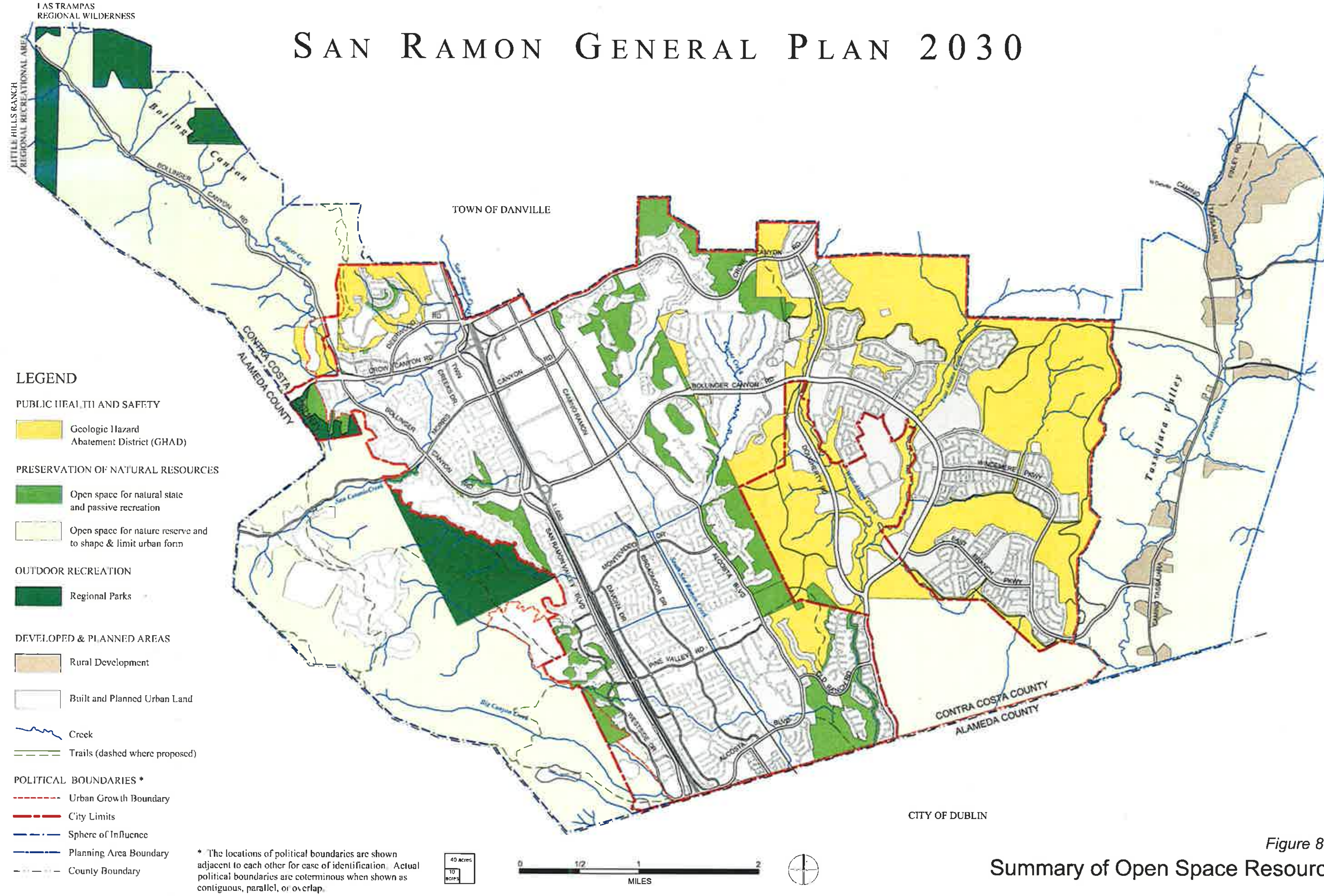

Figure 8-2

Summary of Open Space Resource

GUIDING POLICY

8.3-G-1 Acquire, preserve, and maintain open space and its natural resources for future generations.

8.3-G-2 Strengthen the City's partnership with East Bay Regional Parks District, Contra Costa County, other jurisdictions and private organizations to expand the ridgeline and hillside open space system in the City's Planning Area.

Open space lands contribute to the quality of life in San Ramon and help establish its character. Ridgeline and hillside trails, including the East Bay Regional Parks District Calaveras Ridge Trail, as well as other ridgeline trails proposed by this General Plan, can provide access to these open space lands.

IMPLEMENTING POLICIES

8.3-I-1 Preserve, protect, and maintain significant native oak woodlands.

8.3-I-2 Enhance San Ramon's creeks and riparian corridors by requiring preservation or replacement of riparian vegetation, as appropriate and in conformity with regulatory requirements.

Creeks and riparian corridors provide visual amenity, drainage, and wetland and wildlife habitat.

8.3-I-3 Explore opportunities to preserve significant creek, riparian areas, sensitive natural communities, and prominent topographic features as open space .

8.3-I-4 Require maintenance plans for open space areas, including identified natural resources such as ridges and waterways.

As a guide, use standards such as the East Bay Regional Park District's, Wildland Management Policies and Guidelines, for the management and maintenance of open space.

8.3-I-5 Through the development review process, encourage wildlife corridors to provide connectivity between established open space areas, where deemed appropriate.

Successful wildlife corridors, depending on the animal, provide short and direct routes and do not have a physical or psychological barrier. Examples of features commonly used as wildlife corridors include creeks and waterways, natural depressions, and ridgelines.

8.3-I-6 New development shall dedicate open space, as appropriate, through the use of an irrevocable instrument.

Irrevocable instruments may include easements, recorded maps, or deeds of trust.

8.3-I-7 Confer with appropriate agencies and organizations to ensure that all development, including Dougherty Valley, the Westside subareas, and any other future development provides adequate mitigation for any impacts to special status species, wetlands, and significant natural biotic communities.

The environmental reviews for both the Westside and Dougherty Valley Specific Plans identified potential impacts to wildlife, wetlands, and their habitats. Mitigation monitoring and reporting will ensure these resources are protected.

8.3-I-8 Encourage public access to creek corridors, as appropriate.

Public access would be subject to standards and permitting requirements of regulatory agencies.

8.3-I-9 Consider alternatives to culverting or channelization of waterways during all stages of the review process.

Maintaining the natural stream channel is most preferable from a biological and hydrological perspective. However, this policy acknowledges that the use of culverts or channels may be the safest and most cost effective approach in terms of providing adequate drainage and that existing "natural" channels may be substantially degraded.

8.3-I-10 Promote maintenance and protection of waterways through the use of Geologic Hazard Abatement District(s), conservation easements, endowments, special assessments, or other appropriate mechanisms.

While these districts have mainly been used in the Dougherty Valley, they may be effective elsewhere in the Planning Area. Future GHADs, or annexation into existing GHADs, conservation easements, endowments, special assessments and other similar methods to be considered for future developments with open space.

8.3-I-11 Continue participation in the Contra Costa Clean Water Program to control stormwater pollution and protect the quality of the City's waterways.

8.3-I-12 Monitor the condition of waterways within the city limits and take proactive measures to prevent degradation.

Figure 8-3

Resource Management

Monitoring includes maintaining an up-to-date inventory of creeks and creating a creek maintenance program. Proactive measures may include promoting periodic waterway clean-up efforts, installing fencing or other protective barriers to prevent unauthorized access in sensitive locations, or planting vegetation along waterways to provide shade and prevent erosion.

8.3-I-13 Develop viewshed criteria to determine how to manage views of the natural hillsides surrounding San Ramon.

The hills surrounding the City of San Ramon provide a natural hillside backdrop. Viewshed criteria would establish the process to evaluate new development and potential significant public views of the surrounding natural hillsides.

8.3-I-14 Develop and adopt regulations for the protection and preservation of hillsides, creeks, and ridgelines.

Amend the Zoning Ordinance to replace the Resource Conservation (-RC) Overlay Zone with regulations that incorporate the protection and preservation of hillsides, creeks, and ridgelines in the Resource Management Division. The amended hillside, creek, and ridgeline regulations of the Resource Management Division shall apply to 1) all property over 500 feet in elevation, 2) property with a natural gradient in excess of 10 percent, or 3) property within 1,000 feet of a major or minor ridgeline. The amended hillside, creek, and ridgeline regulations of the Resource Management Division shall not apply to Built Urban Land as shown in Figure 8-3, except for creek setback regulations.

8.3-I-15 Apply the hillside, creek, and ridgeline regulations of the Resource Management Division of the Zoning Ordinance to the Resource Management Area as shown in Figure 8-3.

The Resource Management Area in Figure 8-3 continues the City's commitment towards hillside, creek, and ridgeline protection and preservation.

8.3-I-16 Develop and adopt slope methodology standards to implement the resource management policies.

Slope methodology standards will achieve consistent application of the resource management policies in the Zoning Ordinance.

8.3-I-17 Retain ridgelines as open space, except for ridgelines that may be altered, as shown in Figure 8-3.

The amended hillside, creek, and ridgeline regulations of the *Resource Management Division in the Zoning Ordinance shall provide additional standards for natural terrain alteration.*

8.3-I-18 Retain hillsides steeper than 20 percent slope as open space, except for slopes and ridgelines that may be altered, as shown in Figure 8-3.

The surrounding natural open space continues to be a vital goal to enhance the community character and quality of life in San Ramon.

8.4 MEASURE G (1999) OPEN SPACE PRESERVATION ACTION PLAN

The following policies respond to Measure G's mandate for "a plan for the acquisition of ridgeline lands, contiguous to the City of San Ramon, to be preserved for open space purposes in perpetuity." They also are consistent with the Government Code's requirement for an Open Space Action Plan that is to include "specific programs which the legislative body intends to pursue in implementing its open space plan" (Section 65564).

GUIDING POLICY

8.4-G-1 Expand the ridgeline and hillside open space system in the City's Planning Area by joint efforts with East Bay Regional Parks District, Contra Costa County and nonprofit trustee agencies.

This guiding policy expresses the goal of Measure G (1999) and recognizes that achieving that goal is a cooperative effort.

IMPLEMENTING POLICIES

8.4-I-1 Confer with appropriate agencies and organizations in the creation of an institutional framework and financing mechanisms necessary to acquire additional ridgeline areas and agricultural lands, and to preserve, restore, and manage important open space.

Open space lands may be publicly or privately owned.

8.4-I-2 Encourage developers to explore Transfer of Development Rights (TDRs) in conjunction with project review to cluster residential development and preserve open space, ridgelines, and creek corridors.

A TDR program can create an incentive for preservation of large areas of open space by allowing the transfer of the development that otherwise would be permitted from a "sending area" to a "receiving area" where the additional development can be accommodated. A TDR program does not require public outlay for the purchase of development rights, but purchase of development rights under a TDR program could be an option for an open space lands trust. Implementing regulations will need to ensure that once the development rights are transferred, the sending areas are preserved as permanent open space.

8.4-I-3 Utilize GHADs and/or other secure funding mechanisms for open space to assist in the acquisition and on-going management, operation, and maintenance of a ridgeline and hillside open space system.

8.4-I-4 When called upon by the City Council, the Open Space Task Force to the Parks and Community Services Commission shall review the priorities pursuant to Policy 8.4-I-5 below.

The Task Force will advise the City Council and the Parks and Community Services Commission on setting priorities for open space acquisition and preservation.

8.4-I-5 Priorities for open space preservation should be based on an evaluation of:

- Biological or ecological significance
- Historical significance
- Visual quality, including preservation of significant ridgelines, viewsheds, and scenic vistas
- Presence of significant waterways and associated riparian habitat
- Recreation opportunities (e.g., hiking, photography, nature study, bicycling, horseback riding, bird watching, etc.)

This list is not exhaustive nor is any order of priority implied by this list.

8.4-I-6 Use open space in new development to create buffers that delineate the edge of urban areas.

Other implementing actions will create additional open space in the Planning Area, which will create a backdrop for the City and trail linkages between parks and regional open space.

8.4-I-7 Encourage the restoration of degraded open space areas as part of new development projects, as appropriate.

8.4-I-8 Explore funding opportunities to restore degraded habitat on publicly owned open space and to provide assistance, where appropriate, to owners of privately owned land dedicated as permanent open space, to facilitate private restoration effects.

Assistance may include inter-agency coordination, identification of funding opportunities, the provision of information, or other efforts to aid private property owners in habitat restoration.

8.4-I-9 Preserve open space pursuant to Policy 8.4-I-5, on a priority basis as funds are available using the following criteria:

- Lands currently for sale or that can be acquired under favorable terms or conditions;
- Land with high biological and ecological value, including those that contain natural watersheds, wetlands, riparian corridors, sensitive natural communities, or occupied by special status plant and wildlife species;
- Lands that are contiguous to existing open space properties or other public lands and that provide continuity with current uses and buffers; or
- Lands that provide trail connections or other recreational opportunities.

No order of priority is implied by this list.

8.4-I-10 Continue planning and managing ridgelines, agricultural lands, and open space acquired by the City or other Open Space areas through the Geologic Hazard Abatement District(s) and the Dougherty Valley Open Space Management Plan.

8.4-I-11 Provide incentives for clustering of allowable residential use on infill open space sites to avoid unnecessary grading and site development inconsistent with Plan policies for open space and resource conservation.

An incentive program might be based on the percent of the site to be retained as permanent open space, as described in Table 8-1. Clustering of all buildings should be required, including buildings for park and recreation facilities, as well as buildings allowable for commercial recreation and entertainment uses.

Table 8-1: Open Space/Density Provisions for Infill Open Space Sites

Percent of Site Permanently Preserved as Open Space (gross)	*Maximum Density*
Up to 69.9 percent	1 unit per 20 net acres
70 percent or more	1 unit per 10 net acres; clustering required.

8.4-I-12 Confer, through the development review process, with appropriate agencies and organizations to create a connecting region-wide open space system.

8.4-I-13 Allow appropriate and beneficial improvements on open space lands, subject to standards for environmental protection; city hillside, ridgeline, and creek regulations; avoidance of hazards; and building siting and design that will preserve the open space character of the site. An example may include work related to the Geologic Hazard Abatement District.

8.5 AGRICULTURAL RESOURCES

AGRICULTURAL LAND MAPPING

The California Department of Conservation Farmland Mapping and Monitoring Program (Farmland Program) classifies agricultural lands into five categories:

- Prime Farmland: Land with the best combination of physical and chemical features able to sustain the long-term production of agricultural crops. These lands have the soil quality, growing season, and moisture supply needed to produce sustained high yields.
- Farmland of Statewide Importance: Land similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture.

- Unique Farmland: Land of lesser-quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards, as found in some climactic zones in California.
- Farmland of Local Importance: Land of importance in the local agricultural economy, as determined by each county's Board of Supervisors and a local advisory committee.
- Grazing Land: Land with vegetation that is suited to the grazing of livestock.

Prime, Statewide Important, and Unique Farmland are classified as "Important Farmland" by the Farmland Program. Figure 8-4 identifies a total of 162 acres in the San Ramon Planning Area as Prime Farmland and Unique Farmland. The San Ramon Planning Area does not have any Farmland of Statewide Importance. Land use and development activities that propose to convert Important Farmland to non-agricultural use are typically required to evaluate the impacts of such a conversion using the California Department of Conservation's Land Evaluation and Site Assessment (LESA) Model. Farmland of Local Importance and Grazing Land do not fall within the Important Farmland umbrella and the proposed conversion of these lands to non-agricultural use does not require LESA Model evaluation.

Figure 8-4 also identifies agricultural land within the San Ramon Planning Area, as mapped by the Farmland Program. As shown in the figure, 8,426 acres of land are mapped as Prime Farmland, Unique Farmland, and Grazing Land. A fourth category, "Other Land" in Figure 8-4, includes Farmland of Local Importance and other non-farmland that does not require evaluation of impacts associated with conversion to non-agricultural uses.

WILLIAMSON ACT

The California Land Conservation Act, also known as the Williamson Act, is a voluntary program that allows agricultural property owners to have their property assessed on the basis of its agricultural production rather than at the current market value. The property owner is thus relieved of having to pay higher property taxes, as long as the land remains in agricultural production. The intent of the Williamson Act is to encourage property owners to continue to farm their land, and to prevent the premature conversion of farmland to urban uses. Participation requires that the area consist of 100 contiguous acres of agricultural land under one or more ownerships.

Upon approval of an application by the County Board of Supervisors in which the property is located in, the agricultural preserve is established, and the land within the preserve is restricted to agricultural and compatible uses for at least 10 years. Williamson Act contracts are automatically renewed annually for an additional one-year period, unless the property owner applies for non-renewal or early cancellation. The Williamson Act contains limited provisions for cancellation of contracts, and a substantial penalty for early cancellation is assessed. Generally, the specific findings to justify cancellation are extremely difficult to make and contracts are rarely cancelled.

Several properties within the Tassajara Valley portion of the Planning Area have active Williamson Act contracts. Between 2005 and 2009, several Williamson Act contracts within the Tassajara Valley were cancelled or not renewed in association with pending development proposals before the County of Contra Costa.

GUIDING POLICY

8.5-G-1 Encourage the continuation of appropriate agricultural activities within the City's Planning Area, while being cognizant that such uses may transition to non-agricultural uses in the future.

IMPLEMENTING POLICIES

8.5-I-1 If Important Farmland is proposed to be converted to non-agricultural use, require evaluation to determine significance of conversion impacts. If the conversion is found to be significant, require mitigation to offset such impacts.

An evaluation shall determine the significance of Important Farmland conversion impacts. If such impacts are determined to be significant, mitigation in the form of onsite or offsite preservation of farmland within Contra Costa County at no less than a 1:1 ratio should be pursued. Alternative forms of mitigation may be considered if the preferred mitigation approach is not feasible.

8.5-I-2 Process development applications involving land encumbered by Williamson Act contracts only if three years or less remain prior to expiration or cancellation of the contract.

It is the preference of the City to have Williamson Act contract issues resolved prior to review of any development applications.

8.5-I-3 Minimize land use conflicts between agricultural and urban uses through site planning techniques.

New development near grazing lands or cultivated agricultural uses should incorporate design features to minimize or avoid potential complaints associated with noise, odors, or early morning operations. Examples of design features include buffers and screening measures.

SAN RAMON GENERAL PLAN 2030

LEGEND

AGRICULTURAL LAND

- Prime Farmland
- Unique Farmland
- Grazing Land
- Other Land*

*Other Land includes Farmland of Local Importance and other non-farmland.

Source: Contra Costa County Important Farmland 2008 CA Dept. of Conservation - Farmland Mapping & Monitoring Program

DEVELOPED & PLANNED AREAS

- Rural Development
- Built and Planned Urban Land

POLITICAL BOUNDARIES *

- Urban Growth Boundary
- City Limits
- Sphere of Influence
- Planning Area Boundary
- County Boundary

* The locations of political boundaries are shown adjacent to each other for ease of identification. Actual political boundaries are coterminous when shown as contiguous, parallel, or overlap.

40 acres
10 acres

0 1/2 1 2
MILES

Figure 8-4

Summary of Agricultural Land

8.5-I-4 Explore opportunities with East Bay Regional Park District (EBRPD), other government agencies, or private organizations to set aside and manage undeveloped lands as open space that are contiguous and sufficient in size to allow continued agricultural uses.

Grazing activities on open space lands can offset the fire prevention and maintenance costs measures.

8.5-I-5 Designate land for rural conservation along the west side of Bollinger Canyon Road near the Las Trampas Regional Wilderness in order to preserve visual open space, to provide opportunities for horse-keeping and part-time ranching, and to maintain compatibility with adjoining agricultural uses.

8.6 WATER CONSERVATION AND QUALITY

East Bay Municipal Utility District (EBMUD) and Dublin San Ramon Services District (DSRSD) provide potable water service to San Ramon. EBMUD generally serves the northern, western, and central portions of San Ramon, while DSRSD serves the Dougherty Valley.

WATER CONSERVATION

EBMUD has a comprehensive Water Conservation Program in place that includes both supply- and demand-side measures, including audits, incentives, optimal management practices, wastewater and landscape regulations, education programs, support activities, metering, and leak detection and pipe replacement. EBMUD also recommends that local cities require water conservation measures as a standard feature in the design and construction of proposed development projects.

In 2006, state legislation (AB 1881, Laird, 2006) required the Department of Water Resources to adopt an updated Model Water Efficient Landscape Ordinance (MWELO). In 2009, the State Department of Water Resources adopted an updated model ordinance that became effective January 1, 2010. As a result, the City of San Ramon requires new development to meet the State Model Water Efficient Landscape Ordinance in an effort to conserve landscape water use.

Water reclamation can also significantly reduce water demand and storage requirements. Reclaimed water is used most effectively for irrigating areas such as parks, greenbelts, golf courses, roadway medians, and front yards. Table 8-2 shows that DSRSD has provided an increasing amount of recycled water throughout their service area within San Ramon. Additionally, groundwater has the potential to reduce demand on municipal supplies, although the characteristics of the aquifer and its water table in the San Ramon Planning Area are variable.

Water Use in San Ramon

San Ramon's annual water use has generally risen since 2000. Table 8-2 and Table 8-3 show San Ramon's metered water demand in various use categories since 2000 for the East Bay Municipal Utility District and the Dublin-San Ramon Services District respectively.

Table 8-2: East Bay Municipal Water District Water Demand in San Ramon, 2000-2008

Type of Use	*East Bay Municipal Water District Water Demand (Millions of Gallons per Day)*								
	2000	2001	2002	2003	2004	2005	2006	2007	2008[1]
Commercial	1.31	1.45	1.53	1.56	1.63	1.59	1.67	1.67	1.64
Industrial	0.13	0.13	0.12	0.11	0.11	0.10	0.10	0.09	0.07
Institutional	0.28	0.31	0.28	0.28	0.28	0.24	0.25	0.27	0.28
Irrigation	2.20	2.56	2.48	2.47	2.57	2.25	2.17	2.00	1.77
Multiple Family	0.91	0.93	0.96	0.96	0.97	0.94	0.90	0.91	0.92
Single Family	5.08	5.38	5.53	5.44	5.74	5.44	5.55	5.69	5.28
Subtotal	*9.91*	*10.76*	*10.90*	*10.82*	*11.30*	*10.57*	*10.63*	*10.62*	*9.96*
Water Losses[2]	9.6%	8.3%	9.4%	8.9%	8.3%	7.8%	7.5%	7.8%	9.3%
Total Water Demand	*10.87*	*10.74*	*10.84*	*10.79*	*10.74*	*10.69*	*10.66*	*10.69*	*10.84*

Source: East Bay Municipal Utility District Water Consumption Online Interface, April 2009.

Notes:

[1] Data for Calendar Year 2008 is preliminary.

[2] Water Loss values estimated as a ratio of East of Hills non-revenue water to East of Hills system demand.

Table 8-3: Dublin-San Ramon Services District Water Demand in San Ramon, 2000-2008

Type of Use	*Dublin-San Ramon Services District Water Demand (Millions of Gallons per Year)*								
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Commercial	0.00	0.00	1.33	0.81	0.28	1.35	2.80	3.74	9.70
Industrial	0.00	28.65	87.40	21.47	83.83	55.36	100.24	140.73	67.44
Institutional	0.00	0.00	0.00	0.00	1.54	1.75	3.89	11.46	20.80
Irrigation	0.00	0.00	0.82	10.61	14.04	23.61	64.82	71.60	90.71
Multiple Family	0.00	0.00	0.00	0.27	0.21	17.78	41.19	53.04	60.40
Single Family	0.00	0.00	4.94	38.90	95.70	188.17	414.91	458.69	518.04
Total Water Demand	*0.00*	*28.65*	*94.49*	*72.06*	*195.60*	*288.07*	*627.84*	*739.27*	*767.08*
Recycled Water	0.00	0.00	16.01	23.09	60.26	81.65	130.11	328.35	306.83

Source: Dublin-San Ramon Services District, April 2009.

WATER QUALITY

The primary goal of the City of San Ramon Stormwater Program is to reduce pollution of storm water as it enters the local creeks and the San Francisco Bay. The City of San Ramon is a member of the Contra Costa Clean Water Program, which has been instrumental in developing Low Impact Development (LID) techniques for the reduction and treatment of storm water runoff from development projects. The San Francisco Bay Regional Water Quality Control Board adopts regulations to satisfy National Pollutant

Table 8-2: East Bay Municipal Water District Water Demand in San Ramon, 2000-2008

Type of Use	East Bay Municipal Water District Water Demand (Millions of Gallons per Day)								
	2000	2001	2002	2003	2004	2005	2006	2007	2008[1]
Commercial	1.31	1.45	1.53	1.56	1.63	1.59	1.67	1.67	1.64
Industrial	0.13	0.13	0.12	0.11	0.11	0.10	0.10	0.09	0.07
Institutional	0.28	0.31	0.28	0.28	0.28	0.24	0.25	0.27	0.28
Irrigation	2.20	2.56	2.48	2.47	2.57	2.25	2.17	2.00	1.77
Multiple Family	0.91	0.93	0.96	0.96	0.97	0.94	0.90	0.91	0.92
Single Family	5.08	5.38	5.53	5.44	5.74	5.44	5.55	5.69	5.28
Subtotal	*9.91*	*10.76*	*10.90*	*10.82*	*11.30*	*10.57*	*10.63*	*10.62*	*9.96*
Water Losses[2]	9.6%	8.3%	9.4%	8.9%	8.3%	7.8%	7.5%	7.8%	9.3%
Total Water Demand	*10.87*	*10.74*	*10.84*	*10.79*	*10.74*	*10.69*	*10.66*	*10.69*	*10.84*

Source: East Bay Municipal Utility District Water Consumption Online Interface, April 2009.

Notes:

[1] Data for Calendar Year 2008 is preliminary.

[2] Water Loss values estimated as a ratio of East of Hills non-revenue water to East of Hills system demand.

Table 8-3: Dublin-San Ramon Services District Water Demand in San Ramon, 2000-2008

Type of Use	Dublin-San Ramon Services District Water Demand (Millions of Gallons per Year)								
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Commercial	0.00	0.00	1.33	0.81	0.28	1.35	2.80	3.74	9.70
Industrial	0.00	28.65	87.40	21.47	83.83	55.36	100.24	140.73	67.44
Institutional	0.00	0.00	0.00	0.00	1.54	1.75	3.89	11.46	20.80
Irrigation	0.00	0.00	0.82	10.61	14.04	23.61	64.82	71.60	90.71
Multiple Family	0.00	0.00	0.00	0.27	0.21	17.78	41.19	53.04	60.40
Single Family	0.00	0.00	4.94	38.90	95.70	188.17	414.91	458.69	518.04
Total Water Demand	*0.00*	*28.65*	*94.49*	*72.06*	*195.60*	*288.07*	*627.84*	*739.27*	*767.08*
Recycled Water	0.00	0.00	16.01	23.09	60.26	81.65	130.11	328.35	306.83

Source: Dublin-San Ramon Services District, April 2009.

WATER QUALITY

The primary goal of the City of San Ramon Stormwater Program is to reduce pollution of storm water as it enters the local creeks and the San Francisco Bay. The City of San Ramon is a member of the Contra Costa Clean Water Program, which has been instrumental in developing Low Impact Development (LID) techniques for the reduction and treatment of storm water runoff from development projects. The San Francisco Bay Regional Water Quality Control Board adopts regulations to satisfy National Pollutant

Discharge Elimination System (NPDES) permit requirements to manage storm water runoff.

The City also monitors construction sites to ensure adequate Best Management Practices (BMPs) are implemented to reduce water pollution during construction in compliance with the State General Construction Permit issued by the California State Water Resources Control Board.

GUIDING POLICY

8.6-G-1 Promote the implementation of water quality and conservation programs and measures by San Ramon employers, residents, and public agencies.

IMPLEMENTING POLICIES

8.6-I-1 Require new development projects to implement indoor water conservation and demand management measures.

Examples of conservation and demand management measures include low-flow bathroom fixtures, high water efficiency clothes washers and dishwashers,

8.6-I-2 Require new development projects to implement outdoor water conservation and demand management measures.

Examples of conservation and demand management measures include separate metering of domestic and irrigation water, drought-resistant vegetation, drip irrigation or low-precipitation-rate sprinklers, programmable irrigation controllers with automatic rain shutoff sensors, and hydrozones that keep plants with similar water needs in the same irrigation zone. Furthermore, new development projects are encouraged to install drought resistant vegetation instead of turf.

8.6-I-3 New development in areas where recycled water service exists or is planned shall be plumbed with "purple pipe" and other measures necessary to accommodate non-potable water service.

Exceptions are allowed for projects that would not use potable water for non-potable use or would only use small amounts of potable water for non-potable use.

8.6-I-4 Require new development to meet the State Model Water Efficient Landscape Ordinance (MWELO).

Effective January 1, 2010 all development must meet the State MWELO requirements which establish landscape design requirements for new and rehabilitated landscape areas within the City.

8.6-I-5 Collaborate with DERWA (Dublin San Ramon Services District and East Bay Municipal Utilities District Recycled Water Authorities) to expand the recycled water distribution system in an efficient and timely manner.

Installing recycled water infrastructure as part of roadway construction projects is an effective way to expand the distribution system, while also minimizing disruption to residents and businesses.

8.6-I-6 Continue implementation of the City of San Ramon Stormwater Management Program to reduce storm water pollution, provide public education, and to protect the water quality of the City's local creeks and streams.

In order to comply with National Pollutant Discharge Elimination System (NPDES) permit requirements for Municipal Separate Storm Sewer Systems, the City of San Ramon Stormwater Program performs a variety of activities which may include participating in the Contra Costa Clean Water Program, field inspections, educational and outreach activities, storm drain cleaning, street sweeping, the implementation of new development/redevelopment stormwater controls, or other activities.

8.6-I-7 Promote the protection of groundwater resources by collaborating with agencies that monitor and oversee clean-up efforts at existing sources of pollution.

There are several sites in San Ramon that previously contained leaking underground storage tanks. These sites are currently undergoing monitoring and remediation and are regulated by agencies including the County of Contra Costa and the San Francisco Bay Regional Water Quality Control Board. The intent of this policy is to ensure that the City is aware of groundwater pollution sources and proactively engaged with appropriate agencies to facilitate efficient and timely clean-up efforts.

8.7 ARCHAEOLOGICAL, PALEONTOLOGICAL, AND HISTORIC RESOURCES

LOCAL HISTORY

At the time of European contact in the 18th century, the San Ramon area was occupied by the Ohlone tribe of California Native Americans. The tribal group that most likely occupied the San Ramon area is the Chochenyo language group, whose territory extended from the southern end of the Carquinez Strait south to Mission San Jose (present-day Fremont), east to present-day Livermore and west to the San Francisco Bay. The estimated Ohlone population in 1770—when the first mission was established in Ohlone territory—was approximately 10,000. By 1832, the population had declined to fewer than 2,000, mainly due to diseases introduced by the European explorers and settlers. The Gold Rush brought further disease to the native inhabitants, and by the 1850s, nearly all of the Ohlone had adapted in some way or another to economies

based on cash income. Hunting and gathering activities continued to decline and were rapidly replaced with economies based on ranching and farming.

Following Mexico's independence from Spain in 1822, the vast mission lands were granted to private citizens as ranchos. The San Ramon Valley contained three large ranchos: San Ramon (Amador), 16,517 acres; San Ramon (Carpentier), 8,917 acres; and San Ramon (Norris), 4,451 acres.

The population of the Contra Costa County increased rapidly during the Gold Rush and, in the post Civil War Era. The great rancheros of the Spanish period were divided and sold for agricultural uses, with intensively irrigated farming made possible in some areas of Contra Costa County by the development of canals that brought water from the eastern portions of the County to the central portions. Walnuts were an especially attractive orchard crop in central portions of the County, with farmers using thin-shelled English walnut branches grafted to hardy and disease-resistant American walnut rootstock.

The first settlers to the San Ramon area were Leo and Mary Norris, who purchased 4,450 acres of land in 1850, and who are the namesakes of Norris Canyon. Other early settlers included names that are recognizable from local street names and landmarks, including Crow, Bollinger, and Glass. The first village developed near the site of the present-day Outpost Sports Bar at the intersection of Deerwood Road and San Ramon Valley Boulevard. San Ramon was known by a series of names in the nineteenth century: Brevensville, for a local blacksmith; Lynchville, for the early settler William Lynch; and Limerick, for the numerous Irish immigrants.

The Southern Pacific Railroad arrived in the San Ramon Valley in the 1890s. Dubbed the San Ramon Branch Line, the railroad line originally extended from a junction with the Oakland-Stockton main line near Martinez south to San Ramon, a distance of approximately 20 miles. Service commenced in June 1891. In 1909, the southern terminus of the San Ramon Branch Line was extended south to a junction with the Lathrop-Niles Junction main line near Pleasanton. San Ramon was served with a station, known as San Ramon Siding, near the present-day Iron Horse Trail crossing at Crow Canyon Road. By the mid-1970s, traffic on the line had dwindled to 125 carloads annually and the Southern Pacific petitioned the Interstate Commerce Commission to abandon the branch line. The line was formally abandoned in 1978 and the counties of Alameda and Contra Costa acquired ownership of the right-of-way within their respective jurisdictions. The present-day Iron Horse Trail follows the alignment of the San Ramon Branch Line from Pleasanton to Concord.

The San Ramon Valley remained primarily an agricultural area up through the early 1960s. Following the completion of Interstate 680 (I-680) through the San Ramon Valley in the mid-1960s, the San Ramon area experienced rapid growth. The first residential subdivisions were developed in South San Ramon (a.k.a. San Ramon Village) and Twin Creeks. In the early 1980s, Sunset Development began developing the Bishop Ranch Business Park. The most notable facilities in the Bishop Ranch Business Park are Chevron Park and the AT&T campus (formerly known as the Pacific Bell campus), both

of which opened in the mid-1980s. Sunset Development continued to develop the Bishop Ranch Business Park through the 1980s and 1990s.

With growth came the desire for greater control over land use and development. In March 1983, the City electorate voted to incorporate and the City of San Ramon came into existence on July 1, 1983. Since incorporation, the City has expanded its limits west to include the Westside Drive area and portions of Norris Canyon, north to include the Crow Canyon area, and east to include the Dougherty Hills and Dougherty Valley.

HISTORIC AND PREHISTORIC RESOURCES

The San Ramon Planning Area includes several sites of both historic and prehistoric value.

Forest Home Farms Historical Park is listed on the National Register of Historic Places (Landmark Plaque No. 2174). The 16-acre historical park is located 19953 San Ramon Valley Boulevard and features the Boone House and interpretative exhibits depicting historic agricultural activities of the San Ramon Valley.

Prehistoric sites consist of Native American habitations and rock art. Native American archeological sites in this portion of Contra Costa County tend to be situated along ridgetops, midslope terraces, alluvial flats, at the base of hills, between saddles, near ecotones, and near sources of water including springs. The Planning Area encompasses all of these environmental features with recorded Native American archeological sites found in each of these areas.

Several state laws, most notably CEQA Guidelines §15064.5(f) and Public Resources Code §5020-5029 and 21083.2, protect archeological and historical resources. To protect historic resources, the State has formed the State Historical Resources Committee that conducts the State Historic Resource Inventory and maintains the California Register of Historic Resources, which identifies historic landmarks and points of interest. The Committee also provides recommendations for the National Register of Historic Resources.

GUIDING POLICY

8.7-G-1 Identify, evaluate, and preserve the archaeological, paleontological, and historic resources that are found within the San Ramon Planning Area.

IMPLEMENTING POLICIES

8.7-I-1 Require that new development evaluate potential impacts to historic, archaeological, and paleontological resources and, if necessary, implement appropriate mitigation measures to protect the resources.

Projects that disturb undeveloped land or propose the demolition or substantial modification of structures 45 years of age or older will be required to evaluate potential cultural resource impacts. Exceptions to this policy include infill

development or redevelopment on sites that have been developed within the previous 45 years.

8.7-I-2 Protect and maintain the integrity of officially listed historic resources.

8.7-I-3 Closely review any proposals to nominate local resources for eligibility for listing on national or state historic registers.

Discretion should be used in reviewing such nominations to ensure that resources have significant historic value and have been appropriately evaluated.

8.7-I-4 As a standard condition of approval, require all development projects involving grading and excavation to implement appropriate measures in the event that burial sites or human remains are encountered during earthwork activities.

Appropriate measures may include stopping work within 100 feet of the find, notifying the Contra Costa County Coroner's Office, and, if the Coroner determines that the remains are determined to be of Native American origin, notification of the Native American Heritage Commission.

8.7-I-5 For projects involving a General Plan Amendment, the development of a Specific Plan (or amendment), or designating open space, provide for tribal consultation opportunities in accordance with state law.

State law establishes specific requirements for tribal consultation in these circumstances. It broadens the focus from the protection and preservation of archaeological sites and artifacts to include protection of traditional tribal cultural places on public and private lands, for both federally and non-federally recognized tribes.