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Report of Certified Arborist

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

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 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 rout.

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 on 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