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Project:
1930 Ocean Street Extension
Santa Cruz, Ca.
A.P.N. 008-044-02

Arborist Report

On March 10, 2010 I made a site visit to the project location stated above, to examine the existing trees. The proposed project consists of 10 apartment buildings with various accessory buildings and amenities. I have reviewed the Architectural, Landscape and Civil Engineering drawings including Utility Plans, Grading Plans and Drainage Plans. The existing trees on the site are numbered and described below. Descriptions include species, condition and recommendations for removal or preservation. The numbers correspond to tree numbers on the Landscape Site Plan prepared by Janet Pollock, dated February 19, 2010 for trees to be removed.

Tree #1 is a *Eucalyptus globulus* (Blue Gum). The tree has 2 trunks from the root crown. The DBH (diameter at breast height, 4-6" above grade) is 38". It is approximately 75' tall with an average crown spread of 30'. The tree is located at the top of a fill slope created when Graham Hill Road was originally graded. A large eucalyptus of the same species located near this tree on the adjacent parcel fell recently, likely due to wind, soil saturation and the unconsolidated nature of the fill.

The tree is a hazard at this time and will become a significant hazard when the project is completed. This species is an invasive non-native tree that has spread into riparian areas and oak woodlands, crowding out native species. Many limbs of this tree are long with most of the weight at the ends of the limbs. It is common for branches of this species to break and fall for

various reasons. Its leaves and bark drop year round and contain oils that inhibit growth of under story plants. The litter generated by this species clogs drainage swales, drains and drain pipes. I recommend that this tree be **removed**.

Tree #2 is a *Eucalyptus globulus* (Blue Gum). It has one trunk with a DBH of 38" and 5 additional trunks from the base with DBH's of 12" to 14". The tree is approximately 75' tall with an average crown spread of 35'. The tree is not a Heritage Tree as defined by City of Santa Cruz Heritage Tree Ordinance. The tree is located at the top of a fill slope created when Graham Hill Road was graded. It appears that some limbs have been removed to provide clearance for the adjacent overhead power lines. I recommend that this tree be **removed** for the reasons given in the discussion for removal of Tree #1.

Tree #3 is a *Eucalyptus globulus* (Blue Gum). The tree has 2 trunks with DBH's of 32" and 16". The tree is approximately 70' tall with an average crown spread of 25'. The tree is located at the top of a fill slope created when Graham Hill Road was graded. The tree is close to Tree #2 and the canopy is weighted away from the canopy of Tree #2. I recommend that this tree be **removed** for the reasons given in the discussion for removal of Tree #1.

Tree #4 is a *Eucalyptus globulus* (Blue Gum). The tree has a DBH of 12". The tree is approximately 50' tall with an average crown spread of 12'. The tree is located at the top of a fill slope created when Graham Hill Road was graded. I recommend that this tree be **removed** for the reasons given in the discussion for removal of Tree #1.

Tree #5 is a *Eucalyptus globulus* (Blue Gum). It has 5 trunks from the base with DBH's of 12" to 20". The tree is approximately 85' tall with an average crown spread of 20'. The tree is located at the top of a fill slope created when Graham Hill Road was graded. It appears that some limbs have been removed to provide clearance for the adjacent overhead power lines. I

recommend that this tree be **removed** for the reasons given in the discussion for removal of Tree #1.

Tree #6 is a *Eucalyptus globulus* (Blue Gum). It has 4 trunks from 2' above grade with DBH's of 14" to 22". The tree is approximately 85' tall with an average crown spread of 15'. The tree is located on the fill slope created common for this species. The canopy is weighted down slope. It appears that some limbs have been removed to provide clearance for the adjacent overhead power lines. I recommend that this tree be **removed** for the reasons given in the discussion for removal of Tree #1.

Tree #7 is is a *Eucalyptus globulus* (Blue Gum). The tree has a DBH of 36". The tree is approximately 80' tall with an average crown spread of 25'. The tree is located on the fill slope created when Graham Hill Road was graded. I recommend that this tree be **removed** for the reasons given in the discussion for removal of Tree #1.

Tree #8 is an *Acacia baileyana* (Bailey Acacia). The tree is approximately 35' tall with a DBH of 14" and an average crown spread of 12'. The tree is a Heritage Tree as defined by City of Santa Cruz Heritage Tree Ordinance. The tree is located on the fill slope created when Graham Hill Road was graded. This species is an invasive non-native. It reseeds aggressively. I recommend that this tree be **removed**.

Tree #9 is an *Acacia baileyana* (Bailey Acacia). The tree is approximately 45' tall with a DBH of 14" and an average crown spread of 25'. The tree is a Heritage Tree as defined by City of Santa Cruz Heritage Tree Ordinance. The tree is located in the open meadow. The trunk leans towards the west and the canopy is weighted down slope towards the west. This species is an invasive non-native. It reseeds aggressively. I recommend that this tree be **removed**.

Tree #10 is a *Quercus agrifolia* (Coast Live Oak). It is approximately 35' tall with an average crown spread of 50'. The tree is a Heritage Tree as defined by City of Santa Cruz Heritage Tree Ordinance. The drip line is mapped on

the Grading Plan prepared by Bowman & Williams, dated February 22, 2010. A plan view of the major limbs of the tree is shown on the Site Plan A1.1, prepared by architect Dennis Diego, dated March 2, 2010. There are two trunks with DBH's of 16" and 18". The crotch between the two limbs is a little soft suggesting some decay is present. Debris shall be removed from this crotch. There is some included bark at this crotch. The foliage is in good condition. The canopy is full and the foliage is in good condition.

Proposed apartment buildings 2A and 3A will be built on either side of this tree. Two branches will need to be removed. The pruning shall take place before any clearing or grading of the site. Each branch has a diameter of 10" where it meets the parent limb. The cuts shall be thinning cuts, not heading cuts and should be performed by a licensed arborist. Thinning cuts shall be utilized to balance the canopy. The tree shall be fenced and the root zone protected according to the measures described in the section of this report titled "Fencing and Protective Measures". This tree shall be monitored annually by a licensed arborist, as the tree matures and the trunks expands.

Tree # 11 is a *Quercus agrifolia* (Coast Live Oak). The tree is a Heritage Tree as defined by City of Santa Cruz Heritage Tree Ordinance. It is approximately 35' tall with an average crown spread of 40'. The drip line is mapped on the Grading Plan. There are two trunks with DBH's of 16" and 17". A plan view of the major limbs of the tree is shown on the Site Plan A1.1, prepared by architect Dennis Diego, dated March 2, 2010. There is some twig dieback at the top of the canopy. The foliage is in good condition.

Some light pruning maybe required in the upper canopy. This pruning should take place after the foundation for Building 2A has been laid out. Refer to the fencing and other protective measures outlined above in the discussion for Tree #10. The tree shall be fenced and the root zone protected according to the measures described in the section of this report titled "Fencing and Protective Measures". This tree shall be monitored annually by a licensed arborist, as the tree matures and the trunks expands.

Tree #12 is a *Quercus agrifolia* (Coast Live Oak). It is approximately 35' tall with an average crown spread of 45'. The tree is a Heritage Tree as defined by City of Santa Cruz Heritage Tree Ordinance. The drip line is mapped on

the Grading Plan. A plan view of the major limbs of the tree is shown on the Site Plan A1.1 prepared by architect Dennis Diego, dated March 2, 2010. There are two trunks with DBH's of 16" and 18". The crotch between the two limbs is a little soft suggesting some decay is present. Debris shall be removed from this crotch. The canopy is full except for some twig dieback in the upper canopy and the foliage is in good condition. This tree shall be monitored annually by a licensed arborist, as the tree matures and the trunks expands.

The tree shall be fenced and the root zone protected according to the measures described in the section of this report titled "Fencing and Protective Measures". The proposed Site Plan indicates that a 2' retaining wall will be built approximately 10' from the trunk of this tree. If roots over 3" diameter are revealed during grading for the retaining wall, the road, parking spaces and the foundation of Building 4B, they should be cut cleanly, not ripped, and wrapped with burlap. The burlap shall be secured with string and kept moist until back filling occurs.

Tree #13 is a *Quercus agrifolia* (Coast Live Oak). It is approximately 35' tall with an average crown spread of 35'. The tree is a Heritage Tree as defined by City of Santa Cruz Heritage Tree Ordinance. The drip line is mapped on the Grading Plan prepared by Bowman & Williams, dated January 13, 2010. A plan view of the major limbs of the tree is shown on the Site Plan A1.1, prepared by architect Dennis Diego, dated March 2, 2010. There are three trunks from 2' above grade. The DBH's of these trunks are 14", 13", and 12". The crotch between the three trunks is very soft suggesting decay is present. Debris shall be removed from this crotch. There is included bark at this crotch. The presence of decay and included bark indicates that this is a weak junction and could lead to trunk failure and collapse as the trunks increase in size.

The proposed Site Plan indicates that some filling will take place up slope of the trunk under the drip line of the tree. The site plan shows a 6' retaining wall below the tree just outside the drip line. If any roots over 3" diameter are revealed during grading, they should be cut cleanly, not ripped, and wrapped with burlap. The burlap shall be secured with string and kept moist until back filling occurs. The entire drip line of this tree cannot be fenced due to the proximity of the fill slope. The tree shall be fenced at the limit of

grading line shown on the Grading and Drainage Plan and the root zone protected according to the measures described in the section of this report titled “Fencing and Protective Measures”. This tree shall be monitored annually by a licensed arborist, as the tree matures and the trunks expands.

Tree #14 is a Quercus agrifolia (Coast Live Oak). It is approximately 40’ tall, with a DBH of 28” and an average crown spread of 40’. The tree is a Heritage Tree as defined by City of Santa Cruz Heritage Tree Ordinance. A partial drip line is mapped on the Grading Plan prepared by Bowman & Williams, dated January 13, 2010. The tree is located part way down a steep slope that drops to a gully adjacent to the property. Existing ivy growing around the base and up the trunk shall be removed.

The grading plan indicates that this gully will be regraded and restored with native vegetation. The project arborist shall determine in the field if/how the tree can be saved and how to best protect this tree during grading.

Tree # 15 is a Quercus agrifolia (Coast Live Oak). It is approximately 35’ tall with an average crown spread of 40’. There are 3 trunks from 3’-6” above grade. The tree is a Heritage Tree as defined by City of Santa Cruz Heritage Tree Ordinance. A partial drip line is mapped on the Grading Plan prepared by Bowman & Williams, dated January 13, 2010. The tree is located at the top of a steep slope that drops down to a ravine adjacent to the property. There is a second small trunk near the base of the tree. This trunk shall be removed by a licensed arborist.

The proposed Site Plan indicates that a 3’ retaining wall will be necessary to level the area for the 3 adjacent compact parking spaces. The north wall of Building 4B is approximately 20’ from the tree. The entire drip line of the tree cannot be fenced due to the proximity of the retaining wall and parking spaces. The tree shall be fenced at the limit of grading line shown on the Grading and Drainage Plan and the root zone protected according to the measures described in the section of this report titled “Fencing and Protective Measures”. Some pruning may be required and shall be determined in the field by a licensed arborist after the foundation for Building 4B has been laid out. If roots over 3” diameter are revealed during grading for the retaining wall, the road, parking spaces and the foundation of

Building 4B, they should be cut cleanly, not ripped, and wrapped with burlap. The burlap shall be secured with string and kept moist until back filling occurs.

Fencing and Tree Protection Measures

The trees to be protected shall be fenced at the drip line or as shown on the Grading and Drainage plan. Fencing shall be 6' chain link fencing on concrete footings.

Fencing shall be put in place after the initial pruning is completed and before clearing or grading operations commence. The fencing shall stay in place until after final inspection. No dumping or storage of any kind shall occur within the fenced areas. The existing grass or leaf mulch shall be left undisturbed in the enclosed areas. Prior to foundation layout, sheets of plywood shall be laid over 3" of redwood bark in the areas between the building sites or graded areas and the fencing to reduce compaction, if deemed necessary by the project arborist. Once installed the fencing and other protection measures shall be inspected by a licensed arborist.

Replacement Trees

There are 9 trees recommended for removal. These shall be replaced with 15 gallon specimen trees at a ratio of 3 to 1. The 27 replacement trees shall be located throughout the project. The landscape plan indicates there are 75 new trees to be planted on the site.

Monitoring

The protected trees, fencing and other protection measures shall be monitored bi-monthly by a licensed arborist, from the beginning of clearing and grading until after final inspection.

Ellen Cooper

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