APPENDIX B

Biological Resources

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APPENDIX B.1

Roosting Bat Survey Report

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OLBERDING ENVIRONMENTAL, INC.
Wetland Regulation and Permitting

March 25, 2016

Mr. David R. Baker
O'Brien Homes
3527 Mount Diablo Boulevard, #133
Lafayette, California 94549

SUBJECT: Deer Hill Project - Pre-construction Roosting Bat Survey Results

Dear Mr. Baker:

On March 21 and 22, 2016, Olberding Environmental, Inc. (Olberding Environmental) conducted pre-construction bat surveys to assess the presence/absence of roosting bats at the development Properties on Deer Hill Road in Lafayette, California (see Attachment 1, Figure 1).

The purpose of the survey was to identify if any bats are currently utilizing any trees and/or structures for roosting and/or foraging prior to tree removal and demolition associated with this project.

METHODS

Olberding Environmental biologist, Richard Lescalleet, conducted a visual survey to search for signs of active roosting sites by bats on the properties. The first night of surveys took place at the housing development portion of the Project and the second evening survey took place at the proposed dog park site. The surveys began from the periphery of the Properties where the area was scanned with binoculars to look for evidence on structures where leaving or returning bats had left staining marks under eves. Following the stationary visual survey, each individual structure and tree was approached for a closer inspection to search for possible bat roosting sites.

After an initial visual survey, an acoustical survey using an Anabat SD2 ultra-sonic bat detector was conducted to record bat calls from just prior to sundown throughout night. The survey consisted of using aerial imagery and knowledge of the project properties to choose a representative location where disturbance is scheduled to take place to determine if these areas contained roosing bats. The survey area and locations of the sample site are illustrated in Figure 1.

3170 Crow Canyon Place, Suite 260 · San Ramon, CA 94583 · Office: (925) 866-2111 · Fax: (925) 866-2126
Email: Jeff@Olberdingenv.com

Analook software was used to analyse the ultra sonic acoustic data collected to determine if bat calls recorded were of high-frequency species (35-70 khz) or low-frequency species (15-35 khz), and to count the total number of bat calls for the survey night.

Photos of the sample site and representative data from the Analook software are presented in Attachment 2.

RESULTS

There were no visual indications of roosting bats on or around any structure surveyed nor around any of the trees on the property. The Anabat sample site on night 1 was at the housing development park of the Project where existing buildings and some trees are scheduled for demolition. Data collected on March 21, 2016 at this site recorded no bat calls throughout the night from approximately 8pm until 9am the following day.

The second night of surveys at the proposed dog park location, the Anabat was placed on a dead redwood tree on the eastern side of the main structure. A few, distant bat calls were recorded at this site a little past 8:30pm, however, due to their weak strength and short duration, they were likely passing by from other locations. There was nothing in the Anabat data to indicate a population of bats inhabiting any trees or structures on this site.

A table summarizing the results is included in Attachement 3.

CONCLUSIONS

Due to lack of visual signs and the low number of total bat calls and bat calls per hour at the survey location, it is the professional opinion of this biologist that there are no bats currently roosting on or adjacent to the Project properties. It is likely that the few bat calls recorded here were from bats passing nearby on their way to forage within nearby creeks; possibly Las Trampas Creek located about a half mile to the south. Removal of these trees and/or any structures on the property is not likely to have a significant impact on any roosting bat species.

If you have any questions, please feel free to contact me at (925) 866-2111.

Sincerely,

Jeff Olberding
Regulatory Scientist

ATTACHMENT 1

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

Figure 1: Anabat Survey Map
March 21-22, 2016
Deer Hill Residential Development Project
Contra Costa County, California

ATTACHMENT 2

1. Location of Anabat ultrasonic detector on the first night of surveys. 3/21/2016

2. Eves of structures were examined for bat entry and exit points. 3/21/2016

1. Location of Anabat ultrasonic detector on the second night of surveys strapped to the dead tree. 3/22/2016

2. Interiors of structures were examined when access was available. 3/22/2016

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APPENDIX B.2

Nesting Birds Survey Report

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OLBERDING ENVIRONMENTAL, INC.
Wetland Regulation and Permitting

March 16, 2016

Mr. David R. Baker
O'Brien Homes
3527 Mount Diablo Blvd., #133
Lafayette, CA 94549

SUBJECT: Deer Hill Residential Development Project - Pre-construction Nesting Birds Survey Results

Dear Mr. Baker,

On March 16, 2016, Olberding Environmental, Inc. (Olberding Environmental) conducted a pre-construction nesting bird survey to assess the presence/absence of nesting birds at the Deer Hill Property in Lafayette, California.

The purpose of the survey was to identify if there were any active bird nests within any trees and/or structures prior to tree and building removal and construction associated with this project.

METHODS

Olberding Environmental biologist, Lisa Henderson, conducted a visual survey to search for signs of active nesting by raptors or passerine birds. The survey began from the periphery of the Property where the area was scanned with binoculars for approximately 30 minutes to look for birds leaving or returning to nesting sites prior to walking among the trees. Following the stationary visual survey, each individual tree was approached for a closer inspection to search for nest sites. Trees within 50-feet of the project boundary were also visually inspected for active bird nests. Two separate sites associated with this project were visited and surveyed (see Attachment 1, Figure 1).

Photos of the survey area are presented in Attachment 2.

RESULTS

Numerous leaf nests were observed within the surveyed trees, however they are most likely associated with squirrel or rat nests as no birds were observed in or near the observed nests. Birds observed foraging on the property included Anna's hummingbird (*Calypte anna*), western scrub jay (*Aphelocoma californica*), American robin (*Turdus migratorius*), house finch

3170 Crow Canyon Place, Suite 260 · San Ramon, CA 94583 · Office: (925) 866-2111 · Fax: (925) 866-2126
Email: Jeff@Olberdingenv.com

(*Haemorhous mexicanus*), yellow rump warbler (*Setophaga coronate*), wild turkey (*Meleagris gallopavo*) and rock pigeons (*Columba livia*); red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*) and turkey vulture (*Cathartes aura*) were observed flying overhead.

CONCLUSIONS

There were no active nests on the site or within approximately 50 feet of the project boundary. The results of this preconstruction nesting bird survey are valid for 15 days from the date of the survey (until March 31, 2016). If construction activities or tree removal begin after this date, a follow-up nesting bird survey would be needed.

If you have any questions, please feel free to contact me at (925) 866-2111.

Sincerely,

Jeff Olberding
Regulatory Scientist

ATTACHMENT 1

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

Figure 1: Nesting Bird Survey Map
March 16, 2016
Deer Hill Residential Development Project
Contra Costa County, California

ATTACHMENT 2

Photo 1: Facing northwest, showing open asphalt area with buildings and surrounding trees.

Photo 2: Facing southeast, showing the driveway towards the existing structures. All trees were surveyed for nesting birds.

Photo 3: Facing north, showing stationary observation point to watch for nesting raptors or passerines.

Photo 4: Facing south, showing stationary observation point to watch for nesting raptors or passerines.

Photo 5: Facing southeast, showing trees within the creek/riparian area at the base of the Property.

Photo 6: Facing north, showing trees on the second western property that were surveyed for nests.

Photo 7: Photo shows an example of inactive nest found within an oak tree on property. Nest was observed for any sign of birds nesting.

Photo 8: Photo shows inactive birds nest within one of the structures on the Property.

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APPENDIX B.3

Deer Hill Rye Grass Salvage Report

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rana creek

27875 Berwick Drive
Carmel, CA 93923
PH 831.659.3820
FX 831.646.2106
www.ranacreekdesign.com

Native Grass Salvage Report

Location: 3233 Deer Hill Road, Lafayette, CA
Date Salvage Conducted: 6/9-7/1/2016
Employee's attended: Humberto Flores, Efrain Mendez, Jon McPherson

Rana Creek was commissioned to harvest and deliver 44,000 pieces of Elymus x. Gouldii to use as an erosion control measure, post grading in Oct 2016.

On 6/9 Rana Creek staff began harvesting grasses per spec by excavating 6" of soil and delivering the resulting sod to the nursery in Carmel for processing.

rana creek

27875 Berwick Drive
Carmel, CA 93923
PH 831.659.3820
FX 831.646.2106
www.ranacreekdesign.com

On our 7 days of collection we were able to process the following totals.

- 6/30&7/1 3,256
- 6/16 1,862
- 6/15 1,344
- 6/14 1,400
- 6/13 1,078
- 6/9 882
- TOTAL 9,822

The site was harvested to the fullest extent currently available from all areas shown in the sitemap provided to Rana Creek.

We will divide the grasses in the nursery to attain the required number of 44,000 plants. If we find that additional harvesting is needed, that operation can be performed in early spring 2017.

Jon McPherson
Construction Manager
707-287-5104
jmcpherson@ranacreekdesign.com

APPENDIX B.4

Tree Permit

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City Council

Mark Mitchell, Mayor
Mike Anderson, Vice Mayor
Brandt Andersson, Council Member
Traci Reilly, Council Member
Don Tatzin, Council Member

March 15, 2016 VIA EMAIL

David Baker
O'Brien Homes
3527 Mount Diablo Blvd., #133
Lafayette, CA 94549
dave@obrienhomes.net

Re: Tree Removal Permit for the Homes at Deer Hill project at 3233 Deer Hill Road

Dear Dave,

The City is in receipt of your request to tree removal at the Homes at Deer Hill project. As you know, the City Council approved the project in September 2015 by adopting Resolution 2015-51 and included approval of the requested tree removal permit.

The materials you submitted on February 29, 2016 are consistent with the approved plans. Your request to begin tree removal is approved subject to the condition of approval attached to Resolution 2015-51. Tree protection measures must be installed before tree removal begins and the recommendations of the project arborist outlined in the submitted reports must be followed.

Please inform me when the tree protection measures are installed so that planning staff can inspection them prior to work commencing. Please let me know if you have any questions.

Sincerely,

Greg Wolff
Assistant Planning & Building Director

Enc. Tree Permit Application Materials

LAFAYETTE
SETTLED 1848 — INCORPORATED 1968

Planning & Building Department
3675 Mt. Diablo Boulevard, Suite 210
Lafayette, CA 94549
Tel. (925) 284-1976
http://www.ci.lafayette.ca.us

TREE PERMIT APPLICATION SUBMITTAL REQUIREMENTS

This checklist is intended to cover all types of development, large and small. Not all items may be applicable for the scope of your development, in which case check the N/A box. Please check all items and indicate the sheet number(s) where prompted. An applicant may obtain preliminary review from a planner during Planning Counter Hours. [1] The Planning & Building Department will ultimately determine the level of detail needed to process your application once it has been submitted and is being processed. Hyperlinks are provided for the applicable handouts referenced in this document; however are also available on the City's website, www.lovelafayette.org, or at the City offices. **A digital copy of all submittal requirements should be submitted to the Planning Department at planner@lovelafayette.org.**

GENERAL SUBMITTAL REQUIREMENTS

YES N/A

☐ ☒ **1. APPLICATION FORMS**

a. Standard application form.
b. Brief description of the scope of work.
c. Checklist completed and signed by the preparer with each box checked acknowledging submittal of the required item(s) and listing the corresponding sheet number(s).
d. Agreement to Pay for City Services, completed and signed.
e. Processing fee(s): credit card (Visa/MasterCard/Discover) or check (payable to City of Lafayette). Please call the Planning Department at (925) 284-1976 to make a payment over the phone, after submitting a digital version of your application requirements.

☐ ☒ **2. SUPPLEMENTAL INFORMATION** (as deemed appropriate by the Planning & Building Director)

a. Arborist report concerning the health and quality of the tree(s) and possible alternative actions.
b. Photographs showing the tree(s) and its context (terrain, nearby structures, surrounding trees and vegetation, etc.)

CATEGORY I REQUIREMENTS

YES N/A

☐ ☒ **3. NARRATIVE**

Submit a letter justifying permit request and response to the following topics:

a. Health, condition, and form of the tree(s) to be removed;
b. Number, size, and location of tree(s) to remain in the area;
c. Relationship of the property to riparian corridors, a scenic or biological resource area, and/or a restricted ridgeline area;
d. Role of the tree(s) in a grove or woodland habitat;
e. Value of the tree(s) to the neighborhood in terms of visual effect, wind screening, and privacy;

[1] Monday through Friday between 12 p.m. and 5 p.m.; no appointment necessary

YES N/A

f. Damage caused by the tree to utilities, streets, sidewalks, and/or existing private structures or improvements;
g. Role of the tree(s) in mitigating damage, erosion, and/or geological stability impacts; and
h. Health and condition of the area within the protected perimeter.

☐ ☒ **4. SITE PLAN**

a. Property and zoning information, including:
    i. Property lines, dimensioned.
    ii. Setbacks (front, side, and rear), dashed.
    iii. Sewage disposal and public utilities.
    iv. Recorded easements (utility, drainage, access, etc.), labeled.
    v. Total and net [2] parcel square footage.
b. Building site(s) and footprint(s)
    i. Existing and proposed structures with dimensions to property lines.
    ii. Changes or additions to existing structures shown as hatched, shaded or otherwise highlighted.
c. Parking and circulation
    i. Location, dimensions, and quantity of existing and proposed covered and uncovered parking facilities. [3]
    ii. Circulation plans for each vehicular and pedestrian way.
    iii. Fire District turnarounds (such as the shunt, t-turn, or circle), road width, slope, and vertical clearance shall be overlaid or highlighted on the circulation plans.
d. Impervious surface, existing and proposed
    i. Include a table calculating the square footage, including building footprint, driveway, patios, walkways, pools, etc.
    ii. Shade or hatch changes and additions
e. Structures - existing and proposed fences and retaining walls
    i. Label top-of-wall (TW) and bottom of wall (BW) spot elevations
    ii. Shade or hatch changes and additions
f. Existing trees - show all trees $\geq$ 4" in diameter at 4.5' above grade within 100' of proposed development and label:
    i. Tree species
    ii. Diameter of trunk
    iii. Elevation at base of trunk
    iv. Field surveyed accurate driplines (generic symbols are not accepted)
    v. Tree identification number, provided by the arborist
    vi. Trees proposed to be removed with a prominent "X"

CATEGORY II REQUIREMENTS

YES N/A

☐ ☒ **5. NARRATIVE**

Submit a letter justifying permit request and addressing the following topics, in addition to the eight topics required for Category I:

a. Necessity for the tree(s) pruning or removal in order to construct a required improvement on public property or within a public right-of-way or to construct an improvement that allows reasonable economic enjoyment of private property;
b. Extent to which a proposed improvement may be modified to preserve and maintain a

[2] Excludes the area within vehicular rights-of-way and vehicular easements
[3] Parking space minimum dimensions are 10' by 20' per space

YES N/A

protected tree(s); and

c. Extent to which a proposed change in the existing grade within the protected perimeter may be modified to preserve and maintain a protected tree.

☑ ☐ **6. ARBORIST REPORT**

Submit an arborist report consistent with the guidelines by the American Society of Consulting Arborists containing the following information:

a. Description of the tree's location, genus, species, diameter, and drip line;
b. Health and condition of the tree(s), including existing hazards to the tree(s);
c. Evaluation of preservation potential based on the tree's existing condition and in relation to any potential development; and
d. Recommendations for protection and preservation techniques and requirements, including restorative or other remedial actions that might be feasible to maintain and improve the tree(s) health or assure survival.

☐ ☑ **7. OTHER AGENCIES**

Evidence of compliance with the requirements or responsible agencies for the removal of a protected tree if applicable.

☑ ☐ **8. SITE PLAN**

Submit a site plan that complies with the submittal requirements outlined in Item #4. Identify the trunk location, diameter, species, and drip line of each protected tree within 50-feet of any proposed construction on the subject property and adjacent properties and indicating which protected tree(s) is proposed to be pruned or removed. For development applications that require a survey by a licensed surveyor or engineer, a field-verified topographical survey showing the trunk location, elevation at the base, diameter, species, and accurate drip line of each protected tree within 100-feet of any proposed construction on the subject property and adjacent properties, and a table that identifies each protected tree, its diameter and species, and whether the tree is proposed to be pruned or removed.

Applicant's Signature _____ **Date:** 2-29-16

I acknowledge that I have read the instructions on applying for a tree removal permit, and have submitted at least the minimum submittal requirements to the Planning Department Staff. I agree to submit more materials regarding my application, if requested to do so.

Tree Permit – Submittal Requirements

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Standard Application Form

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Planning & Building Department
3675 Mt. Diablo Boulevard, Suite 210
Lafayette, CA 94549-1968
Tel. (925) 284-1976
www.ci.lafayette.ca.us

LAFAYETTE
SETTLED 1848 — INCORPORATED 1968

STANDARD APPLICATION FORM

PROJECT INFORMATION

Project Address / Location		Assessor's Parcel Number (APN)	Zoning District	Flood Zone
3233 Deer Hill Road & 3312 Deer Hill Road		232-150-027 & 232-140-016	PD/SFR-LD	
General Plan Designation	**Parcel Size (sq.ft.)**	**Grading: Cut (cu.yds.)**	**Grading: Fill (cu.yds.)**	
SFR-LD	see project application	see project application	see project application	
Existing Gross Floor Area (sq.ft.)	**Existing Building Footprint (sq.ft.)**	**Existing Impervious Surface (sq.ft.)**	**Existing # Parking Spaces (sq.ft.)**	
Proposed Gross Floor Area (sq.ft.)	**Proposed Building Footprint (sq.ft.)**	**Proposed Impervious Surface (sq.ft.)**	**Proposed # Parking Spaces (sq.ft.)**	

Existing Land Use
☐ Single-Family Residential ☐ Multi-Family Residential ☐ Commercial ☐ Office ☐ Vacant ☐ Other (specify) _____

Proposed Land Use
☐ Single-Family Residential ☐ Multi-Family Residential ☐ Commercial ☐ Office ☐ Vacant ☐ Other (specify) _____

APPLICANT INFORMATION

Applicant Name			
O'Brien Land Company, LLC			
Applicant Address			
3527 Mt. Diablo Blvd, #133			
City	**State**	**Zip**	
Lafayette	CA	94549	
Phone	**Fax**		
(916) 521-4240	( ) - NONE		
Cell	**Email (for official use only)**		
(916) 521-4240	dave@bakerthorn.com		

OWNER INFORMATION

Owner Name			
AMD Family Trust			
Owner Address			
c/o Allan Moore 279 Front Street			
City	**State**	**Zip**	
Danville	CA	94526	
Phone	**Fax**		
(925) 837-0585	(925) 838-5985		
Cell	**Email (for official use only)**		
( ) -	almoore@gagenmccoy.com		

CHECK ALL APPLICABLE REQUESTS

☐ 15-Degree Declination Exception	☐ Land Use Permit	☐ Second Unit Permit
☐ Address Assignment / Change	☐ Lot Line Revision	☐ Senior Housing Permit
☐ Appeal (App. # _____)	☐ Major Subdivision / Tract (≥ 5 lots)	☐ Sign Permit
☐ Certificate of Compliance	☐ Minor Subdivision (4 lots or fewer)	☐ Study Session
☐ Change of Conditions	☐ Public Art Permit	☐ Temporary Land Use Permit
☐ Design Review	☐ Reasonable Accommodation	☒ Tree Removal Permit CAT II
☐ Family Day Care	☐ Reconsideration (App. # _____)	☐ Variance / Exception
☐ General Plan Amendment	☐ Re-Zone Property	☐ Wireless Communications Facilities Permit
☐ Grading Permit (≥ 50 cu. yds.)	☐ Ridgeline Setback Exception	☐ Zoning Text Amendment
☐ Hillside Development Permit	☐ Right-of-Way Abandonment	☐ Other _____

OWNER / AGENT STATEMENT

Property Owner Consent – I am the legal owner of record of the land specified in this application or am authorized and empowered to act as an agent on behalf of the owner of record on all matters relating to this application. I declare that the foregoing is true and correct and accept that false or inaccurate owner authorization may invalidate or delay action on this application. I hereby grant permission to access the property to individuals involved in the processing of the subject application(s). I agree to defend, indemnify and hold harmless the City, its agents, officers, officials, and employees from all claims, demands, lawsuits, writs of mandamus, and other actions or proceedings (collectively "Actions") brought against the City or its departments, commissions, agents, officers, officials, or employees to challenge, attack seek to modify, set aside, void or annul any City decision made in connection with this application. In the event the City becomes aware of any such Actions, the City shall promptly notify me and shall cooperate fully in the defense. It is expressly agreed that the City shall have the right to approve, which approval shall not be unreasonably withheld, the legal counsel providing the City's defense, and I shall reimburse City for any attorney's fees, costs and expenses, including any plaintiff's or other third party's attorneys' fees, costs and expenses, directly and necessarily incurred by the City in the course of the defense.

X _____
Signature and Date

Agreement for City Services

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City of Lafayette
Planning & Building Department

AGREEMENT TO PAY FOR CITY SERVICES

Complete and submit this form with the development application.

In consideration for the City providing the services described in this Agreement, the undersigned agrees as follows:

1. The City services requested relate to development application number _____, property in the City of Lafayette located at 3233 & 3312 Deer Hill Road, assessor's parcel number 232-150-027 & 232-140-016

2. This Agreement is for services and fees that are in addition to the planning fees paid upon the filing of the referenced development application. I agree to pay for the additional charges imposed by the City for staff time spent processing the application based upon an hourly rate established by resolution of the City Council. These services include but are not limited to City staff time spent for engineering and other City administrative services regarding the application. In addition, I agree to pay for services of consultants retained by the City and required by it in connection with the development application at the hourly rate charged by each consultant to the City. These services include but are not limited to legal, landscaping, traffic engineering and environmental services.

3. The City will bill for the services performed under this Agreement upon a monthly or other periodic basis. If at any time the balance due exceeds $500.00, the City may cease processing the application, prepare a recommendation for taking action on the application and present the application to the appropriate hearing body for final action.

4. The development application account will remain open until it is paid in full. Final payment in full is due as follows:
   a. In the case of a subdivision, upon release of the final improvement bond or when conditions of approval are satisfied, which ever is later in time;
   b. In the case of all other applications, when the City authorizes Contra Costa County to issue final building inspection clearance or when work for which a permit is issued is completed;
   c. If an application is denied, upon expiration of the appeal period or upon a final decision on appeal;
   d. If an application is withdrawn, when all remaining staff work on the application is completed;
   e. Upon the expiration of 12 consecutive months during which there was no activity on the application.

5. The undersigned is responsible for the payment of the costs and charges involved with the application even though the property or project is sold or assigned to another party. If the undersigned desires to transfer payment responsibility to another, it is the undersigned's responsibility to have this Agreement replaced by a new agreement with the responsible party. Any outstanding balance must be paid before the City will accept a replacement agreement.

6. The undersigned agrees to advise the City in writing of any change to their billing address and represents that (s)he is the party responsible for payment of the costs or any other obligations incurred under this Agreement.

7. The undersigned agrees to defend, indemnify and hold harmless the City, its agents, officers, officials, and employees from all claims, demands, lawsuits, writs of mandamus, and other actions or proceedings (collectively "Actions") brought against the City or its departments, commissions, agents, officers, officials, or employees to challenge, attack seek to modify, set aside, void or annul any City decision made in connection with this application or Agreement. In the event the City becomes aware of any such Actions, the City shall promptly notify the undersigned and shall cooperate fully in the defense. It is expressly agreed that the City shall have the right to approve, which approval shall not be unreasonably withheld, the legal counsel providing the City's defense, and the undersigned shall reimburse City for any attorney's fees, costs and expenses, including any plaintiff's or other third party's attorneys' fees, costs and expenses, directly and necessarily incurred by the City in the course of the defense.

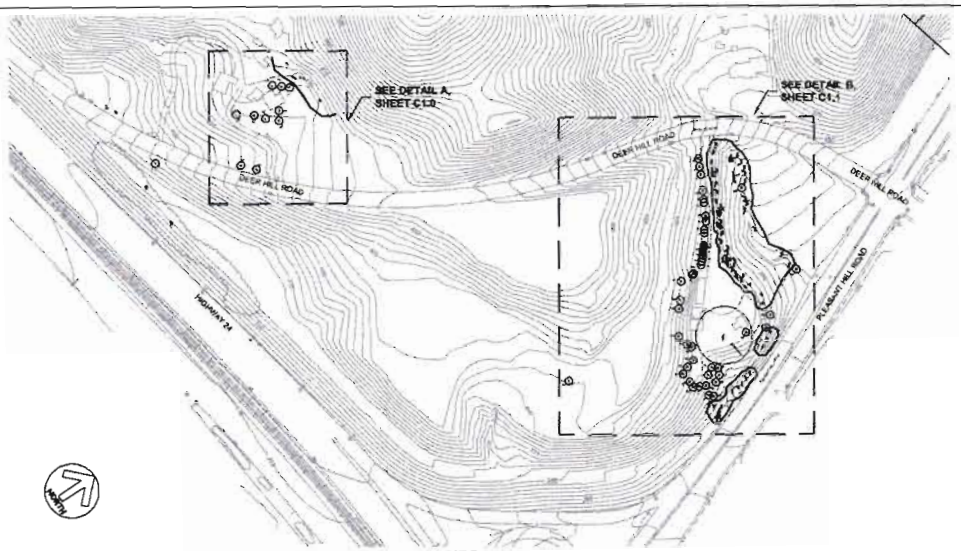
PRINT NAME: David R. Baker TELEPHONE: 916-521-4240

MAILING ADDRESS: 3527 Mt Diablo Blvd., #133 SIGNATURE: [signature]

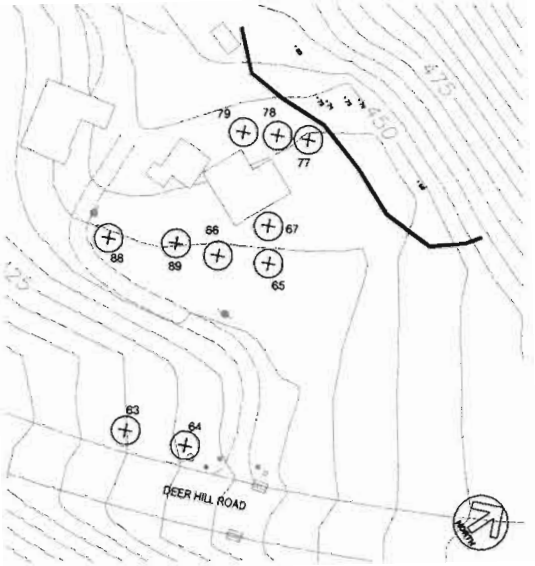
CITY, STATE, ZIP: Lafayette, CA 94549 DATE 2-29-16

NOTE: THIS DOCUMENT IS NOT TRANSFERABLE • ORIGINAL TO FINANCE • ☐ COPY TO APPLICANT • ☐ COPY TO APPLICATION FILE

APPLICATION NO._____ FOR OFFICIAL USE ONLY ACCOUNT NO._____



SITE PLAN
SCALE: 1"=150'



DETAIL A
SCALE: 1"=40'

LEGEND:

- APPROXIMATE LOCATION OF TREE PROTECTION FENCING PER DETAIL 1, SHEET C1.1. VERIFY EXACT LOCATION WITH ARBORIST IN FIELD.
- TREE TO BE REMOVED
- TREE TO BE PRESERVED

TREE PROTECTION REQUIREMENTS

- INSTALL PROTECTIVE MEASURES PER DIRECTION OF PROJECT ARBORIST. ALL EXISTING TREES TO REMAIN ARE TO BE PROTECTED WITH THE APPROPRIATE FOLLOWING MEASURES DURING CONSTRUCTION:
- A SUBSTANTIAL SIX-FOOT HIGH FENCE INSTALLED AT A MINIMUM DISTANCE OF THE DRIPLINE OF THE TREE. THE LENGTH, SPACING, DEPTH AND MATERIAL OF THE POSTS SECURING THE FENCING ARE TO BE DESIGNED TO REMAIN SOLELY IN PLACE. TWO PROTECTION FENCE DETAIL OPTIONS ARE PROVIDED. THE PROJECT ARBORIST MAY REQUIRE MODIFICATIONS TO THESE DETAILS DEPENDING ON YOUR PARTICULAR SITE CONDITIONS.
- HAY BALES AT THE BASE OF THE TRUNK FOR TRUNK PROTECTION AT CRITICAL TREES IN ADDITION TO THE FENCING, IF REQUIRED.
- TIE 2" X 4"S OR OTHER APPROVED MATERIAL TO PROTECT OVERHANGING LIMBS THAT ARE NOT RECOMMENDED FOR REMOVAL.
- TREES WHICH ARE EXCESSIVELY DAMAGED DUE TO INADEQUATE PROTECTION OR NEGLIGENCE BY THE CONTRACTOR ARE TO BE REPLACED AT CONTRACTOR'S EXPENSE. REPLACEMENT WILL BE DETERMINED IN THE SAME MANNER AS MITIGATION PLANTINGS.
- NO EQUIPMENT OR MATERIALS SHALL BE STORED INSIDE THE FENCE.

PRE-CONSTRUCTION

- PRIOR TO ANY CONSTRUCTION, A TREE PROTECTION ZONE "TPZ" SHALL BE ESTABLISHED AROUND ALL TREES BEING RETAINED. TPZ'S SHALL BE ESTABLISHED AT OR BEYOND DRIPLINES, FOR TREE #69 THE "GRAND OAK", THE TPZ SHALL BE ESTABLISHED AT 75' FROM THE BASE OF THE TREE 1.5 X'S THE DRIPLINE. WHERE SOIL IS AVAILABLE THE FENCING SHALL BE ATTACHED TO METAL STAKES DRIVEN FIRMLY (18"+-) INTO THE SOIL. STAKING SHOULD BE NO MORE THAN 8' ON CENTER. WHERE ASPHALT OR CONCRETE CURRENTLY EXISTS, POSTS ON PORTABLE STANDS WOULD BE ACCEPTABLE TO ALLOW FOR ASPHALT REMOVAL AND THEN ADJUST BACK TO DRIPLINES. SEE PLAN FOR GENERAL LOCATION OF TPZ FENCING. PROJECT ARBORIST TO WORK WITH CONTRACTOR FOR EXACT LOCATIONS PRIOR TO INSTALLATION. FENCING SHALL BE POSTED WITH SIGNS STATING TREE PROTECTION ZONE, NOTIFY PROJECT ARBORIST BEFORE ENCROACHING.
- ANY NECESSARY CLEARANCE PRUNING SHALL BE DIRECTED BY THE PROJECT ARBORIST AND PERFORMED BY ISA CERTIFIED TREE WORKERS OR CERTIFIED ARBORISTS. ALL PRUNING SHALL COMPLY WITH ISA PRUNING STANDARDS, AND BEST MANAGEMENT PRACTICES.
- TREE REMOVAL SHALL BE DONE IN A MANNER TO AVOID DAMAGE TO ADJACENT TREES. NO RIPPING OUT OF STUMPS WITH EXCAVATORS WHERE WITHIN THE DRIPLINE OF A TREE TO BE RETAINED. THOSE STUMPS MUST BE GROUND OUT. WOOD CHIPS FROM REMOVALS SHALL BE USED AS MULCH UNDER TREES TO BE RETAINED. MULCH THICKNESS SHALL BE 3-5" THICK AND KEPT AT LEAST 1FT CLEAR OF TRUNKS.

1646 NORTH CALIFORNIA BLVD SUITE 400
WALNUT CREEK, CA 94596
925-940-2200
925-940-2299 (FAX)
BKF Engineers | Planners

No. C 39251
Exp. 6.30.2014
CIVIL
STATE OF CALIFORNIA
02/26/2014

THE HOMES AT DEER HILL

TREE REMOVAL PLAN

CITY OF LAFAYETTE CONTRA COSTA COUNTY CALIFORNIA

No.	Revision

Date: 02/26/14
Scale: AS SHOWN
Design: MD
Drawn: BB
Approved: DM
Job No: 20130053

Drawing Number:
C1.0
1 of 2

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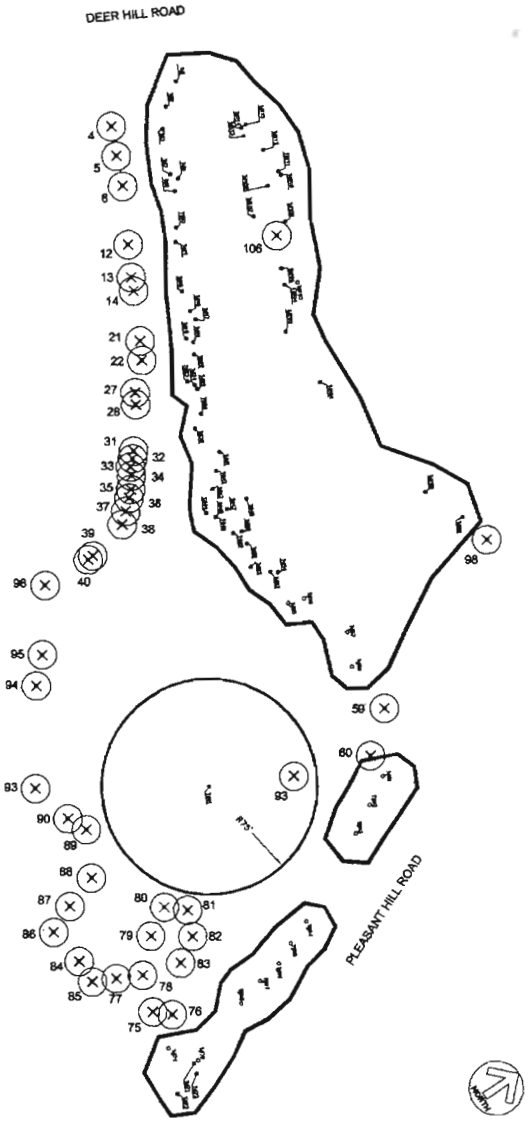


DETAIL B
SCALE: 1"=40'

LEGEND:

APPROXIMATE LOCATION OF TREE PROTECTION FENCING PER DETAIL 1, SHEET C1.1. VERIFY EXACT LOCATION WITH ARBORIST IN FIELD.

TREE TO BE REMOVED

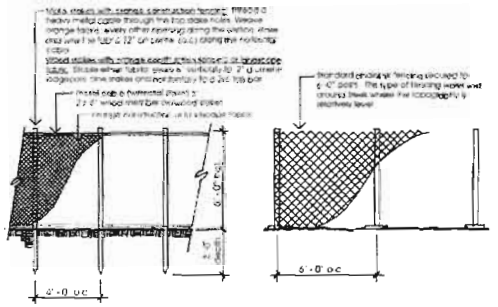
TREE TO BE PRESERVED

TREE PROTECTION REQUIREMENTS

- INSTALL PROTECTIVE MEASURES PER DIRECTION OF PROJECT ARBORIST. ALL EXISTING TREES TO REMAIN ARE TO BE PROTECTED WITH THE APPROPRIATE FOLLOWING MEASURES DURING CONSTRUCTION:
- A SUBSTANTIAL SIX-FOOT HIGH FENCE INSTALLED AT A MINIMUM DISTANCE OF THE DRIPLINE OF THE TREE. THE LENGTH, SPACING, DEPTH AND MATERIAL OF THE POSTS SECURING THE FENCING ARE TO BE DESIGNED TO REMAIN SOLIDLY IN PLACE. TWO PROTECTION FENCE DETAIL OPTIONS ARE PROVIDED. THE PROJECT ARBORIST MAY REQUIRE MODIFICATIONS TO THESE DETAILS DEPENDING ON YOUR PARTICULAR SITE CONDITIONS.
- HAY BALES AT THE BASE OF THE TRUNK FOR TRUNK PROTECTION AT CRITICAL TREES IN ADDITION TO THE FENCING, IF REQUIRED.
- TIE 2" X 4"S OR OTHER APPROVED MATERIAL TO PROTECT OVERHANGING LIMBS THAT ARE NOT RECOMMENDED FOR REMOVAL.
- TREES WHICH ARE EXCESSIVELY DAMAGED DUE TO INADEQUATE PROTECTION OR NEGLIGENCE BY THE CONTRACTOR ARE TO BE REPLACED AT CONTRACTOR'S EXPENSE. REPLACEMENT WILL BE DETERMINED IN THE SAME MANNER AS MITIGATION PLANTINGS.
- NO EQUIPMENT OR MATERIALS SHALL BE STORED INSIDE THE FENCE.

PRE-CONSTRUCTION

- PRIOR TO ANY CONSTRUCTION, A TREE PROTECTION ZONE "TPZ" SHALL BE ESTABLISHED AROUND ALL TREES BEING RETAINED. TPZ'S SHALL BE ESTABLISHED AT OR BEYOND DRIPLINES, FOR TREE #81 THE "GRAND OAK", THE TPZ SHALL BE ESTABLISHED AT 75' FROM THE BASE OF THE TREE 1.5 X'S THE DRIPLINE. WHERE SOIL IS AVAILABLE THE FENCING SHALL BE ATTACHED TO METAL STAKES DRIVEN FIRMLY (18"+-) INTO THE SOIL. STAKING SHOULD BE NO MORE THAN 8' ON CENTER. WHERE ASPHALT OR CONCRETE CURRENTLY EXISTS, POSTS ON PORTABLE STANDS WOULD BE ACCEPTABLE TO ALLOW FOR ASPHALT REMOVAL AND THEN ADJUST BACK TO DRIPLINES. SEE PLAN FOR GENERAL LOCATION OF TPZ FENCING. PROJECT ARBORIST TO WORK WITH CONTRACTOR FOR EXACT LOCATIONS PRIOR TO INSTALLATION. FENCING SHALL BE POSTED WITH SIGNS STATING TREE PROTECTION ZONE, NOTIFY PROJECT ARBORIST BEFORE ENCROACHING.
- ANY NECESSARY CLEARANCE PRUNING SHALL BE DIRECTED BY THE PROJECT ARBORIST AND PERFORMED BY ISA CERTIFIED TREE WORKERS OR CERTIFIED ARBORISTS. ALL PRUNING SHALL COMPLY WITH ISA PRUNING STANDARDS, AND BEST MANAGEMENT PRACTICES.
- TREE REMOVAL SHALL BE DONE IN A MANNER TO AVOID DAMAGE TO ADJACENT TREES. NO RIPPING OUT OF STUMPS WITH EXCAVATORS WHERE WITHIN THE DRIPLINE OF A TREE TO BE RETAINED. THOSE STUMPS MUST BE GROUND OUT. WOOD CHIPS FROM REMOVALS SHALL BE USED AS MULCH UNDER TREES TO BE RETAINED. MULCH THICKNESS SHALL BE 3-4" THICK AND KEPT AT LEAST 1FT CLEAR OF TRUNKS.



Post and Fabric Fence Options Chain Link Fence

1 TREE PROTECTION
NTS

BKF Engineers | Surveyors | Planners
1646 NORTH CALIFORNIA BLVD
SUITE 400
WALNUT CREEK, CA 94596
925-940-2200
925-940-2284 (FAX)

REGISTERED PROFESSIONAL ENGINEER
No. C 80201
Exp. 6.30.2019
07/31/2019

THE HOMES AT DEER HILL
TREE REMOVAL PLAN
CITY OF LAFAYETTE CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions

Date: 03/28/19
Scale: AS SHOWN
Design: MD
Drawn: DR
Approved: DM
Job No: 20190033

Drawing Number:
C1.1
2 OF 2

TRAVERSO TREE SERVICE
WHEN IT HAS TO BE DONE RIGHT

August 8, 2014

Dave Baker
Baker Thorn, Inc.
3527 Mt. Diablo Blvd. #133
Lafayette, CA 94549

Re: Deer Hill Tree Protection Plan

Grand Oak Initial Maintenance ASAP

- I recommend as soon as possible, and well before construction, to irrigate the oak using a portable rotary or oscillating hose end sprinkler covering the entire area within the dripline as well as 20' beyond where soil access is available. Irrigate until the soil is wetted to a minimum depth of 24", and repeat in 6 week intervals until fall leaf drop. Note. A minimum radius of 10' out from the trunk must be kept dry.
- Immediately after the first watering, I recommend the same area be vertically mulched using a 5" drill auger to a depth of 15" on 3' centers and backfill holes with a registered compost such as "*Grover Wonder Grow*" from American Soils in Richmond.
- Follow vertical mulching with a top dressing of 4-5" of chipper mulch to complete the organic amending.
- Prune to clean crown of deadwood >2" in diameter, and selective crown reduction only where scaffolds are heavy and a risk of failing, to be directed by the project arborist.
- Aerial inspect for potential hidden weaknesses and address if necessary.
- Install three props under heavy laterals that extend horizontally off the self propping pointer branch. Propping to be 2 ½" diameter heavy guage galvanized piping on a concrete base with the threaded caps lagged into the branch. Recommend painting flat black for aesthetics and longevity.
- Assuming first irrigation occurs in August 2014 (recommended), 2nd follow-up irrigation should occur in September.

Pre-construction

- Prior to any construction, a Tree Protection Zone 'TPZ' shall be established around all trees being retained. TPZ's shall be established at or beyond driplines, for tree #91 the "Grand Oak", the TPZ shall be established at 75' from the base of the tree 1.5 x's the dripline. Where soil is available the fencing shall be attached to metal stakes driven firmly (18"+-) into the soil. Staking should be no more than 8' on center. Where asphalt or concrete currently exists, posts on portable stands would be acceptable to allow for asphalt removal and then adjust back to driplines. See Tree Preservation Map for general location of TPZ fencing. PA *Project Arborist* to work with developer for exact locations prior to installation. Fencing shall be posted with signs stating *Tree Protection Zone, Notify Project Arborist Before Encroaching.*
- Any necessary clearance pruning shall be directed by the PA and performed by ISA certified tree workers or certified arborists. All pruning shall comply with ISA Pruning Standards, and Best Management Practices.
- Tree removals #'s 4-6, 12-14, 21, 22, 27, 28, 31-40, 59, 60, 69, 75-90, 93-98, 106, & 107 (48 total), shall be done in a manner to avoid damage to adjacent trees, no ripping out of

stumps with excavators where within the dripline of a tree to be retained. Those stumps must be ground out. Wood chips from removals shall be used as mulch under trees to be retained. Mulch thickness shall be 3-5" thick and kept at least 1ft. Clear of trunks.

- General, Demolition, and Grading contractors shall have an on site pre-construction meeting with PA to go over tree protection measures, and confirm TPZ's are in place.

Demolition Phase Grand Oak

- Demo contractor shall be required to have the Project Arborist on site when removing the existing structures, asphalt, and pathways under the tree canopy and out to a minimum radius of 75' out from the base of the oak.
- The foundation and patio around the base of tree will need to be broken up with jack hammers and carefully pulled away from the tree under the Project Arborist's supervision.
- All equipment access within 75' of the tree must operate over trench plates or 1" plywood sheeting (if light enough equipment) on top of the 4" layer of chipper mulch to avoid re-compaction of the soil.
- East-west cross footings and under-story piers beyond 20' from the base of the tree may be utilized for future decking to allow for access under the north canopy without having to increase impact to root zone.
- After home and all necessary foundation is removed, all of the newly accessible soil areas within footings and out to 75' from the base of the tree shall be irrigated, vertically composted and mulched as was done for the initial maintenance phase. Recommend top mulch be 6" thick in this area under the proposed decking to support workman activities, and for longevity.
- Other than the allowed decking that must be able to utilize existing footings and piers, no other encroachments shall be allowed within 50' of the tree. If existing footing cannot be used, then no decking will be allowed within 50' of the tree.
- From 50' to 75' out from the Grand Oak, no grade changes, trenching or soil compaction is allowed. Section of bathroom pad on grade, and drilling for aerial bike path in this zone is acceptable under arborist supervision.

General Site Grading & Construction

- Any adjustment of TPZ fencing, for asphalt & structure removal or grading, shall require confirmation with PA.
- To move forward without PA needed on site, TPZ fencing must be re-established at or outside the driplines, or at 75' for the Grand Oak.
- Peeling back asphalt over root zones of oaks along existing driveway shall be monitored by the PA, and done in a manner to avoid ripping or tearing shallow roots just under asphalt.
- Should any roots over 2" in diameter be damaged in the demolition or grading process, the project arborist shall be notified, and roots shall be cleanly pruned, covered and irrigated. If roots cannot be covered with soil, they shall be covered with burlap and wetted 2x's a day until they can be covered.
- TPZ's shall be kept clean and void of equipment, fuels and other toxic materials, with no storage of construction related materials, fill soils, or supplies.
- TPZ fencing shall remain in an upright and sturdy manner at all times.
- Recommend having the PA monitor soil moisture and conditions around trees on a monthly basis.

Installation of Aerial Section of Bike Path Through TPZ for Grand Oak

- Installation of piers for bike bridge over TPZ for Grand Oak to be monitored by PA. Drilling equipment must be supported by plating over a bed of mulch when within TPZ, and kept as far from the tree as possible.
- Piers for bridge shall remain outside the primary 50' radius from the tree.

Installation of Storm Drain by Grand Oak

- Storm drain will be 50' from the oak at the closest point. Idealy I would recommend adjusting to outside the 75' perimeter if possible.
- If pipe depth is below 3', horizontal boring would be another low impact possibility.
- If open trenching is the only alterative, than a combination of closely monitored backhoe trenching that may require some hand or airspade digging to get around any roots over 2" in diameter. Must be monitored by the PA.

Installation of Decking Within TPZ for Grand Oak

- The only acceptable location for decking under the Grand Oak is where the existing home is currently located and at least 20' north of the tree.
- Utilize the two parallel east to west footings at approximately 20 and 50' from tree for decking support. Existing piers within those footings may be utilized as well. Additional footings are not advised.
- Decking crew must meet with project arborist prior to installation.
- Working area for decking crew must be mulched prior to construction.
- The completed decking shall have a perimeter fence on the oak side that connects to a continual perimeter fence around the oak at the 75' radius to discourage activity off the decking and under the oak.
- **NOTE:** Portion of the canopy over decking seems to be less elongated and better structured for pedestrians to gather, however, other portions of the canopy to the southwest appear to be less reliable, making the perimeter fencing to control pedestrian traffic, not just for tree protection measures, but human protection as well. Tree will need to be monitored over decking periodically for maintenance.

Landscaping Phase

- Landscape contractor shall meet with the project arborist prior to working on site.
- No landscaping or irrigation shall be allowed within 50' of Grand Oak. Only mulch.
- Planting within the 50-75' radius shall be "Oak Compatible", consisting of natives, and drought tolerant plants. No ground covers, or turf. Planting in this zone should be well spaced and irrigated with a plant specific system such as drip or bubblers. Overhead spray nozzles are not recommended.
- For smaller oaks, recommend avoiding landscaping and irrigation within driplines.
- Pathways must be installed in a root friendly manner when within driplines. consider using a fine DG like gravel as opposed to pavers or concrete to avoid needing to grade and cut roots.

John C Traverso
BCMA Arborist #0206-B
Tree Risk Assessor #994

TRAVERSO TREE SERVICE
WHEN IT HAS TO BE DONE RIGHT

Tree Preservation Report

August 4, 2014

"Homes At Deer Hill"
Lafayette, CA 94549

Prepared for:

David Baker
O'Brien Land Company, LLC

By

John C Traverso
BCMA Arborist #0206-B

Table of Contents

INTRODUCTION

The proposed improvements reviewed in this report consist of the removal of the existing structures on site, and developing a 44 unit subdivision, complete with soccer field, park, hiking and bike paths. There are many protected oaks on the site, including one very large over-mature valley oak, deemed "The Grand Oak" that the city of Lafayette has required to be retained. This report shall address the proposed improvements and make recommendations for tree preservation.

ASSIGNMENT

Per the City of Lafayette's Tree Protection Ordinance, this arborist report shall include the following.

1. Tag, identify, an measure trunk diameters at 4.5' above grade for all trees that are 6" and larger that are on or overhanging the site.
2. Locate driplines and tree #'s on the site map
3. Identify tree health and structural condition.
4. Based on age, condition, and proposed site improvements, make recommendations for tree preservation during construction.

SUMMARY

There were 117 trees inventoried at the start of this project in March of 2011 that fit the cities description as "Protected". Species diversity consisted of 77 coast live oaks, 11 black walnuts, 6 valley oaks, 6 cedar, 6 willows, 5 stone pine, and one each of Coulter pine, Monterey pine, iron bark eucalyptus, carob, plum, and blackwood acacia.

The proposed improvements will necessitate the removal of 48 trees. The remaining 69 trees, to include the "Grand Oak" can be retained given the protections measures recommended in this report are adhered to.

LIMITING FACTORS

This report is based on information gathered from several site visits ranging from March of 2011 to July of 2014, along with the Vesting Tentative Map & Grading Plans produced by BKF Engineering dated July 31st, 2014. It was assumed the trees and proposed improvements were accurately surveyed.

The health and structure of the trees were assessed visually from ground level. No drilling, root excavation, or aerial inspections were performed. Internal or non-detectable defects may exist, and could lead to part or whole tree failures. Due to the dynamic nature of trees and their environment, it is not possible for arborists to guarantee that trees will not fail in the future.

TREE INVENTORY & ASSESSMENT

The following tree inventory was taken in 2011 with key trees, such as the Grand Oak, looked at frequently over the recent months. Tree numbers and field tags are in sequential order from #1 - #118, with tags #26 & #75 omitted for a total of 116 trees.

Tree Assessment Table Legend

DBH = Trunk diameter based on circumference measured at 4.5' above grade.

Health & Structure

Poor Condition: Stunted or declining canopy, poor foliar color, possible disease or insect issues. Severe structural defects that may or may not be correctable. Usually not a reliable specimen for preservation.

Fair Condition: Fair to moderate vigor. Minor structural defects that can be correctable. More susceptible to construction impacts than a tree in good condition.

Good Condition: Good vigor, and color, with no obvious problems or defects. Generally more resilient to impacts.

Canopy Radius: Branch spread measured from the trunk to the furthest extension of the branch tips, also known as "Drip Line".

Stand Structure "SS"

"D" = Dominant tree (open grown, or overpowering adjacent trees)
"CD" = Co-dominant tree (equally competing with adjacent tree(s)).
"SD" = Sub-dominant tree (overshadowed by a dominant tree).
"S" = Suppressed tree (completely under the cover of adjacent dominant trees, stunted growth).

Construction Impact "CI"

"H" - High Impact: Generally means the tree would not likely survive proposed encroachment
"M" - Moderate Impact: Generally means the tree dripline will be encroached, but could be retained with protection measures.
"L" - Low Impact: Generally means dripline encroachment can be avoided.

Note: Both Common & Latin names are listed the first time a new species appears in the table, otherwise only common names are used.

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
1	Coast Live Oak *Quercus agrifolia*	20 ½", 15	Good	Fair	N W 25'				CD	Existing asphalt removed with some grading at edge of dripline	L-M	Save
2	Coast Live Oak	15", 16", 9", 13"	Good	Fair	25'	25'	25'	25'	CD	Co-dominant stems at base. Existing asphalt removed with some grading at edge of dripline	M	Save
3	Coast Live Oak	15", 15½ ", 11½", 20	Good	Fair			SE 30'		CD	Co-dominant stems at base. Existing asphalt removed with some grading at edge of dripline	M	Save
4	Coast Live Oak	14½", 22", 14.	Good	Fair	25'	30' '	25'	30'	D	Co-dominant stems at base, trunk buried, possibly 2 trees	H	Remove
5	Coast Live Oak	9", 5"	Fair	Fair	15'	15'	15'	15'	SD	Co-dominant stems at base, trunk buried.	H	Remove
6	Coast Live Oak	17", 14½"	Good	Fair	20'	20'	20'	20'	D	Co-dominant stems at base. Within grade limits for soccer field.	H	Remove
7	Coast Live Oak	10", 9½", 6", 6"	Good	Fair	15'	15'	15'	15'	CD	Co-dominant stems at base. Existing asphalt removed with some grading at edge of dripline	M	Save
8	Coast Live Oak	8"	Good	Fair		12'			S	Stunted under-story tree	L	Save
9	Coast Live Oak	6½"	Good	Fair		8'			S	Stunted under-story tree	L	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
10	Coast Live Oak	6½", 8", 4"	Good	Fair	8'	8'	8'	8'	CD	Co-dominant stems at base. Existing asphalt removed with some grading at edge of dripline	M	Save
11	Coast Live Oak	5", 6", 7"	Good	Fair	10'	10'	10'	10'	CD	Co- dominant stems at base. Existing asphalt removed with some grading at edge of dripline	M	Save
12	Coast Live Oak	7½"	Good	Good	8'	8'	8'	8'	CD	Within grade limits for soccer field.	H	Remove
13	Coast Live Oak	12", 6", 8", 5", 7"	Good	Fair	N W 15'				CD	Within grade limits for soccer field.	H	Remove
14	Coast Live Oak	12½", 9	Good	Fair		SE 15'		S W 15'	CD	Within grade limits for soccer field.	H	Remove
15	Coast Live Oak	11", 7½", 11, 13½ ", 10	Good	Fair	20'	20'	20'	20'	D	Multiple co-dominant stems. Existing asphalt removed with some grading at edge of dripline	M	Save
16	Coast Live Oak	8", 11½", 6	Good	Fair	NE 15'		SE 15'		SD	Existing asphalt removed with some grading at edge of dripline	M	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
17	Coast Live Oak	7", 5"	Good	Fair			SE 12'		S	Stunted understory tree. Existing asphalt removed with some grading at edge of dripline.	L	Save
18	Coast Live Oak	6½", 4, 3½"	Good	Fair	10'	10'	10'	10'	SD	Existing asphalt removed with some grading at edge of dripline.	M	Save
19	Coast Live Oak	7"	Good	Fair	8'				S	Stunted understory tree.	L	Save
20	Valley Oak Quercus lobata	19"	Fair	Fair	18'	18'	18'	18'	D	Existing asphalt removed with some grading at edge of dripline.	M	Save
21	Coast Live Oak	11", 13", 11", 14", 7"	Good	Fair	20'	20'	20'	20'	D	Within grade limits for soccer field.	H	Remove
22	Coast Live Oak	9", 5", 5", 8"	Good	Fair			SE 15'	S W 15'	SD	Within grade limits for soccer field.	H	Remove
23	Coast Live Oak	9"	Good	Fair			SW 18'		CD	Existing asphalt removed with some grading at edge of dripline.	M	Save
24	Coast Live Oak	8", 4", 5", 10½", 6"	Good	Fair			SE 18'	S W 15'	CD	Buried, multi trunk out of the ground. Existing asphalt removed with some grading at edge of dripline.	M	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
25	Coast Live Oak	8", 6", 7"	Good	Fair			SE 15'		CD		L	Save
27	Coast Live Oak	7 ½"	Good	Fair	N W 12'				S	Tree leans 30 degrees to the northwest	H	Remove
28	Valley Oak *Quercus lobata*	17"	Good	Good	22'	22'	22'	22'	D	Within grade limits for soccer field.	H	Remove
29	Coast Live Oak	7", 8"	Good	Poor			SE 12 '		CD	Included crotch at base. 5" valley oak growing up through the middle of the tree	L	Save
30	Coast Live Oak	7", 8", 4", 3", 3"	Good	Fair	12'	12'	12'	12'	CD	Existing asphalt removed with some grading at edge of dripline.	M	Save
31	Coast Live Oak	10", 9", 9"	Fair	Fair	N W 18'				SD	Within grade limits for soccer field.	H	Remove
32	Valley Oak	17"	Good	Good	NE 20'		15	15	D	Within grade limits for soccer field.	H	Remove
33	Coast Live Oak	7", 6½", 9"	Good	Fair			SW 15"'		SD	Tree leans 30% to the southwest. Within grade limits for soccer field.	H	Remove
34	Coast Live Oak	6", 12", 11"	Good	Fair		20'	15'	15'	CD	Within grade limits for soccer field.	H	Remove

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
35	Coast Live Oak	11", 8½"	Good	Fair		20'	10'	15'	CD	Within grade limits for soccer field.	H	Remove
36	Coast Live Oak	8 ½", 6½	Good	Fair	15'	S W 15r '			CD	Within grade limits for soccer field.	H	Remove
37	Coast Live Oak	7", 7", 6", 6"	Good	Fair	NE 18'		SW 15'		CD	Within grade limits for soccer field.	H	Remove
38	Coast Live Oak	8", 7 ½", 13"	Good	Fair	NE 18'		SE 18'		CD	Within grade limits for soccer field.	H	Remove
39	Coast Live Oak	12", 10"	Good	Poor	NE 18'		SE 15'	15'	CD	Co-dominant stems, Included main crotch. Within grade limits for soccer field.	H	Remove
40	Coast Live Oak	11 ½"	Good	Fair			SW 15'	'		Within grade limits for soccer field.	H	Remove
41	Black Walnut *Juglans californica*	7", 4", 4", 6", 5"	Good	Good	15'	15'	SW 10'		D		L	Save
42	Coast Live Oak	8 ½"	Good	Fair	SE 12'			8'	SD		L	Save
43	Coast Live Oak	15"	Good	Good	18'	12'	8'	20'	CD		L	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
44	Coast Live Oak	13", 12"	Good	Poor	12'	12'		S W 20'	CD	Co-dominant stems, included crotch. Existing asphalt removed with some grading at edge of dripline.	M	Save
45	Coast Live Oak	8"	Fair	Fair	NE 12'			'	SD		L	Save
46	Coast Live Oak	10", 11	Good	Fair			18'		CD	Existing asphalt removed with some grading at edge of dripline.	M	Save
47	Coast Live Oak	11"	Good	Fair	NE 15'				CD		L	Save
48	Incense Cedar *Calocedrus decurrens*	10"	Good	Fair	NE 12'				S	Leans out from under coast live oak	L	Save
49	Coast Live Oak	13 ½"	Good	Fair			22'		CD	Existing asphalt removed with some grading at edge of dripline.	M	Save
50	Coast Live Oak	11", 13", 9", 9"	Good	Fair	NE 22'				CD		L	Save
51	Coast Live Oak	9"	Fair	Fair	NE 12'				SD		L	Save
52	Coast Live Oak	16", 14", 13"	Good	Fair	N W 20'	15'	SW 23'		D	Existing asphalt removed with some grading at edge of dripline.	M	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
53	Coast Live Oak	9"	Good	Fair	15'				SD		L	Save
54	Incense Cedar	9"	Good	Fair	NE 8'				SD		L	Save
55	Coast Live Oak	32"	Good	Fair	23'	23'	23'	23'	D	Very nice tree. Existing asphalt removed with some grading at edge of dripline.	M	Save
56	Incense Cedar	13"	Good	Good	15'	15'	15'	6'	SD		L	Save
57	Incense Cedar	11", 5"	Good	Good	8'	8'	8'	8'	D		L	Save
58	Incense Cedar	15"	Good	Good	9'	9'	9'	9'	D		L	Save
59	Incense Cedar	13"	Good	Good	8'	8'	8'	8'	D	Grade changes	H	Remove
60	Coast Live Oak	6", 19", 18", 9:	Fair	Fair	20'	20'	20'	20'	D	Grade changes	H	Remove
61	Coast Live Oak	10", 10"	Good	Poor		12'	12'		SD	Co-dominant stems, Included main crotch. Remove S/W secondary competing leader to improve structure. Just outside P/L, 10' from bike path.	M	Save
62	Coast Live Oak	9", 7", 8"	Good	Good	15'	15'	15'	15'	CD	Co-dominant stems, Included main crotch. Remove S/W secondary competing leader to improve structure. Just outside P/L, 10' from bike path.	M	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
63	Valley Oak	10"	Good	Fair	12'	12'	12'	12'	D	Proposed abutment for take off of elevated portion of bike path, just a few feet from base of tree. Young tree could be saved with careful construction.	M	Save
64	Coast Live Oak	13", 11"	Good	Good	15'	15'	15'	15'	D	Outside P/L. Grading just outside dripline.	L	Save
65	Coast Live Oak	4", 7", 8", 4"	Fair	Fair	12'	12'	12'	12'	SD	Outside P/L. Grading just inside dripline.	M	Save
66	Italian Stone Pine *Pinus pinea*	16"	Good	Fair		15'			D	Outside P/L. Grading just inside dripline. Topped by PG&E	M	Save
67	Coast Live Oak	5 ½", 5", 4"	Fair	Fair	12'	12'	12'	12'	S	On P/L Grading just inside dripline. Stunted under-story tree.	M	Save
68	Coast Live Oak	6", 12", 9"	Good	Fair			12'	12'	CD	On P/L Grading just inside dripline.	M	Save
69	Coast Live Oak	9", 10", 10"	Fair	Fair		15'	15'		SD	Within grading limits.	H	Remove
70	Coast Live Oak	9", 6", 5"	Good	Good	15'	15'	8'	8'	CD		L	Save
71	Coast Live Oak	7"	Good	Fair			8'	8'	SD		L	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
72	Coast Live Oak	6", 5½", 5", 5"	Fair	Poor		15'	8'	8'	SD	Included crotch	L	Save
73	Valley Oak	22 ½"	Good	Fair	22'	22'	22'	22'	D	Located 6' outside of property line- neighbors tree	L	Save
74	Coast Live Oak	9"	Good	Poor	8'	8'	8'	8'	CD	Co-dominant stems	L	Save
75	Coast Live Oak	8"	Fair	Fair	6'	8'	8'	6'	SD	Significant grading.	H	Remove
76	Coast Live Oak	8"	Fair	Fair	10'	10'			S	Significant grading.	H	Remove
77	Coast Live Oak	21"	Good	Good	12'	12'	20'	20'	D	Significant grading.	H	Remove
78	Coast Live Oak	12", 10", 14"	Good	Fair	10'	20'	15'	15'	SD	Significant grading. Co-dominant trunks	H	Remove
79	Coast Live Oak	8", 6", 11", 12", 8", 5""	Good	Fair	22'	22'	15'		SD	Significant grading. Multiple inclusions at base	H	Remove
80	Coast Live Oak	7", 5"	Good	Fair	15'				S	Significant grading.	H	Remove
81	Coast Live Oak	19", 19", 17"	Good	Fair	25'	25'	25'	25'	D	Co-dominant stems	H	Remove
82	Coast Live Oak	8"	Fair	Poor			18'	18'	S	Significant grading. Tree leans at 40 degree angle, potential roof failure	H	Remove
83	Coast Live Oak	8", 8", 7"	Good	Fair		15'	15'		SD	Significant grading.	H	Remove

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
84	Coast Live Oak	13", 14"	Good	Fair	15'	15'	15'	15'	D	Significant grading.	H	Remove
85	Coast Live Oak	14", 13", 11", 7"	Good	Poor	15'	25'	25'	25'	D	Significant grading. Partially uprooted, large fractured limbs, metal stake in trunk	H	Remove
86	Coast Live Oak	9"	Good	Fair		15'	15'		SD	Significant grading.	H	Remove
87	Coast Live Oak	12 ½", 14, 8½", 13", 12", 6", 10½"	Good	Fair	25'	25'	25'	25'	D	Significant grading.	H	Remove
88	Coast Live Oak	21"	Good	Fair	25'	25'	25'	25'	D	Significant grading.	H	Remove
89	Coast Live Oak	16", 17"	Good	Poor	15'	20'	20'	20'	SD	Significant grading.	H	Remove
90	Valley Oak	20"	Good	Good	20'	20'	20'	20'	D	Significant grading.	H	Remove
91	Valley Oak	58"	Fair	Fair- Poor	30'	35'	50'	35'	D	Over-mature (past 2/3's of expected life span. Estimate >200 yrs) Extensive branch elongation and decay, although still showing decent vigor for age, a portion of the S/W canopy appears drought stressed. Growing through existing house. Maybe 50 +- years left. Will need to consider a 75' radius for tree protection.	L	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
92	Carob *Ceratonia siliqua*	10", 7", 11", 9", 9", 10", 7", 9", 8", 8"	Poor	Fair	18'	18'	18'	18'	D	Under Grand Oak. Stunted growth, dieback in canopy. Rangy tree.	H	Remove
93	Stone Pine	25"	Good	Poor		25'	25'	20'	D	Partially uprooting, old rotational soil failure. Saturated soils lost grip on roots.	H	Remove
94	Stone Pine	20", 20"	Good	Poor		25	25'	20'	CD	Co-dominant, included trunks with a 20 degree lean	H	Remove
95	Stone Pine	20"	Good	Fair	20'	20'	20'	20'	CD	15 degree lean.	H	Remove
96	Stone Pine	20", 11"	Good	Good	15'	20'	20'	15'	D	Only upright stone pine on site. Species typically develop leans, and eventually uproot.	H	Remove
97	Acacia Baileniana	7", 6½"	Good	Poor	8'	8'	8'	8'	D	Included stems. Isolated on top of property by old storage containers.	H	Remove
98	Black Walnut	5", 4", 3", 4"	Good	Fair	10'	10'	10'	10'	CD	Trees #98 - #115 are all located along what appears to be a seasonal stream, and are riparian type species.	H	Remove
99	Arroyo Willow *Salix lasiolepis*	9"	Good	Fair	15'				D	Grading for lower parking lot within dripline.	M	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
100	Black Walnut	6"	Good	Good	8'	8'	8'	8'	D	Grading for lower parking lot within dripline.	M	Save
101	Purple Leaf Plum	6", 5", 5", 4"	Fair	Fair	8'	8'	8'	8'	D	Grading for lower parking lot within dripline.	M	Save
102	Black Walnut	8 ½"	Good	Good	10'	10'	10'	10'		Falling apart in creek	M	Save
103	Arroyo Willow	8", 3", 3", 3", 4"	Fair	o	10'	10'	10'	15'	CD	In creek. Grading for lower parking lot within dripline.	M-H	Save
104	Arroyo Willow	13"	Fair	Fair		15'			CD	In Creek. Grading for lower parking lot within dripline.	M	Save
105	Arroyo Willow	15", 10"	Fair	Fair	15'	15'			DC	In creek. Grading for lower parking lot within dripline.	M	Save
106	Black Walnut	5", 5", 4", 3"	Fair	Fair	15'				SD	Conflicts with bridge from lower parking lot.	H	Remove
107	Black Walnut	7", 10", 5", 4", 3", 6", 7", 6"	Good	Fair	18'	18'	18'	18'	D	Adjacent to proposed elevated walk abutment. Sensitive species.	H	Remove
108	Black Walnut	7", 4", 6", 6"	Good	Fair	15'				SD	Adjacent to bridge.	M-H	Save
109	Black Walnut	9"	Good	Fair		15'	15'		CD	Grading for lower parking lot within dripline.	M	Save
110	Coast Live Oak	7""	Good	Fair	6'	6'	6'	6'	CD		L	Save

Tag #	Species	DBH	Health	Structure	Canopy Radius N	S	E	W	SS	Comments	CI	Action
111	Black Walnut	6", 5", 3", 5", 6", 6", 5", 5"	Good	Fair	18'	18'	18'	18'	CD		L	Save
112	Black Walnut	4",4",4", 5", 5", 5", 4", 4", 7", 6"	Good	Poor	15'	15'	20'	20'	D	Multiple poor attachments. Included crotches.	L	Save
113	Willow	12"	Good	Fair			20'	20'	CD	Grading for lower parking lot within dripline.	M	Save
114	Black Walnut	5"	Good	Fair			10'	10'	S	Grading for lower parking lot within dripline.	M	Save
115	Willow	10", 18"	Fair	Fair	35'			35'		Grading for lower parking lot within dripline.	M	Save
116	Coulter Pine *Pinus coulteri*	30"	Good	Fair	14'	14'	14'	14'	D	Co-dominant leaders	M	Save
117	Monterey Pine *Pinus radiata*	20"	Good	Fair	20'	20'	20'	20'		On neighboring property - hangs 10' over the property	L	Save
118	Iron Bark Eucalyptus *Eucalyptus sideroxylon*	17"	Good	Fair	25'	25'	25'	25'		On neighboring property- 15' from the 2' retainer wall and fill. .	M	Save

TREE RECOMMENDED FOR REMOVAL
#'s 4-6, 12-14, 21, 22, 27, 28, 31-40, 59, 60, 69, 75-90, 93-98, 106, & 107 (48 total)

TREES RECOMMENDED FOR RETENTION
1-3, 7-11, 15-20, 23-26, 29, 30, 41-58, 61-68, 70-74, 99-105, & 108-118 (69 total)

TREES BEING RETAINED THAT WILL HAVE THEIR DRIPLINES ENCROACHED
By either demolition or construction: #'s 1-3, 7, 10, 11, 15, 16, 18, 20, 23, 24, 30, 44, 46, 49, 52, 55, 61-63, 64-68, 91, 100-105,108, 109, 113-116, & 118. (39 total)

DISCUSSION

General
With the exception of the "Grand Oak", most of the oaks being saved are fairly young and in good condition, making them more resilient to proposed encroachments. Approximately 50% of the 39 trees being encroached will be encroached during the demolition phase where existing asphalt or structures within driplines will be removed. Given this is done carefully under arborist supervision, the conditions will ultimately be improved for these trees. Protection fencing at driplines, and the presence of the *Project Arborist* "PA" when driplines must be encroached, shall be the required protocol.

Grand Oak
The Grand Oak is a 58" diameter valley oak that is probably in excess of 200 years old. This tree is unique in its age and structure, however, it is in its twilight years. I suspect the tree could have 50 years or more of life left in it given good cultural care is provided. One of the more structurally unique forms in the tree is that a large dominant westerly scaffold branch extends out a good 30 feet before dipping down to the ground in a self propping manner, and then continuing on another 20' or so. I believe the Native Indians used to call these "Pointer Branches" by which to navigate with.

Currently there is an old home occupying a large portion of the root zone under the north canopy, with the foundation and patio wrapping around the base of the tree. The tree has grown around portions of the structural wood from the eves of the home causing some wounding and decay in the lower crotches. Organic debris build up, critical to the health of mature oaks, has been limited due to the under-story structure and nearby parking lot, and has not been allowed to build up elsewhere to the extent that a healthy forest tree would enjoy.

The photo at the front of this report shows that the west canopy (to the right in the photo) is not as vigorous as the rest of the tree, and that there is some terminal growth that has started to dieback. I suspect the age, surroundings, and current historic drought conditions are all playing a part in the trees condition, not atypical for an over-mature tree.

For this tree to remain viable in the landscape, not only will an expansive protection zone be necessary, but improvements of the root zone through composting, top mulching, and judicial irrigating, will be needed to improve the trees current condition. I understand that the uniqueness of this tree make it a desirable location to visit and hold events, such as weddings

or parties, however, a design that avoids future soil compaction, and limits public liability will need to be employed to successfully protect the tree and those around it.

Great efforts have been made in creating a design that will improve conditions, while allowing some access near the oak without negative effects. My goal and recommendation have been to apply a 150' diameter protection zone or 75' radius around the Grand Oak where no negative impacts will occur, and a 50' radius where simply no encroachment, less demolition, would occur.

While it is critical to remove the existing structure, and concrete footings encompassing the trunk, removal of the remaining northerly foundations may not improve conditions, which has brought up an idea of using a portion of the existing foundation under the northern canopy to support new decking. This would allow access within the 50' range without additional encroachment.

In visually looking under the home, the closest east to west footing I would allow to be left is approximately 20' from the tree. There is a long gap between that footing and the north end of the home of just over 30', that would have to be bridged, however, there are several piers scattered throughout that could be utilized for support as well. All soil areas within and throughout the retained footings would need to be improved as well through composting, mulching, and irrigating prior to any deck work.

RECOMMENDATIONS FOR TREE PRESERVATION

Grand Oak Initial Maintenance ASAP

- I recommend as soon as possible, and well before construction, to irrigate the oak using a portable rotary or oscillating hose end sprinkler covering the entire area within the dripline as well as 20' beyond where soil access is available. Irrigate until the soil is wetted to a minimum depth of 24", and repeat in 6 week intervals until fall leaf drop. Note. A minimum radius of 10' out from the trunk must be kept dry.
- Immediately after the first watering, I recommend the same area be vertically mulched using a 5" drill auger to a depth of 15" on 3' centers and backfill holes with a registered compost such as "*Grover Wonder Grow*" from American Soils in Richmond.
- Follow vertical mulching with a top dressing of 4-5" of chipper mulch to complete the organic amending.
- Prune to clean crown of deadwood >2" in diameter, and selective crown reduction only where scaffolds are heavy and a risk of failing, to be directed by the project arborist.
- Aerial inspect for potential hidden weaknesses and address if necessary.
- Install three props under heavy laterals that extend horizontally off the self propping pointer branch. Propping to consist of 2 ½" diameter heavy guage galvanized piping on a concrete base, with the threaded end caps lagged into the branch. Recommend painting flat black for aesthetics and longevity.
- Assuming first irrigation occurs in August 2014 (recommended), 2nd follow-up irrigation should occur in September.

Pre-construction

- Prior to any construction, a Tree Protection Zone 'TPZ' shall be established around all trees being retained. TPZ's shall be established at or beyond driplines, for tree #91 the "Grand Oak", the TPZ shall be established at 75' from the base of the tree 1.5 x's the dripline. Where soil is available the fencing shall be attached to metal stakes driven firmly (18"+-) into the soil. Staking should be no more than 8' on center. Where asphalt or concrete currently exists, posts on portable stands would be acceptable to allow for asphalt removal and then adjust back to driplines. See Tree Preservation Map for general location of TPZ fencing. PA *Project Arborist* to work with developer for exact locations prior to installation. Fencing shall be posted with signs stating *Tree Protection Zone, Notify Project Arborist Before Encroaching.*
- Any necessary clearance pruning shall be directed by the PA and performed by ISA certified tree workers or certified arborists. All pruning shall comply with ISA Pruning Standards, and Best Management Practices.
- Tree removals #'s 4-6, 12-14, 21, 22, 27, 28, 31-40, 59, 60, 69, 75-90, 93-98, 106, & 107 (48 total), shall be done in a manner to avoid damage to adjacent trees, no ripping out of stumps with excavators where within the dripline of a tree to be retained. Those stumps must be ground out. Wood chips from removals shall be used as mulch under trees to be retained. Mulch thickness shall be 3-5" thick and kept at least 1ft. Clear of trunks.
- General, Demolition, and Grading contractors shall have an on site pre-construction meeting with PA to go over tree protection measures, and confirm TPZ's are in place.

Demolition Phase Grand Oak

- Demo contractor shall be required to have the Project Arborist on site when removing the existing structures, asphalt, and pathways under the tree canopy and out to a minimum radius of 75' out from the base of the oak.
- The foundation and patio around the base of tree will need to be broken up with jack hammers and carefully pulled away from the tree under the Project Arborist's supervision.
- All equipment access within 75' of the tree must operate over trench plates or 1" plywood sheeting (if light enough equipment) on top of the 4" layer of chipper mulch to avoid re-compaction of the soil.
- East-west cross footings and under-story piers beyond 20' from the base of the tree may be utilized for future decking to allow for access under the north canopy without having to increase impact to root zone.
- After home and all necessary foundation is removed, all of the newly accessible soil areas within footings and out to 75' from the base of the tree shall be irrigated, vertically composted and mulched as was done for the initial maintenance phase. Recommend top mulch be 6" thick in this area under the proposed decking to support workman activities, and for longevity.
- Other than the allowed decking that must be able to utilize existing footings and piers, no other encroachments shall be allowed within 50' of the tree. If existing footing cannot be used, then no decking will be allowed within 50' of the tree. Some new piers would be acceptable outside the 50' range only if N/W of the existing home foundation where root activity is likely to be minimal. Shall be supervised by PA>
- From 50' to 75' out from the Grand Oak, no grade changes, trenching or soil compaction is allowed. Section of bathroom pad on grade, and drilling for aerial bike path in this zone

is acceptable under arborist supervision.

General Site Grading & Construction

- Any adjustment of TPZ fencing, for asphalt & structure removal or grading, shall require confirmation with PA.
- To move forward without PA needed on site, TPZ fencing must be re-established at or outside the driplines, or at 75' for the Grand Oak.
- Peeling back asphalt over root zones of oaks along existing driveway shall be monitored by the PA, and done in a manner to avoid ripping or tearing shallow roots just under asphalt.
- Should any roots over 2" in diameter be damaged in the demolition or grading process, the project arborist shall be notified, and roots shall be cleanly pruned, covered and irrigated. If roots cannot be covered with soil, they shall be covered with burlap and wetted 2x's a day until they can be covered.
- TPZ's shall be kept clean and void of equipment, fuels and other toxic materials, with no storage of construction related items, fill soils, or supplies.
- TPZ fencing shall remain in an upright and sturdy manner at all times.
- Recommend having the PA monitor soil moisture and conditions around trees on a monthly basis.

Installation of Aerial Section of Bike Path Through TPZ for Grand Oak

- Installation of piers for bike bridge over TPZ for Grand Oak to be monitored by PA. Drilling equipment must be supported by plating over a bed of mulch when within TPZ, and kept as far from the tree as possible.
- Piers for bridge shall remain outside the primary 50' radius from the tree.

Installation of Storm Drain by Grand Oak

- Storm drain will be 50' from the oak at the closest point. Idealy I would recommend adjusting to outside the 75' perimeter if possible.
- If pipe depth is below 3', horizontal boring would be another low impact possibility.
- If open trenching is the only alterative, than a combination of closely monitored backhoe trenching that may require some hand or airspade digging to get around any roots over 2" in diameter. Must be monitored by the PA.

Installation of Decking Within TPZ for Grand Oak

- The only acceptable location for decking under the Grand Oak is where the existing home is currently located and at least 20 north of the tree. Extending the decking outside the dripline would only be acceptable to the north and west of the retained foundation. Must be monitored by project arborist is within 75' of oak.
- Utilize the two parallel east to west footings at approximately 20' and 50' from tree for decking support. Existing piers within those footings may be utilized as well. Additional footings are not advised. Unless beyond the 50' range and only North and West of the existing foundation.
- Decking crew must meet with project arborist prior to installation.
- Working area for decking crew must be mulched prior to construction.
- The completed decking shall have a perimeter fence on the oak side that connects to a

continual perimeter fence around the oak at the 75' radius to discourage activity off the decking and under the oak. A split rail fence would be acceptable

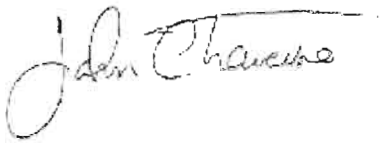
- **NOTE:** Portion of the canopy over decking seems to be less elongated and better structured for pedestrians to gather, however, other portions of the canopy to the southwest appear to be less reliable, making the perimeter fencing to control pedestrian traffic, not just for tree protection measures, but human protection as well. Tree will need to be monitored over decking periodically for maintenance.

Landscaping Phase

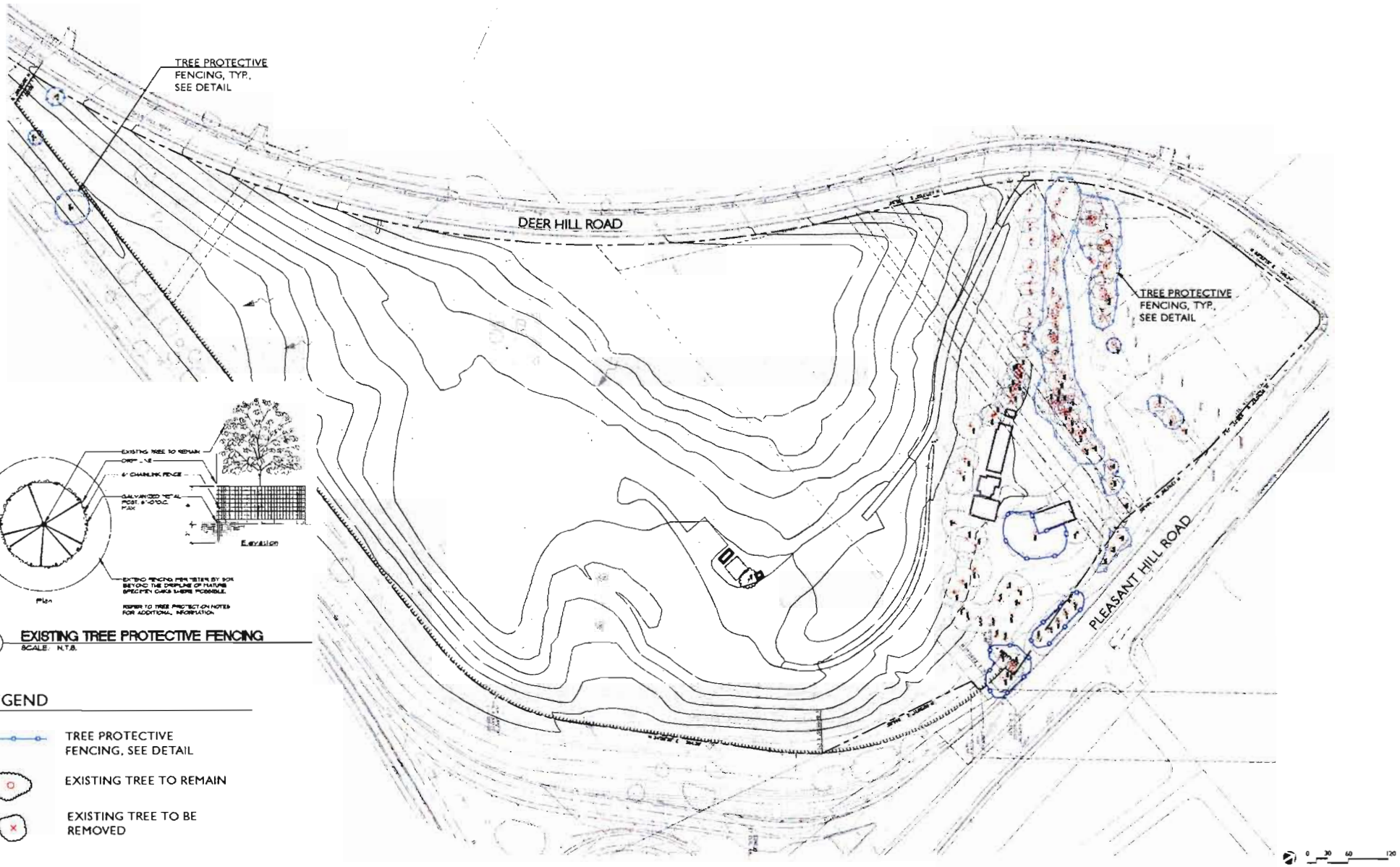
- Landscape contractor shall meet with the project arborist prior to working on site.
- No landscaping or irrigation shall be allowed within 50' of Grand Oak. Only mulch.
- Planting within the 50-75' radius shall be "Oak Compatible", consisting of natives, and drought tolerant plants. No ground covers, or turf. Planting in this zone should be well spaced and irrigated with a plant specific system such as drip or bubblers. Overhead spray nozzles are not recommended.
- For smaller oaks, recommend avoiding landscaping and irrigation within driplines.
- Pathways must be installed in a root friendly manner when within driplines. Consider using a fine DG like gravel as opposed to pavers or concrete to avoid needing to grade and cut roots.

Please feel free to contact me if there are any questions or concerns.

Respectfully,



John C Traverso
ISA Board Certified Master Arborist #0206-B
ISA Qualified Tree Risk Assessor #994
WCISA CTW #984



GATES +ASSOCIATES

HOMES AT DEER HILL LAFAYETTE, CALIFORNIA

TREE PROTECTION FENCING EXHIBIT
AUGUST 2014

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APPENDIX B.5

Bridges' Coast Range Shoulderband Snail Survey Report

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Richard A. Arnold, Ph.D.
President

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28 May 2013

Marylee Guinon, Principal
Marylee Guinon LLC
354 Bohemian Highway
Freestone, CA 95472

Re: The Terraces of Lafayette
Presence-Absence Survey Report on the Bridge's Coast Range Shoulderband Snail

Dear Marylee:

This letter reports the findings of my presence-absence survey for the Bridge's Coast Range Shoulderband snail at the proposed Terraces of Lafayette project site. This site measures 22.27 acres and is located at the intersection of Pleasant Hill Road and Deer Hill Road in Lafayette (Contra Costa County), CA. I can briefly summarize my findings by stating that no snails of this taxon were observed during this survey. The remainder of this letter provides some background information on the snail and describes my survey methods and findings in more detail.

Background Information.

Helminthoglypta nickliniana bridgesii (Newcomb, 1861) is a terrestrial snail that was described from a specimen collected in San Pablo, Contra Costa County, California. It is a subspecies of *Helminthoglypta nickliniana* (Lea, 1838), a species which is found in the central Coast Range, from Sonoma County to Fresno County. This subspecies is commonly known as Bridge's Coast Range Shoulderband snail (hereafter "BCRSS).

BCRSS is similar in appearance to the introduced and more familiar Brown Garden Snail (*Helix aspersa*), but rather than having a cloudy-mottled color pattern, it has a golden-brown shell encircled by a neat single dark brown band. Under magnification, the shell surface resembles fine beadwork.

Several subspecies of *Helminthoglypta nickliniana* have been described within this species' geographic range. The BCRSS is distinguished from other subspecies by having a relatively large, depressed-globose shell with an open umbilicus half or less covered by the inner lip of the aperture. The fine sculpture of the shell surface consists of numerous close-set ridges parallel to the lip, which are cut into beads by diverging, diagonal, incised striations. This beaded sculpture is finer than in other subspecies.

In the East Bay region BCRSS ranges widely over the hills of Contra Costa and northern Alameda counties. Pilsbry (1939) quoted A. G. Smith (a longtime Berkeley resident and malacologist) as saying that it "ranges over the open hillsides of the west

slope of the Berkeley Hills in the suburbs of Berkeley known as Thousand Oaks ... and Kensington .... It is also found along San Pablo Creek, where it apparently gives way to [*Helminthoglypta] diabloensis* further into the hills. Also, I have a lot of 4 shells of this subspecies from Perkins Canyon on the east slope of Mt. Diablo." Additional historical localities based on specimens in museums and other reference collections include: San Pablo Ridge above Wildcat Creek; Point Isabel; near the eastern end of Caldecott Tunnel; Moraga Canyon; Coyote Gulch, Moraga; Marsh Creek Canyon, near Marsh Creek Springs; and Tilden Park (Dr. Barry Roth, personal communication). Since Pilsbry was writing in 1939, the "open hillsides of the west slope of the Berkeley Hills" are no longer so open, and the habitat available to BCRSS has been greatly reduced through urban and suburban development throughout this portion of its geographic range.

With respect to habitat, Pilsbry (1939) further quoted A. G. Smith as having "found it in tall grass and weeds, under patches of Canada thistle, and sometimes sparingly in rock piles. Colonies when found are in thistles or grass." Dr. Roth (personal communication) has found BCRSS under clumps of wild artichoke in former pasture and under woody debris on the ground under oaks along a stream. During a 1999 survey of Elworthy Ranch in Danville, Dr. Roth and I found the BCRSS in a tree-shaded (California bay and coast live oak), steep-banked gully further incised at the bottom by a 6-8 ft. wide stream channel. This location was also characterized by substantial leaf litter and considerable "branch-on-branch" wood.

Conservation Status.

BCRSS was formerly treated as a candidate species for endangered or threatened status by the U.S. Fish & Wildlife Service under the Endangered Species Act of 1973. Due to its limited range and occurrence, the BCRSS is currently monitored by the California Natural Diversity Data Base (CNDDB). For these reasons, BCRSS is also treated as a "rare species" under the California Environmental Quality Act (CEQA).

Survey Methods.

Surveys were conducted on four dates during the winter rainy season and spring: March 13 and 22, April 26, and May 23, 2013. Both diurnal and nocturnal surveys were conducted. The survey methods were standard for terrestrial snail detection: visual search of areas of promising vegetation cover, turning over debris and rocks on the ground, and probing around tree and shrub roots, probing and raking of leaf litter and leaf mold accumulations, and around the bases of known associated plants, such as milk thistle (*Silybum marianum*).

My surveys covered all portions of the proposed project site. The proposed project site includes several vegetation types, notably: ruderal, non-native grassland, coast live oak woodland, ornamental plantings, and riparian woodland and scrub along an intermittent drainage channel. A small seep is also present.

Results and Discussion.

No BCRSS were found during my surveys. Indeed, the only terrestrial mollusk observed was the introduced Brown Garden Snail, which was found in all portions of the project site.

Habitats and topography at the project site exhibit features of past disturbance by human activities, such a development and grading. Indeed, the draft EIR for the project notes that about 85% of the 22.27-acre site has been graded, quarried, developed, or otherwise disturbed. Portions of the grasslands are mowed for fire control purposes. Collectively, these activities have altered the former native plant species composition in the habitats on site so they now consist of a mixture of native and non-native plant taxa. According to the draft EIR, of the 80 plant taxa that were identified during botanical surveys at the project site, 49 (61%) are non-native.

My surveys were especially focused in the remnant oak woodland and in the riparian habitat growing along the intermittent drainage. Some branch on branch or solitary deadwood was evident on the ground in these areas beneath the trees and shrubs, but it was generally relatively fresh rather than in the advanced stages of decomposition, as is preferred by terrestrial snails. Similarly, some leaf litter had accumulated in these portions of the site.

Colonies and trails of the introduced Argentine ant (*Iridiomyrmex humilis*) were evident under turned-over woody debris and elsewhere on the site. The presence of this introduced ant is common at locations that have been heavily disturbed and are bordered by developed areas. Its presence is another indicator of past disturbance at the project site and diminishes the likelihood of occurrence by the BCRSS and other native snails.

In the grassland, the thistles or other rosette-forming herbs were of small extent. There were no large patches of milk thistle with deep crevices and layers of dead leaves. At other locations, *Helminthoglypta* have been found in similar habitat conditions. In contrast, the Terraces of Lafayette project site was characterized by solitary thistles or small groups of milk thistles.

Conclusions.

Since BCRSS was not found during my surveys at the site, I conclude that it does not occur there. Its absence can probably be explained by a combination of several factors, including disturbed habitat conditions, proximity of the project site to existing development, prevalence of non-native vegetation, and the presence of non-native snail and ant taxa. Because I could not find any evidence of the BCRSS at the project site, the project should not adversely impact this snail and no mitigation should be required.

Reference Cited.

Pilsbry, H. A. 1939. Land Mollusca of North America (north of Mexico). Academy of Natural Sciences of Philadelphia, Monograph 3, 1(1):I-xvii, 1-573.

If you have any questions about my report, please contact me.

Sincerely,

Richard A. Arnold

Richard A. Arnold, Ph.D.
President

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APPENDIX B.6

Grass Harvesting – Notice to City

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Dave Baker

From: Wolff, Greg <GWolff@ci.lafayette.ca.us>
Sent: Monday, June 06, 2016 1:47 PM
To: Dave Baker
Cc: 'maryleeguinon@gmail.com'; Jon McPherson; Paul Kephart; Dennis O'Brien; Caryn Kali
Subject: RE: Deer Hill - grass harvesting to commence tomorrow

Thank you, Dave. I appreciate your keeping us in the loop in case we get calls about activity on the site.

From: Dave Baker [mailto:dave@obrienhomes.net]
Sent: Monday, June 6, 2016 1:10 PM
To: Wolff, Greg
Cc: 'maryleeguinon@gmail.com'; Jon McPherson; Paul Kephart; Dennis O'Brien; Caryn Kali
Subject: Deer Hill - grass harvesting to commence tomorrow

Correction: The start date is this **Thursday**.

Greg,
The harvesting of the grass will begin tomorrow and may continue through Friday. Marylee Guinon will be monitoring and reporting on the process.
Let us know if you have any questions.
Dave

David R. Baker
O'Brien Homes
3527 Mount Diablo Blvd., #133
Lafayette, CA 94549

Email – dave@obrienhomes.net

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APPENDIX B.7

Native Blue Wildrye Status Memo, 2016

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To: The City of Lafayette, Planning and Building Services Division
From Marylee Guinon, MMRP consulting biologist
Date: October 30, 2016
RE: MMRP BIO-3 The Native Grassland Mitigation Plan Status Report for Homes at Deer Hill 2016

The purpose of this memo is to report on the status of the grassland mitigation plan, per BIO-3.

Salvage Operations June 2016:

I made two site visits in June 2016 to inspect the salvage operation of the native grass *Elymus x gouldii* by Rana Nursery. The areas of native grassland to be preserved were flagged in the field prior to the removal of any vegetation. The Rana salvage crew was trained and experienced in habitat restoration and equipment restrictions. Areas of native grassland within the limits of proposed grading and construction were salvaged and moved to Rana's Nursery facility in Carmel Valley. Salvage material included both intact stem and root material, and is being stored and maintained until ready for reinstallation in the late fall/early winter when conditions are optimal for successful reestablishment when the site is ready.

Inspection of Rana Nursery Facility October 28, 2016:

The Rana facility was clean, relatively weed free and operated professionally.

The 40,000 container plants look healthy and are ready to plant as early as Spring 2017or next fall/winter. The containers are new, the noxious weeds (including star thistle) brought from borrow project site were highly controlled (if not eliminated), and the root systems are healthy. However, Rana was recently informed of a delay that could extend up to two years, so they have stopped "pushing" the plants. We now need a plan to hold the plants for up to two years.

Paul Kephart, the Nursery Manager Marta Kephart, and I considered various options for holding plants up to two years, if needed, because plants will outgrow the tube containers they are currently in. It is important to note that we cannot go back to the project site and collect in the future since the salvage operation was "thorough". Rana

recommends, and I agree, that the grass plugs be moved up to one-gallon containers once they out-grow the tubes they are in, in the event reinstallation will occur in 2018. Rana will not push these plants to lengthen time in one-gallon containers. In the event the plants will be reinstalled in 2017 Rana can transplant to D-pots, if needed.

The positive aspect of this change is that once planted, the one-gallon containers will grow even faster than the plug containers,

Summary:
The Native Grassland Mitigation Plan is in compliance in 2016.

Cc.
Paul Kephart
Marta Kephart
Dave Baker

APPENDIX B.8

Native Blue Wildrye Status Memo, 2019

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Marylee Guinon, LLC

354 Bohemian Highway
Freestone, CA 95472

primary/cell: 925 • 260 • 4346
landline: 707 • 874 • 9663

maryleeguinon@gmail.com

April 10, 2019

Dave Baker
O'Brien Homes
873 Santa Cruz Avenue, Suite 204
Menlo Park, CA 94025

Re: Status of Native Blue Wildrye Grasses Propagated for the Lafayette Terraces Project

Dear Mr. Baker,

The purpose of this letter is to report on the status of the native blue wildrye grasses that were salvaged from the Lafayette Terraces project site in 2016 and are being maintained until they are transplanted to the site, pursuant to the Native Grassland Mitigation Plan (May 2014).

Nursery Site Inspection of Native Blue Wildrye Plants, October 2016
On October 28, 2016, I inspected the grasses (*Elymus x gouldii*) growing in 44,000 Deepot 16 (D16) containers. I sent an email to you and Dennis O'Brien on November 3, 2016, summarizing that inspection of the plants and the facility. I believe this email was also provided to the City of Lafayette.

First, based on my early years of nursery management experience, I found the Rana Creek Nursery facility to be exceptionally clean, relatively weed free, and professionally operated. Rana Creek Nursery is contract growing for many entities, including tech companies in the Santa Clara Valley.

The plants at the facility were healthy and thriving and, if needed, they could have been planted that coming spring (2017). The containers were new, the invasive weeds brought from the borrow project site were highly controlled (if not eliminated), and the root systems were healthy. Six photos were taken during the October 2016 site visit depicting the nursery setting, the 44,000 container plants, and healthy root systems (Attachment A: Photos of native blue wildrye).

Status of Native Blue Wildrye Plants, 2017 - 2019
Rana Creek was recently informed of a delay that could extend up to 2 years, so they have stopped "pushing"[1] the plants. We now need a plan to hold the plants for up to 2 years

[1] "Pushing" plants in a nursery setting means encouraging vigorous growth, whereas not pushing plants means encouraging slower growth and primarily using irrigation as a method to influence growth rate.

(2019 or 2020). Paul Kephart, owner of Rana Creek and native grass expert, Nursery Manager Marta Kephart, and I considered various options for holding plants up to an additional 2 years because the plants will quickly outgrow the D16 tube containers we selected. It is important to note that we cannot go back to the project site and collect in the future since the salvage operation was "thorough." Rana Creek recommends, and I agree, that the grass plugs should be moved up to 1-gallon containers once they outgrow the tubes they are in. Paul Kephart will submit a proposal to O'Brien Homes for this change order. The 1-gallon containers should be suitable for 2 years and the Nursery will not push these plants to lengthen the time they can remain in the 1-gallon containers.

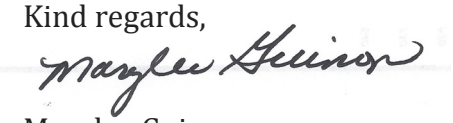
The positive aspect of this change is that, once planted onto the site, the 1-gallons will grow even faster than the plug containers, and the performance standards for repropagation will be readily met. This was our intention in the grassland revegetation plan, i.e. to quickly meet the survival and cover success criteria and avoid costly maintenance.

In 2017, as recommended, O'Brien Homes amended the contract to allow Rana Creek Nursery to transplant the grass plants to 1- gallon containers and continue to maintain them. A photo is attached from April 2019 showing the now 44,000 *Elymus x gouldii* in 1-gallon containers (Attachment A: Photos of native blue wildrye).

If the City of Lafayette has further questions, they may contact Paul Kephart, Owner of Rana Creek:

PAUL KEPHART | GRP ASLA CPESP
Landscape Ecologist + CEO
www.ranacreekdesign.com
831.659.3820 x 111
27875 Berwick Drive, Suite A
Carmel, CA 93923

Kind regards,



Marylee Guinon

Attachment A: Photos of native blue wildrye

CC:
Dennis O'Brien, O'Brien Homes
Jason Brandman, FirstCarbon Solutions (FCS)
Paul Kephart, Rana Creek

Attachment A:
Photos of native blue wildrye

Photograph 1: *Elymus x gouldii* grasses in Deepot 16 (D16) containers at Rana Creek Nursery, October 28, 2016.

Photograph 2: *Elymus x gouldii* grasses in D16 containers at Rana Creek Nursery, October 28, 2016.

Photograph 3: *Elymus x gouldii* grasses in D16 containers at Rana Creek Nursery, October 28, 2016.

Photograph 4: Healthy root system of *Elymus x gouldii* at Rana Creek Nursery, October 28, 2016.

Photograph 5: Weed free *Elymus x gouldii* grasses in D16 containers at Rana Creek Nursery, October 28, 2016.

Photograph 6: *Elymus x gouldii* grasses in one gallon containers at Rana Creek Nursery, April 2019.

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