

Attachment K
Revision of Tree Impact Report
(With Prior Arborist reports dated
8/16/2008 and 10/27/2007)
(LIB120101, LIB120142,
LIB080510, LIB080105)

PLN060603

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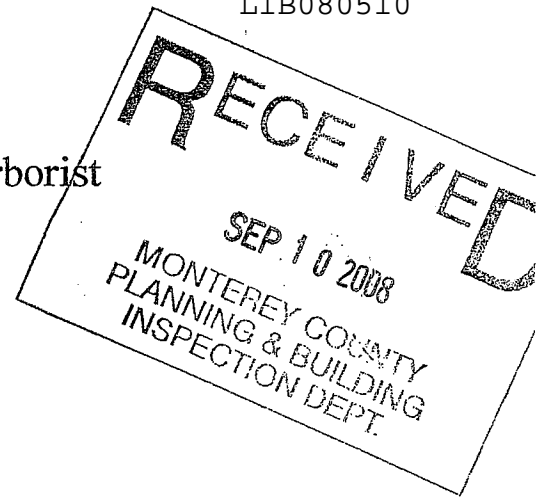
LIB120101

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Supplement to Report of Certified Arborist

Bryan E. Bradford
 Certified Arborist No. WC-5896A
 International Society of Arboriculture,
 and Professional Member

88 Paseo Hermoso ~ Salinas, CA ~ 93908
 831-998-0439 or 831-484-1029



Jeff Taylor Property
 Carmel Valley, CA
 Rancho El Potrero
 A Proposed Subdivision

August 26, 2008

FILE COPY

This Supplement should be read in conjunction with the original Report of Certified Arborist dated October 27, 2007.

Here I will address the Planning Department letter of February 15, 2008 from Paula Bradley, Associate Planner, to Joel Panzer of Maureen Wruck, Planning Consultants, which detailed the "incomplete" status of the application for this project. I will condense and address each comment in Ms. Bradley's letter as it was numbered under her heading **Arborist's Report, dated 10/27/07.**

Comments:

12. The maps referred to in the original report, which include building envelopes, were not provided with the application.

My understanding is that Maureen Wruck, Planning Consultants, will provide those maps.

13. In the absence of an inventory of the individual trees on each lot, identify a building envelope on each lot and survey the trees within each envelope.

Please see **Lots & Driveways**, pages 4 through 7 of the original report. Each lot has a specific building envelope and all the trees within those envelopes were discussed.

14. Are there oak woodlands present on the site? If so, will there be a potential significant impact? What Mitigations are required? Is a conservation easement needed?

Although the term *woodland* was used generically in the original report to describe extant conditions, the stand of trees on the project site would more appropriately be termed a *forest* (or part of a forest), structurally, both montane and riparian in nature. (Oak woodland is, structurally, what is seen along the Highway 68 Corridor between Monterey and Salinas, where the oak is clearly dominant and closely spaced, mixed with oak savanna where oak also dominates but is spaced well apart. A clear explanation of this found in Oaks of California, Pavlik, Muick, Johnson and Popper. 1995)

The ravine area above the agricultural buildings hosts an oak stand, but the canopy of this stand alone does not cover 10 percent of the site, and therefore does not meet the criteria for oak woodland under applicable California code sections cited as guidelines by the Planning Department. Mitigation measures or prospective conservation easements regarding oak woodlands would not be applicable. In any event, the July 29, 2008 Revision of the Rancho El Potrero Vesting Tentative Map by Whitson Engineers indicates this stand of oaks is to be left unaltered.

15. What protected trees would be removed for a 100 foot fire buffer zone.

No protected trees would be removed.

16. The arborist should review the biologist's report.

The biologist's report concludes that the Monterey pine is a rare, threatened, endangered, or other special status species, on the basis of a California Native Plant Society designation. The report also states, however, that the Monterey pine is not so listed by either the California Department of Fish and Game or the United States Fish and Wildlife Service.

To clear the confusion it should be recalled that back in about the winter of 2000, the CDFG held hearings to determine the status of this species. Participants included representatives of the California Native Plant Society, and such notables as Tom Gordon of Davis, Dave Wood of Berkeley, and Mike Zander of Zander and Associates. The overwhelming preponderance of the substantive testimony was that Monterey pine (*Pinus radiata*) is neither rare nor endangered, but rather invasive and hard to eradicate. At that point, the hearings were terminated, and CDFG left its departmental designation of this species unchanged.

To change the status of the Monterey pine just for the 103 acres of the Rancho El Potrero project would be usurpive of county, state and federal levels of government and would result in a confusing patchwork of unauthorized rules applied on a case by case basis virtually from parcel to parcel.

I would recommend that the unprotected-species status of the Monterey pine now current in the Carmel Valley Master Plan be maintained and applied to this project. No special status should be designated for the Monterey pine and no permit required for removals.

The case for retaining as habitat of any single tree specimen, or any specific set of tree specimens should be made now on a tree-by-tree basis, those trees tagged and documented for identity and location and a decision rendered at this stage of planning so the issue is settled for all future stages of development.

17. Which mitigation measures of the Santa Lucia Preserve Comprehensive Plan should apply to the removal of landmark oaks on this site?

The July 29, 2008 Revision of the Rancho El Potrero Vesting Tentative Map by Whitson Engineers indicates no landmark oak tree removal is contemplated in the current development plan.

18. Clarify the arborist's reference to "building envelopes".

See Comment 12 answer above.

19. Is there a potential adverse impact to the trees on this site due to the proposed development plan? What measures of mitigation should apply?

The July 29, 2008 Revision of the Rancho El Potrero Vesting Tentative Map by Whitson Engineers shows Lots 6, 7, 8, 9 and Road B of the Plan have been eliminated from the forested slopes of the site, and Lots 6, 7, 8 and 9 have been repositioned to a riparian area, formerly in Lot 10, which has no trees. Development of these lots would have no impact on the trees on this site. Road A and Lots 1 through 5, including impacts and mitigations, have been discussed individually in the original report. Please see **Lots & Driveways**, pages 4 through 7. Overall, this revised plan would have no significant impact on the trees located on the project site.

Endorsement

Bryan E. Bradford

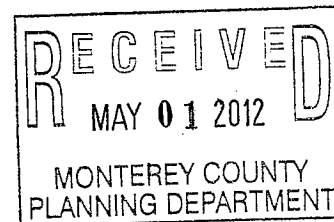
August 26, 2008

A handwritten signature in cursive script, appearing to read "Bryan E. Bradford". The signature is written in black ink and is positioned below the printed name.

LIB120142

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Report of Certified Arborist - Revision



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Jeff Taylor Property
Carmel Valley, CA
Rancho El Potrero
A Proposed Subdivision

April 16, 2012

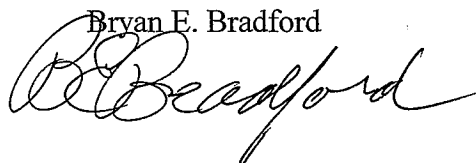
Here I will address the Planning Department letter of June 9, 2011 from Paula Bradley, Associate Planner, to Jeff Taylor, which requested additional information preparatory to the Department beginning work on the Initial Study for this project.

In sum, the letter requests under the heading Tree Removal, the following:

- a) that the arborist's Tree Inventory Table for Removals show the condition of the listed trees ; that tree diameters be measured two feet above ground; that all the protected oaks proposed for removal be identified.
- b) that the Whitson Engineers Tree Impact Exhibit indicate each tree proposed for removal with an X; that the tree removal totals on the Whitson Tree Impact Exhibit and the Arborist's Tree Inventory Table for Removals correspond; that the indicated species of trees on the Exhibit and the Inventory Table correspond and be correct.

Both the Exhibit and the Inventory Table have been revised and corrected and now meet all the requirements stated above. Both are attached.

Endorsement

Bryan E. Bradford


April 16, 2012

Rancho Potrero Tree Inventory Table for Removals, 4/16/12 Revision

Tag Number	Species	Size @ 2 ft	Condition
3274*	Ceanothus	7, 6, 4	Good/*no removal
3275	Pine	36	Good
3276	Ceanothus	Cluster; small	Dead
3277	Ceanothus	10	Fair
3278	Pine	31	Good
3279	Oak	14, 22	Excellent
3280	Toyon	12	Good
3281	Toyon	7	Poor
3282	Pine	33	Good
3283	Oak	15	Good
3284	Pine	8	Good
3285	Oak	7	Good
3286	Pine	9	Fair
3287	Pine	9	Dead
3288	Oak	8	Good
3289	Pine	20	Good
3290	Oak	7	Fair
3291	Pine	21	Good
3292	Pine	28	Good
3293	Pine	16	Good
3294	Pine	27	Good
3295	Pine	22	Good
3296	Oak	10	Good
3297	Pine	27	Fair
3298	Oak	10	Good
3299	Pine	15	Good

Rancho Potrero Tree Inventory Table for Removals, 4/16/12 Revision

Tag Number	Species	Size @ 2 ft	Condition
3300	Pine	8	Poor
3301	Pine	17	Fair
3302	Pine	14	Poor
3303	Pine	12	Good
3304	Pine	7	Poor
3305	Pine	17	Excellent
3306	Pine	15	Good
3307	Pine	9	Poor
3308	Pine	33	Excellent
3309	Pine	9	Good
3310	Oak	4, 4, 2	Good
3311	Oak	7, 3	Good
3312	Oak	7	Good
3313	Oak	6	Good
3314	Pine	8	Good
3315	Oak	7	Good
3316	Oak	8	Good
3317	Oak	7	Good
3318	Oak	5, 4	Good
3319	Oak	6	Good
3320	Oak	6	Good
3321	Oak	7	Good
3322	Oak	6	Good
3323	Oak	7	Good
3324	Pine	10	Poor
3325	Pine	8	Good

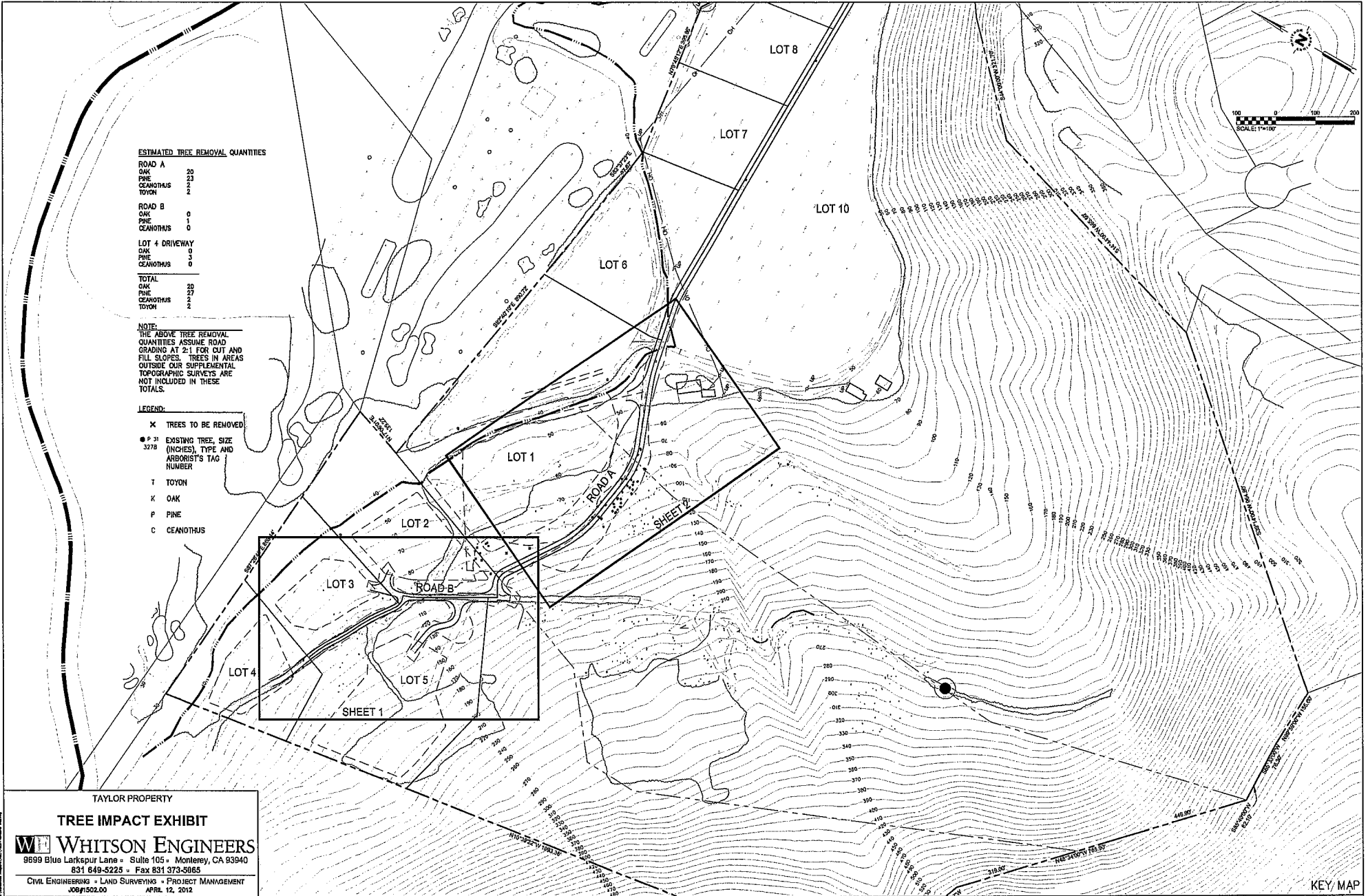
ESTIMATED TREE REMOVAL QUANTITIES

ROAD A	
OAK	20
PINE	23
CEANOTHUS	2
TOYON	2
ROAD B	
OAK	0
PINE	1
CEANOTHUS	0
LOT 4 DRIVEWAY	
OAK	0
PINE	3
CEANOTHUS	0
TOTAL	
OAK	20
PINE	27
CEANOTHUS	2
TOYON	2

NOTE:
THE ABOVE TREE REMOVAL QUANTITIES ASSUME ROAD GRADING AT 2:1 FOR CUT AND FILL SLOPES. TREES IN AREAS OUTSIDE OUR SUPPLEMENTAL TOPOGRAPHIC SURVEYS ARE NOT INCLUDED IN THESE TOTALS.

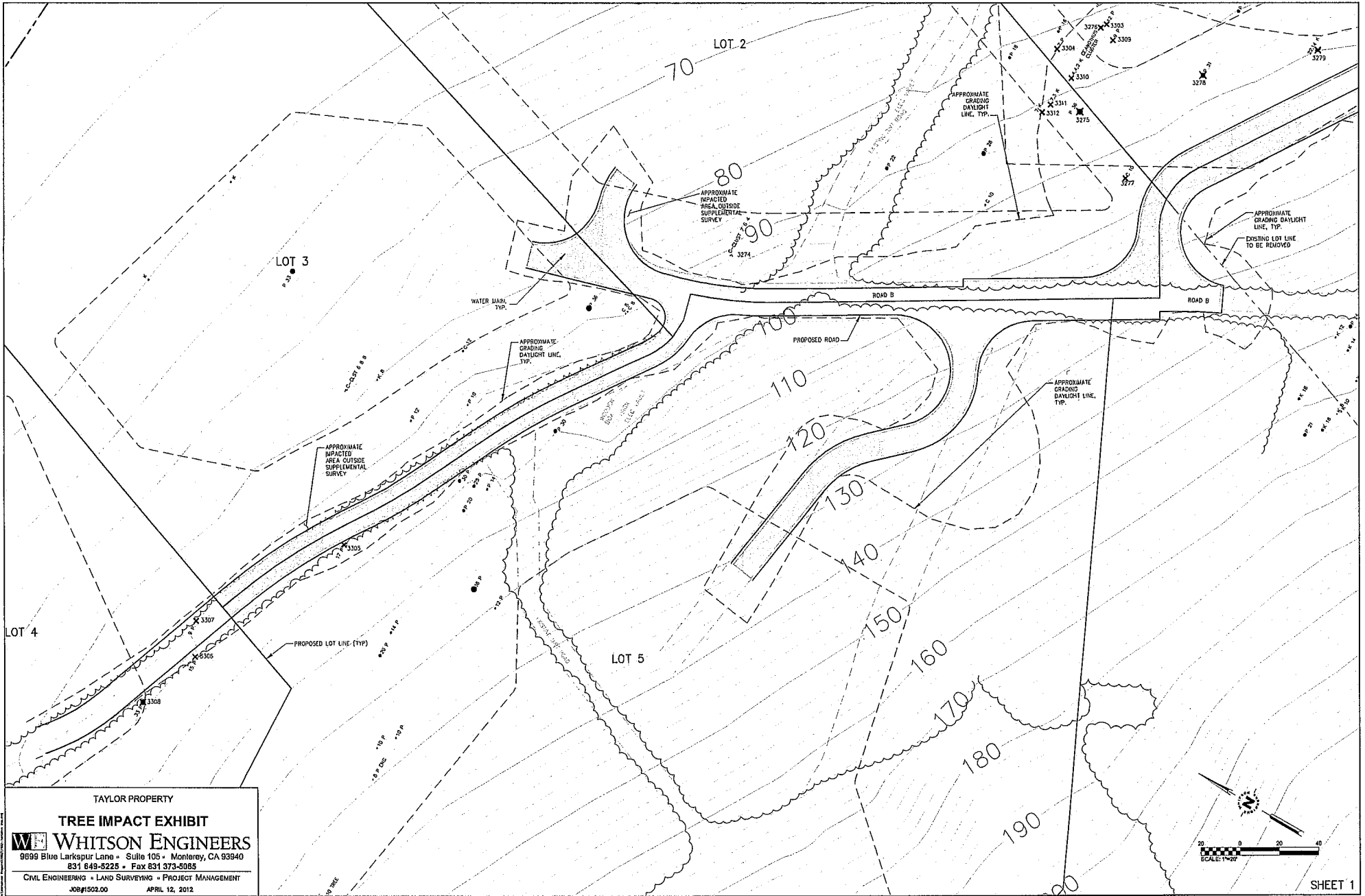
LEGEND:

- X TREES TO BE REMOVED
- P 31 EXISTING TREE, SIZE (INCHES), TYPE AND ARBORIST'S TAG NUMBER
- T TOYON
- K OAK
- P PINE
- C CEANOTHUS



TAYLOR PROPERTY
TREE IMPACT EXHIBIT
WHITSON ENGINEERS
9699 Blue Larkspur Lane • Suite 105 • Monterey, CA 93940
831 849-5223 • Fax 831 373-5065
CIVIL ENGINEERING • LAND SURVEYING • PROJECT MANAGEMENT
JOB#1502.00 APRIL 12, 2012

KEY MAP



TAYLOR PROPERTY

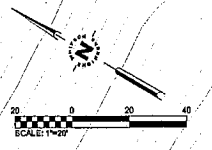
TREE IMPACT EXHIBIT

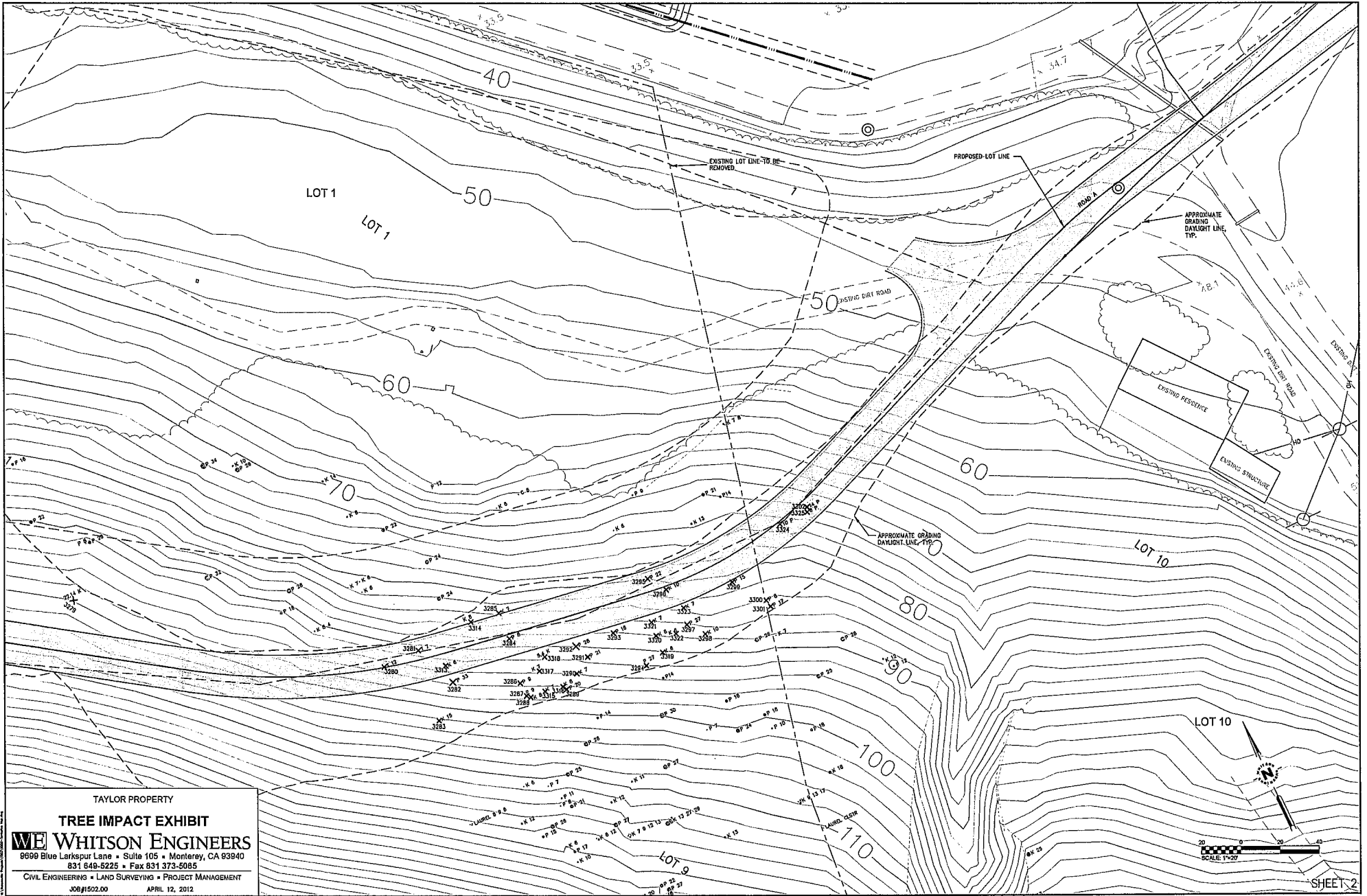
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JOB#1502.00 APRIL 12, 2012





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11

PLN060603
LIB080105
Bradley

Report of Certified Arborist

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October 27, 2007

Dear Mr. Taylor,

I have visited the site of your proposed subdivision on several occasions to examine the trees populating the property, their environment and condition. I have used the maps provided by Whitson Engineering to follow the proposed road and driveway courses as marked with centerline staking, to determine the preliminary tree count and the proposed building envelopes. This report should be read in conjunction with those maps. The sets of maps used are as follows: 7-page set printed August 29, 2007. 6-page set titled Tree Impact Exhibit printed October 3, 2007. One-page set titled Slope Density Map printed October 26, 2007. Based on these, I offer the following observations, conclusions and suggestions.

Extant Conditions

The property is of about 103 acres comprised of meadow, woodland and flat land devoted to agricultural application. The topography ranges from flat to mild sloping (less than 20% grade), to moderate sloping (20 % to 30% grade), to very steep slopes (over 30% grade) as the property rises away from the valley floor toward the surrounding ridges and mountains, and features one fairly steep gully running roughly northeast southwest. (Ref. Slope Density Map, Whitson Engineers). With the exception of a large meadow area at the west end of the property and the steep slopes at the east end covered mostly with native grass and chaparral vegetation, the slopes are wooded with groves of varying densities. Spot observations suggest the top horizon of the soil on the slopes, both in the groves and meadow areas is a substantial layer of between two and three feet of silty loam containing a small amount of gravel and with a high content of decomposed organic matter. I have made no observations about the top soil outside the areas proposed for subdivision.

Structural improvements include a small residence, two out buildings apparently associated with the agricultural uses, various fences and gates and water and utility systems. Access is by an entrance road improved with gravel and several narrower dirt roads which climb in various directions into the sloped areas of the property proposed for subdivision.

The tree population within the proposed subdivision area is composed primarily of California Coast Live Oak (*Quercus agrifolia*) and Monterey Pine (*Pinus Radiata*) with a number of large Toyon (*Heteromeles arbutifolia*) which have assumed tree form, and a number of Wild Lilac (*Ceanothus spinosus*) which have also assumed tree form. Outside the proposed subdivision area the tree population also includes a magnificent stand of native Bigleaf Maple (*Acer macrophyllum*), a few large specimens of native Black Acacia (*Acacia melanoxylon*), some common Fremont Poplar (*Populus fremontii*) near the river, some common willow (*Salix scouleriana*), a few California Buckeye (*Aesculus californica*), a few California Laurel (*Umbellularia Californica*) and a single Magnolia (*Magnolia grandifolia*) not native to the property.

The general condition of the trees on this site, as groves and some stand-alone specimens, is very good, being typical of a largely undisturbed wild setting, which this is. The health of each individual specimen varies as would be expected in this setting, but is, on the average, excellent. Species diversification is broad and normal. The range in age for each of the species represented (except the Magnolia) runs from seedlings to specimens in end-of-life-cycle decline, with the consequence that there are a normal number of dead and dying specimens on the site. And of course each species is subject to its own natural pests and pathogens, as, for example, the Coast Live Oak with its oak moth larva eating its leaves on a cyclical basis and oak root fungus attacking its roots. However, the balance between the trees and their companion organisms on this site appears normal and healthy, with one predictable exception. Many of the pines on site appear infected with the persistent pine pitch canker. It is my opinion that this is inescapable because the vectors which carry the canker disease to the trees are so numerous that it is virtually unstoppable. This is not to imply that this fact is of great alarm. The companion studies of this local problem by Stanford and UC have concluded that this tree species can easily withstand this ongoing "plague" and survive as the major conifer component of our peninsula area forests. As anecdotal testimony to this, already on this property, within the pasture areas to be subdivided, there are hundreds of seedling Monterey Pines sprouting.

I estimated the total tree population to number about 2,500 of specimens with a base diameter of 6 inches or greater at breast height. Additionally, there are countless seedlings and saplings of the oak, pine and willow. A complete inventory of all the trees on site, which would entail tagging, identification, rating and plotting of each tree, was not undertaken, as that would be most appropriate at the time of development of each of the proposed subdivision lots upon application for residential construction.

Proposed Development

Prefatory to discussion, some general statements can be made about the impact of this proposed subdivision on the trees now existing on this site. The highest total of trees proposed for removal within this planned subdivision would be between 169 and 188 specimens, including 109 oaks, only eight of which are landmark specimens. Of the estimated total of 2,500 on site, this represents at most just about 7.5%, a moderate to negligible impact, particularly considering that of the many species represented, almost all of the proposed removals are within the two most populous species; oak and pine which tend to repopulate quickly. The heritage of this project should also be kept in mind. It is part of the San Carlos Ranch / Santa Lucia Preserve which has already set aside thousands of acres as protected woodlands. It is important to keep this perspective in weighing this plan, especially regarding the lots with dense tree populations where numerous specimens are proposed for removal.

Roads

The proposed route for the access road from the east entrance of the property to the point where it reaches proposed subdivision Lot 1 is designated as part of Road A on the Whitson Engineers maps, dated August 29, 2007, produced for this project. This segment of the proposed Road A poses no meaningful impact for any trees on this site. It is noteworthy, however, that the poplars lining the first few hundred yards of this route have invasive root systems which can heave and destroy road paving. The prospect of using a root barrier during road construction might therefore be examined.

The remainder of proposed Road A (a short segment) to its terminus at proposed Road B courses at its centerline through an appropriately thinly wooded area in an elegantly direct route, yet adequately serves four of the proposed nine subdivision lots. In terms of tree conservation, this is a very advantageous route.

The centerline of proposed Road B, as designated on the maps, takes advantage of old ranch roads cut in long ago over virtually its entire course and is therefore very sensitive to tree conservation. As access roads to the proposed individual lots, the proposed centerline routes for Roads A and B are probably the best available on this sloping site.

In addition to the trees described below in discussion of the individual lots, as requiring removal from proposed road cut zones, 19 specimens of oak (two of landmark size) and 18 specimens of pine lie within the proposed road cut zone in the residual Lot 10.

Lots & Driveways

I address here each proposed subdivision lot individually because of the variety in tree populations and conditions among them. It should be noted here that Monterey Pine is correctly categorized as an unprotected species in the Carmel Valley Master Plan of Monterey County.

Lot 1. 4 Acres.

This proposed lot is thinly populated with about 35 specimens of oak, pine and lilac on a slope of mostly mild grade. Nine specimens, only three of which are oaks, lie within the proposed road cut zone and would require removal. Removal of these would be an appropriate impact of development and they could easily be replaced with new plantings. The remainder of the trees lie along the boundary of, and largely outside, the proposed building envelope. The proposed driveway into this lot involves no trees.

Lot 2. 1.6 Acres.

This proposed lot is sparsely populated with eight specimens of oak, pine and lilac on a mixed slope of mild grade to moderate grade and with a small area over 30% of grade. Vegetation on this proposed lot is largely native chaparral. Three trees, only one of which is an oak, lie within the proposed road cut zone and would require removal. This is an appropriate impact of development. A steeper cut ratio for the road would be required to save this tree, or removal could be mitigated by replacement with new plantings. The remaining trees lie along the boundary of, or outside, the proposed building envelope. The proposed driveway into this lot involves no trees.

Lot 3. 1.2 Acres.

This proposed lot is also sparsely populated with eight specimens of oak, pine, and lilac. Its topography is of a mixed slope of mild grade, moderate grade and grade of over 30%. Existing vegetation is largely native chaparral. All of the trees lie outside the proposed road cut zone, and only two small trees lie within the proposed building envelope along its boundary. The proposed driveway into this lot involves no trees.

Lot 4. 1.4 Acres

This proposed lot has only one small pine specimen on it. Its topography is of a mixed slope; mild, moderate and over 30%. Existing vegetation is largely native chaparral. The single tree lies inside the proposed road cut zone and would require removal which is an appropriate impact of development inasmuch as the rest of the lot is treeless. The proposed building envelope is, of course, treeless. The proposed driveway into this lot involves no trees.

Lot 5. 3.8 Acres.

This proposed lot is sparsely populated with about thirteen specimens of pine. Its topography is of a mixed slope of moderate grade and grade over 30%, and a small area of mild grade. Existing vegetation is largely native chaparral and grass. One small pine lies within the proposed road cut zone and would require removal which is a minimal and appropriate impact of development. No trees lie within the proposed building envelope. The proposed driveway into this lot involves no trees.

Lot 6. 4.2 Acres.

Some areas of this proposed lot are densely populated with about 104 specimens of oak and pine. The topography is of a mixed slope largely of moderate grade and grade over 30%, with two areas of a mild grade centered in the lot. Vegetation outside of the grove areas is largely native chaparral and native grass. There are three proposed alternates for driveway configurations, which, to avoid confusion, I will address individually below. Please note that each alternate represents a different way of viewing the same 104 specimens on this proposed lot.

Alternate A: Under this configuration, 30 specimens, 24 of which are oaks, lie within the proposed road cut zone and would require removal. Of these are two landmark-size oak (24 inches diameter and larger), only one of which merits the designation. Additionally, 13 specimens lie within the proposed driveway cut zone, eleven of which are oak, and would require removal. Eleven more specimens of oak and pine lie within and along the border of the proposed building envelope. Among these is one landmark-size oak.

Alternate B: Under this configuration, 30 specimens, 24 of which are oak, lie within the proposed road cut zone and would require removal. Among these are two landmark-size oak, only one of which merits the designation. Additionally, 32 specimens, 14 of which are oaks, lie within the proposed driveway cut zone and would require removal. Among these is one landmark-size oak. Eleven more specimens of oak and pine lie within and along the border of the proposed building envelope. Among these is one landmark-size oak and several large pine.

Alternate C: Under this configuration, 34 specimens lie within the proposed road cut zone and would require removal. Among these, two are fallen trees, and another 26 are oaks, two of which are of landmark-size, but only one of which merits the designation. Additionally, 14 specimens, seven of which are oak, lie within the proposed driveway cut zone and would require removal. I will note here that one landmark-size oak is situated outside the cut line at its edge and would require conservation measures to preserve it against severe damage. Eight more specimens of oak and pine lie within and along the border of the proposed building envelope. Among these is one landmark-size oak.

From a pure tree-count perspective, Alternate A is the most tree friendly and, having examined this proposed lot rather closely, is the most appealing to me as an arborist. The centerline takes some good advantage of the old ranch roads now in place and does the most to avoid removal or harming of the valuable exemplary specimens on site. Inasmuch as these alternatives contemplate removal of half of the existing trees on this proposed lot, and broad grading cuts requiring the removal of large quantities of good top soil, it would be worth evaluating mitigation using much steeper grading cuts. Grading at the proposed 2:1 ratio standard for Monterey County would be needlessly destructive of a lot of good soil and the fine stand of trees on this lot, and represents a high impact for development of this proposed lot. If the 2:1 ration is retained, an alternative mitigating measure would be reinstatement of the tree habitat.

Lot 7. 2 Acres.

Some areas of this proposed lot are densely populated with about 69 specimens. The topography is of a mixed slope largely of moderate grade and grade over 30%, with an area of a mild grade in the northeast portion of the lot. Vegetation outside of the grove areas is largely native chaparral and native grass. 27 specimens, 21 of which are oaks, lie within the proposed road cut zone and would require removal. Among these are two landmark-size oaks, only one of which merits the designation. . Another landmark-size oak is situated at the edge of the cut line and would require conservation measures to preserve it against severe damage. Additionally, 13 specimens of oak lie within the proposed driveway cut zone and would require removal. Among these are three landmark-size specimens, none of which merit the designation. Nine more specimens of oak lie within and along the border of the proposed building envelope. Among these are two landmark-size oaks.

The proposal for this lot requires the removal of numerous trees located on it and the removal of a large quantity of good topsoil which represents a high impact for its development. In mitigation, the centerline of the driveway was as carefully routed as possible, given the environment, as choices here are limited. Again, it might be appropriate to look at the grading ratios for the road and driveway as a way of being more tree conservative, with habitat reinstatement as an alternative mitigation.

Lot 8. 1.6 Acres.

This proposed lot is thinly populated with about 21 specimens on a mixed slope of mostly mild grade and moderate grade, with areas of 30% of grade along much of its perimeter. Vegetation of this lot also includes native chaparral, and areas of native grass. Four specimens of oak, two of which are landmark-size specimens, lie within the proposed driveway cut zone and would require removal. Removal of these would be an appropriate impact of development but they should be replaced with new plantings. The remaining sixteen trees lie along the boundary of, and both inside and outside, the proposed building envelope.

Lot 9. 1.3 Acres.

This proposed lot is fairly evenly populated with about 57 specimens on a mixed slope of mostly moderate grade and 30% of grade, with some small areas of mild grade near the middle. Vegetation of this lot also includes native chaparral, and areas of native grass. 18 specimens, five of which are oaks, lie within the proposed road cut zone and would require removal. Additionally, seventeen specimens, five of which are oaks, lie within the proposed driveway cut zone for this lot and a portion for Lot 8, and would require removal. Fourteen more specimens of oak, pine and toyon lie within the proposed building envelope and are evenly distributed within it. Among them is one landmark-size oak located near the edge of the envelope.

Because of the even and open distribution of trees on this proposed lot, it presents a challenge for tree conservation in its layout. The cut zones for the road way and the two driveways combine to require removal of about half of the existing trees on this site. Movement of the course of Road A, which I have already noted has been elegantly routed, would require removal of about as many additional trees as the trees which would be saved. Moving Lot 9's driveway up slope would require even broader cuts at 2:1 ratios. There might be some gain in moving Lot 8's driveway down slope, but only of a few trees. Again, in mitigation, it might be appropriate to look for a variance to steeper cut ratios, keeping tree habitat reinstatement as an alternative.

Lot 10. 82.1 acres

This proposed lot is the residual of all the land described as the 103.2 acres of Rancho El Portrero after dividing out the other nine lots described above. It incorporates the thousands of trees not specifically enumerated in the above discussion. Its use in the course of the proposed Road A, as discussed above, implies no discernible impact on trees in its development.

Conclusion

The overall impact of this proposed subdivision on the trees now existing on site is moderate to negligible and the plan is of an appropriate design. It contemplates, on the average, removal of less than two trees per acre, including just one protected specimen per acre and of those, just one landmark specimen for every 12 acres. Any adverse effects will be of fairly short duration. Where the impact on individual lots is high, mitigation can be easily effected through tree habitat reinstatement or modification of the grading ratios. The use of steeper ratios has a sound precedent in the development of San Carlos Ranch, which involved substantially similar issues.

Endorsement

Bryan E. Bradford

December 28, 2007

(S)

LIB080105

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11

PLN060603
LIB080105
Bradley

Report of Certified Arborist

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Extant Conditions

The property is of about 103 acres comprised of meadow, woodland and flat land devoted to agricultural application. The topography ranges from flat to mild sloping (less than 20% grade), to moderate sloping (20 % to 30% grade), to very steep slopes (over 30% grade) as the property rises away from the valley floor toward the surrounding ridges and mountains, and features one fairly steep gully running roughly northeast southwest. (Ref. Slope Density Map, Whitson Engineers). With the exception of a large meadow area at the west end of the property and the steep slopes at the east end covered mostly with native grass and chaparral vegetation, the slopes are wooded with groves of varying densities. Spot observations suggest the top horizon of the soil on the slopes, both in the groves and meadow areas is a substantial layer of between two and three feet of silty loam containing a small amount of gravel and with a high content of decomposed organic matter. I have made no observations about the top soil outside the areas proposed for subdivision.

Structural improvements include a small residence, two out buildings apparently associated with the agricultural uses, various fences and gates and water and utility systems. Access is by an entrance road improved with gravel and several narrower dirt roads which climb in various directions into the sloped areas of the property proposed for subdivision.

The tree population within the proposed subdivision area is composed primarily of California Coast Live Oak (*Quercus agrifolia*) and Monterey Pine (*Pinus Radiata*) with a number of large Toyon (*Heteromeles arbutifolia*) which have assumed tree form, and a number of Wild Lilac (*Ceanothus spinosus*) which have also assumed tree form. Outside the proposed subdivision area the tree population also includes a magnificent stand of native Bigleaf Maple (*Acer macrophyllum*), a few large specimens of native Black Acacia (*Acacia melanoxylon*), some common Fremont Poplar (*Populus fremontii*) near the river, some common willow (*Salix scouleriana*), a few California Buckeye (*Aesculus californica*), a few California Laurel (*Umbellularia Californica*) and a single Magnolia (*Magnolia grandifolia*) not native to the property.

The general condition of the trees on this site, as groves and some stand-alone specimens, is very good, being typical of a largely undisturbed wild setting, which this is. The health of each individual specimen varies as would be expected in this setting, but is, on the average, excellent. Species diversification is broad and normal. The range in age for each of the species represented (except the Magnolia) runs from seedlings to specimens in end-of-life-cycle decline, with the consequence that there are a normal number of dead and dying specimens on the site. And of course each species is subject to its own natural pests and pathogens, as, for example, the Coast Live Oak with its oak moth larva eating its leaves on a cyclical basis and oak root fungus attacking its roots. However, the balance between the trees and their companion organisms on this site appears normal and healthy, with one predictable exception. Many of the pines on site appear infected with the persistent pine pitch canker. It is my opinion that this is inescapable because the vectors which carry the canker disease to the trees are so numerous that it is virtually unstoppable. This is not to imply that this fact is of great alarm. The companion studies of this local problem by Stanford and UC have concluded that this tree species can easily withstand this ongoing "plague" and survive as the major conifer component of our peninsula area forests. As anecdotal testimony to this, already on this property, within the pasture areas to be subdivided, there are hundreds of seedling Monterey Pines sprouting.

I estimated the total tree population to number about 2,500 of specimens with a base diameter of 6 inches or greater at breast height. Additionally, there are countless seedlings and saplings of the oak, pine and willow. A complete inventory of all the trees on site, which would entail tagging, identification, rating and plotting of each tree, was not undertaken, as that would be most appropriate at the time of development of each of the proposed subdivision lots upon application for residential construction.

Proposed Development

Prefatory to discussion, some general statements can be made about the impact of this proposed subdivision on the trees now existing on this site. The highest total of trees proposed for removal within this planned subdivision would be between 169 and 188 specimens, including 109 oaks, only eight of which are landmark specimens. Of the estimated total of 2,500 on site, this represents at most just about 7.5%, a moderate to negligible impact, particularly considering that of the many species represented, almost all of the proposed removals are within the two most populous species; oak and pine which tend to repopulate quickly. The heritage of this project should also be kept in mind. It is part of the San Carlos Ranch / Santa Lucia Preserve which has already set aside thousands of acres as protected woodlands. It is important to keep this perspective in weighing this plan, especially regarding the lots with dense tree populations where numerous specimens are proposed for removal.

Roads

The proposed route for the access road from the east entrance of the property to the point where it reaches proposed subdivision Lot 1 is designated as part of Road A on the Whitson Engineers maps, dated August 29, 2007, produced for this project. This segment of the proposed Road A poses no meaningful impact for any trees on this site. It is noteworthy, however, that the poplars lining the first few hundred yards of this route have invasive root systems which can heave and destroy road paving. The prospect of using a root barrier during road construction might therefore be examined.

The remainder of proposed Road A (a short segment) to its terminus at proposed Road B courses at its centerline through an appropriately thinly wooded area in an elegantly direct route, yet adequately serves four of the proposed nine subdivision lots. In terms of tree conservation, this is a very advantageous route.

The centerline of proposed Road B, as designated on the maps, takes advantage of old ranch roads cut in long ago over virtually its entire course and is therefore very sensitive to tree conservation. As access roads to the proposed individual lots, the proposed centerline routes for Roads A and B are probably the best available on this sloping site.

In addition to the trees described below in discussion of the individual lots, as requiring removal from proposed road cut zones, 19 specimens of oak (two of landmark size) and 18 specimens of pine lie within the proposed road cut zone in the residual Lot 10.

Lots & Driveways

I address here each proposed subdivision lot individually because of the variety in tree populations and conditions among them. It should be noted here that Monterey Pine is correctly categorized as an unprotected species in the Carmel Valley Master Plan of Monterey County.

Lot 1. 4 Acres.

This proposed lot is thinly populated with about 35 specimens of oak, pine and lilac on a slope of mostly mild grade. Nine specimens, only three of which are oaks, lie within the proposed road cut zone and would require removal. Removal of these would be an appropriate impact of development and they could easily be replaced with new plantings. The remainder of the trees lie along the boundary of, and largely outside, the proposed building envelope. The proposed driveway into this lot involves no trees.

Lot 2. 1.6 Acres.

This proposed lot is sparsely populated with eight specimens of oak, pine and lilac on a mixed slope of mild grade to moderate grade and with a small area over 30% of grade. Vegetation on this proposed lot is largely native chaparral. Three trees, only one of which is an oak, lie within the proposed road cut zone and would require removal. This is an appropriate impact of development. A steeper cut ratio for the road would be required to save this tree, or removal could be mitigated by replacement with new plantings. The remaining trees lie along the boundary of, or outside, the proposed building envelope. The proposed driveway into this lot involves no trees.

Lot 3. 1.2 Acres.

This proposed lot is also sparsely populated with eight specimens of oak, pine, and lilac. Its topography is of a mixed slope of mild grade, moderate grade and grade of over 30%. Existing vegetation is largely native chaparral. All of the trees lie outside the proposed road cut zone, and only two small trees lie within the proposed building envelope along its boundary. The proposed driveway into this lot involves no trees.

Lot 4. 1.4 Acres

This proposed lot has only one small pine specimen on it. Its topography is of a mixed slope; mild, moderate and over 30%. Existing vegetation is largely native chaparral. The single tree lies inside the proposed road cut zone and would require removal which is an appropriate impact of development inasmuch as the rest of the lot is treeless. The proposed building envelope is, of course, treeless. The proposed driveway into this lot involves no trees.

Lot 5. 3.8 Acres.

This proposed lot is sparsely populated with about thirteen specimens of pine. Its topography is of a mixed slope of moderate grade and grade over 30%, and a small area of mild grade. Existing vegetation is largely native chaparral and grass. One small pine lies within the proposed road cut zone and would require removal which is a minimal and appropriate impact of development. No trees lie within the proposed building envelope. The proposed driveway into this lot involves no trees.

Lot 6. 4.2 Acres.

Some areas of this proposed lot are densely populated with about 104 specimens of oak and pine. The topography is of a mixed slope largely of moderate grade and grade over 30%, with two areas of a mild grade centered in the lot. Vegetation outside of the grove areas is largely native chaparral and native grass. There are three proposed alternates for driveway configurations, which, to avoid confusion, I will address individually below. Please note that each alternate represents a different way of viewing the same 104 specimens on this proposed lot.

Alternate A: Under this configuration, 30 specimens, 24 of which are oaks, lie within the proposed road cut zone and would require removal. Of these are two landmark-size oak (24 inches diameter and larger), only one of which merits the designation. Additionally, 13 specimens lie within the proposed driveway cut zone, eleven of which are oak, and would require removal. Eleven more specimens of oak and pine lie within and along the border of the proposed building envelope. Among these is one landmark-size oak.

Alternate B: Under this configuration, 30 specimens, 24 of which are oak, lie within the proposed road cut zone and would require removal. Among these are two landmark-size oak, only one of which merits the designation. Additionally, 32 specimens, 14 of which are oaks, lie within the proposed driveway cut zone and would require removal. Among these is one landmark-size oak. Eleven more specimens of oak and pine lie within and along the border of the proposed building envelope. Among these is one landmark-size oak and several large pine.

Alternate C: Under this configuration, 34 specimens lie within the proposed road cut zone and would require removal. Among these, two are fallen trees, and another 26 are oaks, two of which are of landmark-size, but only one of which merits the designation. Additionally, 14 specimens, seven of which are oak, lie within the proposed driveway cut zone and would require removal. I will note here that one landmark-size oak is situated outside the cut line at its edge and would require conservation measures to preserve it against severe damage. Eight more specimens of oak and pine lie within and along the border of the proposed building envelope. Among these is one landmark-size oak.

From a pure tree-count perspective, Alternate A is the most tree friendly and, having examined this proposed lot rather closely, is the most appealing to me as an arborist. The centerline takes some good advantage of the old ranch roads now in place and does the most to avoid removal or harming of the valuable exemplary specimens on site. Inasmuch as these alternatives contemplate removal of half of the existing trees on this proposed lot, and broad grading cuts requiring the removal of large quantities of good top soil, it would be worth evaluating mitigation using much steeper grading cuts. Grading at the proposed 2:1 ratio standard for Monterey County would be needlessly destructive of a lot of good soil and the fine stand of trees on this lot, and represents a high impact for development of this proposed lot. If the 2:1 ration is retained, an alternative mitigating measure would be reinstatement of the tree habitat.

Lot 7. 2 Acres.

Some areas of this proposed lot are densely populated with about 69 specimens. The topography is of a mixed slope largely of moderate grade and grade over 30%, with an area of a mild grade in the northeast portion of the lot. Vegetation outside of the grove areas is largely native chaparral and native grass. 27 specimens, 21 of which are oaks, lie within the proposed road cut zone and would require removal. Among these are two landmark-size oaks, only one of which merits the designation. . Another landmark-size oak is situated at the edge of the cut line and would require conservation measures to preserve it against severe damage. Additionally, 13 specimens of oak lie within the proposed driveway cut zone and would require removal. Among these are three landmark-size specimens, none of which merit the designation. Nine more specimens of oak lie within and along the border of the proposed building envelope. Among these are two landmark-size oaks.

The proposal for this lot requires the removal of numerous trees located on it and the removal of a large quantity of good topsoil which represents a high impact for its development. In mitigation, the centerline of the driveway was as carefully routed as possible, given the environment, as choices here are limited. Again, it might be appropriate to look at the grading ratios for the road and driveway as a way of being more tree conservative, with habitat reinstatement as an alternative mitigation.

Lot 8. 1.6 Acres.

This proposed lot is thinly populated with about 21 specimens on a mixed slope of mostly mild grade and moderate grade, with areas of 30% of grade along much of its perimeter. Vegetation of this lot also includes native chaparral, and areas of native grass. Four specimens of oak, two of which are landmark-size specimens, lie within the proposed driveway cut zone and would require removal. Removal of these would be an appropriate impact of development but they should be replaced with new plantings. The remaining sixteen trees lie along the boundary of, and both inside and outside, the proposed building envelope.

Lot 9. 1.3 Acres.

This proposed lot is fairly evenly populated with about 57 specimens on a mixed slope of mostly moderate grade and 30% of grade, with some small areas of mild grade near the middle. Vegetation of this lot also includes native chaparral, and areas of native grass. 18 specimens, five of which are oaks, lie within the proposed road cut zone and would require removal. Additionally, seventeen specimens, five of which are oaks, lie within the proposed driveway cut zone for this lot and a portion for Lot 8, and would require removal. Fourteen more specimens of oak, pine and toyon lie within the proposed building envelope and are evenly distributed within it. Among them is one landmark-size oak located near the edge of the envelope.

Because of the even and open distribution of trees on this proposed lot, it presents a challenge for tree conservation in its layout. The cut zones for the road way and the two driveways combine to require removal of about half of the existing trees on this site. Movement of the course of Road A, which I have already noted has been elegantly routed, would require removal of about as many additional trees as the trees which would be saved. Moving Lot 9's driveway up slope would require even broader cuts at 2:1 ratios. There might be some gain in moving Lot 8's driveway down slope, but only of a few trees. Again, in mitigation, it might be appropriate to look for a variance to steeper cut ratios, keeping tree habitat reinstatement as an alternative.

Lot 10. 82.1 acres

This proposed lot is the residual of all the land described as the 103.2 acres of Rancho El Portrero after dividing out the other nine lots described above. It incorporates the thousands of trees not specifically enumerated in the above discussion. Its use in the course of the proposed Road A, as discussed above, implies no discernible impact on trees in its development.

Conclusion

The overall impact of this proposed subdivision on the trees now existing on site is moderate to negligible and the plan is of an appropriate design. It contemplates, on the average, removal of less than two trees per acre, including just one protected specimen per acre and of those, just one landmark specimen for every 12 acres. Any adverse effects will be of fairly short duration. Where the impact on individual lots is high, mitigation can be easily effected through tree habitat reinstatement or modification of the grading ratios. The use of steeper ratios has a sound precedent in the development of San Carlos Ranch, which involved substantially similar issues.

Endorsement

Bryan E. Bradford

December 28, 2007

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