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 APR 11 2007

CITY OF SANTA BARBARA

June 1, 2006

Jeff Gorrell
 Lenvik and Minor Architects
 315 West Haley St.
 Santa Barbara, CA 93101

963-3357

RE: 1298 Coast Village Rd. eucalyptus trees

BACKGROUND

In April 2006, I was requested to assess the row of ficus trees along the north side of this property and address potential impacts from the proposed project, including the underground garage. Since I prepared that report, the two eucalyptus trees along Coast Village Road and Olive Mill Road, became a concern due to the extent of the underground excavation. I was asked to re-visit the property and address these trees. I went to the site on May 19 and May 25, 2006.

ASSIGNMENT

I have been assigned to evaluate the two eucalyptus trees and address potential impacts from excavation of the underground garage.

LIMITS OF ASSIGNMENT

This assignment is limited to a visual assessment. I have not been able to observe the root system prior to this visit and determine how previous excavation has affected root growth.

USE OF REPORT

This report should be used to:

- Comply with the County of Santa Barbara, Planning and Review.
- Offer guidelines for construction to minimize damage to the trees.

OBSERVATIONS

1. There are two eucalyptus trees at the project site. One is along Olive Mill Road (tree #1) and tree #2 is along Coast Village Road.
2. Tree #1 appears to be a Weeping Red Gum (*Eucalyptus camaldulensis*). It is multiple stemmed with DBHs of 18" and 15". It is approximately 45' tall and in good condition. The branches appear heavy.
3. The tree grows in a small planter area between the asphalt parking lot and the concrete sidewalk.
4. Its root system has obviously lifted all asphalt and concrete. See photos #1 and #2.
5. The project calls for an underground garage about 8' to the west of the tree.
6. At the same distance, it appears that newer asphalt was applied several years ago, in a line parallel to the sidewalk. A conversation with a mechanic at the service station indicated that a ground water remediation system was installed several years ago and the lines of the newer asphalt represents excavated trenches. He did not know the depth of the system or other details that could provide information about root cutting during that project.
7. Tree #2 is also appears to be a Red Gum tree. It has a DBH of 24" and is about 50' tall. Although branches appear to be heavy, it is in good condition. See photo #3.

8. Eucalyptus #2 grows in a planter at the south side of the sidewalk, 3' from the edge of the concrete.
9. The concrete sidewalk (76" wide) is cracked and lifted adjacent to the tree trunk. See photos #5 and #6.
10. There is a storm water conduit that runs beneath the sidewalk. Manhole covers mark the storm strain, although I cannot see where the drain leads.
11. There are also new concrete islands in the service station, immediately to the north side of the sidewalk. There is also newer asphalt marking trenches throughout the parking lot, west of the tree.
12. The proposed underground garage will not come closer than the existing sidewalk.

DISCUSSION

Historically, the extent of root cutting in this service station for new islands and underground work has been extreme. There has been an abundance of root cutting, at least near the surface where most lateral tree roots grow. The depth of the prior excavation is not clear, although for a ground water remediation system and gasoline tanks, I can only assume that earthwork has been deep.

Despite the extensive work, the trees appear to be in good condition. I cannot speculate on the quantity of roots that will be encountered from this proposed project. However, it is unlikely that many roots grow beyond previously cut areas and where obstacles from installed systems are in place. I would expect to find mats of fine absorption roots adjacent to where roots were historically cut. These may be damaged during the new project but generally are replaced by new budding roots if conditions are good (cleanly cut roots to resist dieback and soil moisture).

Also, based on the health of the trees and with ground water close by, it would be reasonable to assume that roots grow more vertically, dependant on deeper moisture rather than on lateral root growth closer to the surface (except where asphalt and concrete has been lifted and cracked).

CONCLUSIONS

- The proposed underground garage may have impact on the trees, however historical earthwork has most likely predisposed the root system to a more limited region of growth.
- Tree protection guidelines can reduce impacts.

RECOMMENDATIONS

1. Install chain link fence around the trees as far from the trunks as possible that does not prohibit work on the project. This is the tree protection zone (TPZ) and must be free from activities, debris, and storage of materials.
2. The project arborist should supervise excavation adjacent to the trees and cleanly cut roots encountered by equipment.
3. The soil profile where roots have been cut should be kept moist and covered with material (i.e. burlap) to resist drying. Based on conditions, the soil profiles and TPZ should be irrigated during spring, summer and fall months or as determined by conditions and the project arborist.
4. If root damage is extreme, it may be decided that trees must be pruned to mitigate potential risks.
5. The project arborist should document all observations and recommendations regarding the trees, and report to the project agent.

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Photo 1: View of tree #1 looking south. Note the asphalt and concrete damage from root growth.

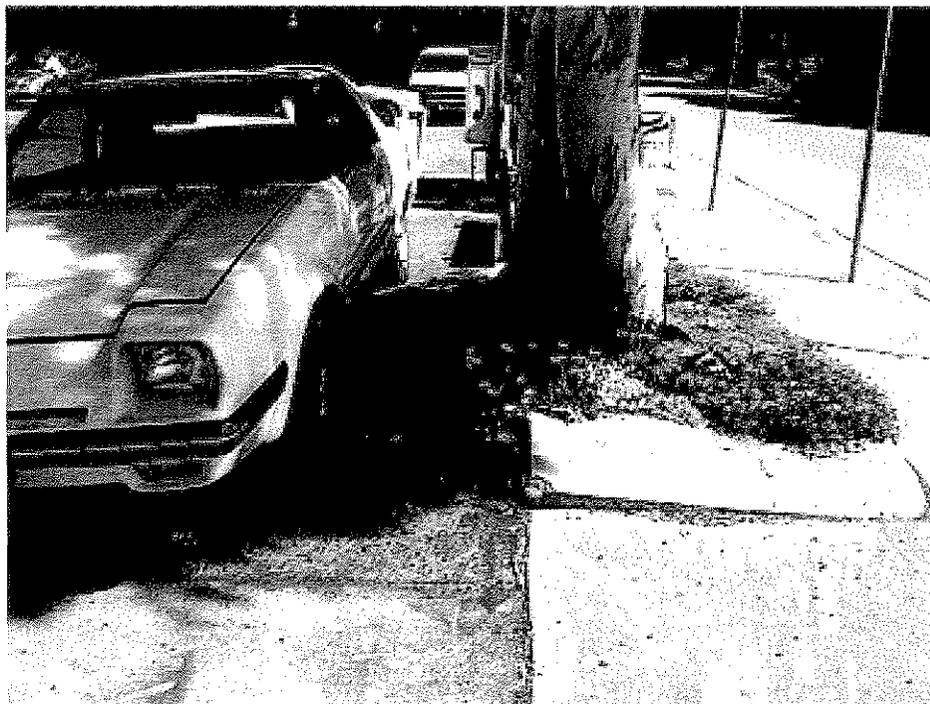


Photo 2: Same tree looking north. Although not shown, the asphalt damage ends 8' to the west side of the tree where proposed construction will occur.



Photo 3: View of tree #2.

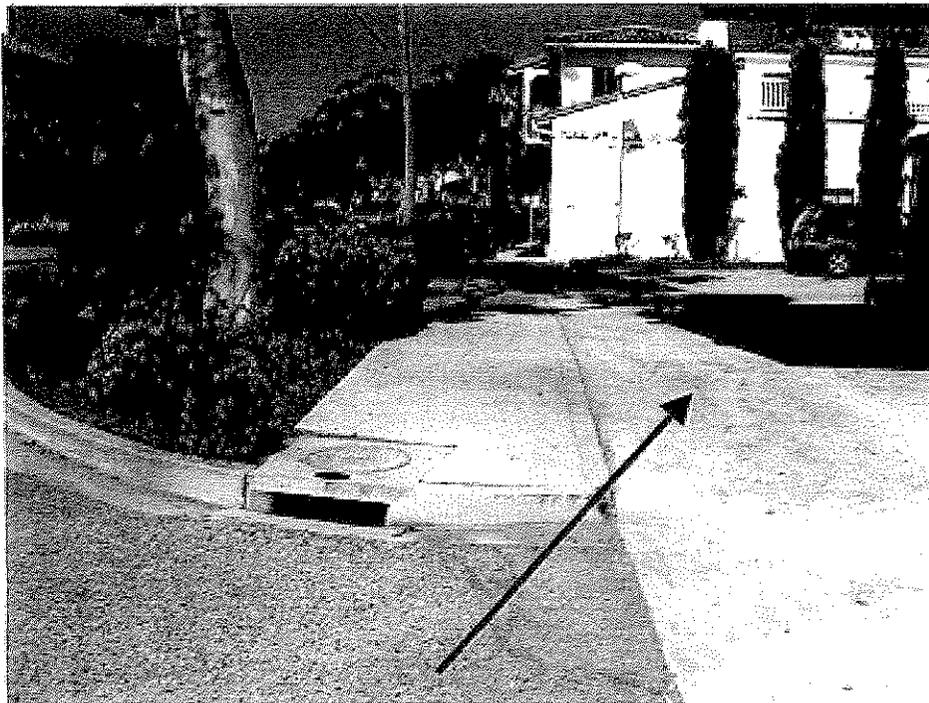


Photo 4: Note the manhole cover and storm drain on the east end of the sidewalk. The concrete by the pumps is new (arrow).



Photo 5: West end of sidewalk with manhole cover and storm drain. Note cracks in concrete.



Photo 6: Lifted concrete sidewalk adjacent to trunk.

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CITY OF SANTA BARBARA
PLANNING DIVISION

April 4, 2006

Bendy White
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RE: 1298 Coast Village Rd.

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APR 12 2006

ARCHITECT

BACKGROUND & HISTORY

Bendy White, Land Use Planner, contacted me regarding a project at 1298 Coast Village Rd. His client was proposing to build a mixed-use structure that included a driveway along the south side of a line of ficus trees. For the purpose of project approval, Bendy needed an arborist report regarding potential impacts to the trees. I evaluated the site on March 27, 2006.

ASSIGNMENT

I have been assigned to assess potential impacts to a line of ficus at the rear property line of 1298 Coast Village Road in Santa Barbara. My findings are to be documented in a report.

LIMITS OF THE ASSIGNMENT

Due to site conditions, it is unreasonable to observe roots below ground. My opinions are based on observations and experience with this tree species.

USE OF THIS REPORT

I intend for this report to be used:

- To fulfill requirements set by the Architectural Board of Review and other agencies requiring information on these trees.
- As a guideline to minimize impacts to the trees.

OBSERVATIONS

1. There are ten ficus trees (*Ficus macrocarpa nitida*) along the north property line of this parcel.
2. They vary in trunk diameter and height; between 16" and 24" in diameter, and 16' and 20' tall.
3. The trees are spaced about 8' – 10' apart.
4. They are planted in a narrow planting strip that is 32" wide. The roots abut the curb of the planter to the south and the retaining wall to the north.
5. One section of the curb is cracked and the adjacent asphalt in the parking lot has been lifted. There is a gas meter on the east side of the eastern tree.

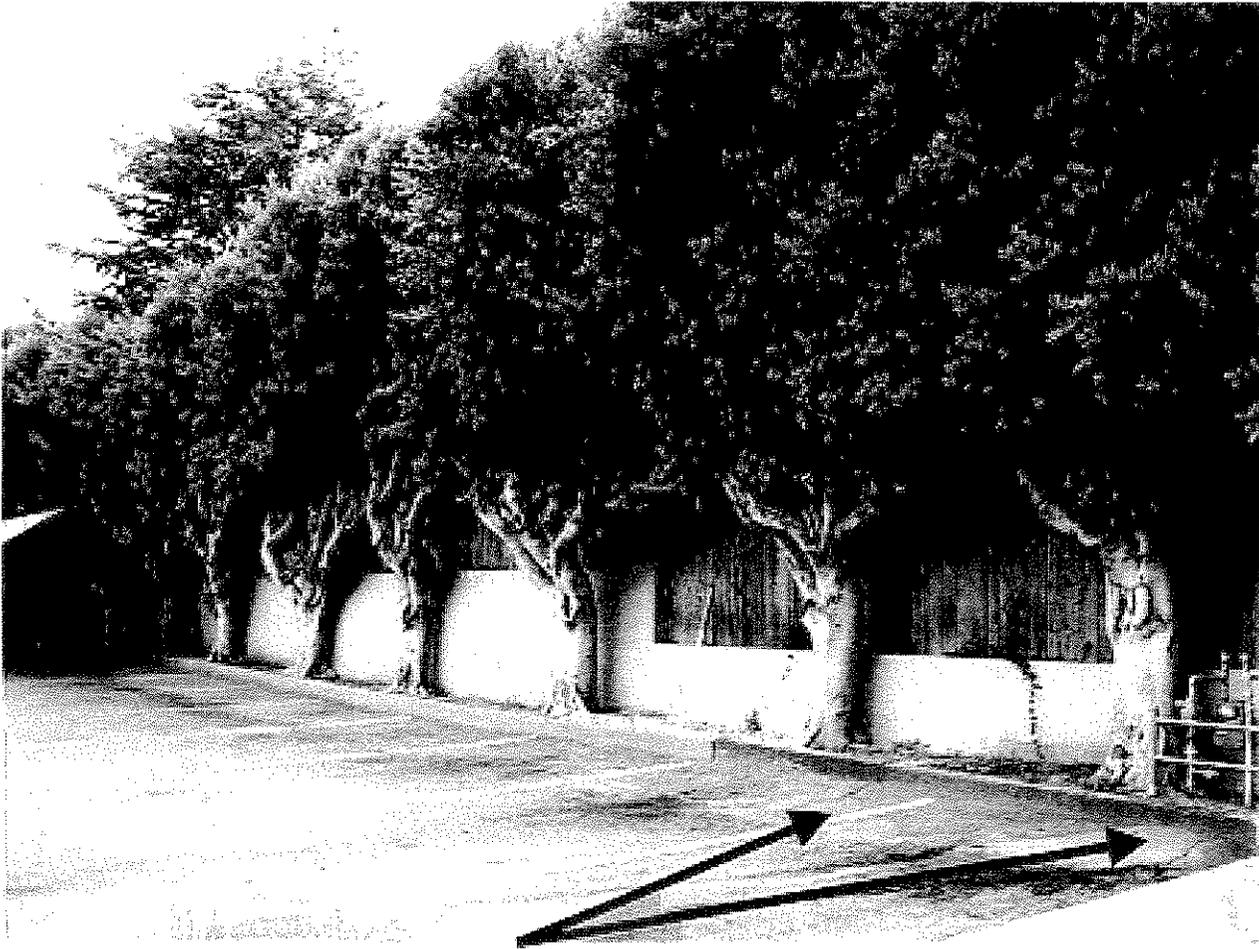


Photo 1: View of the line of ficus. Arrows point to crack and gas meter.

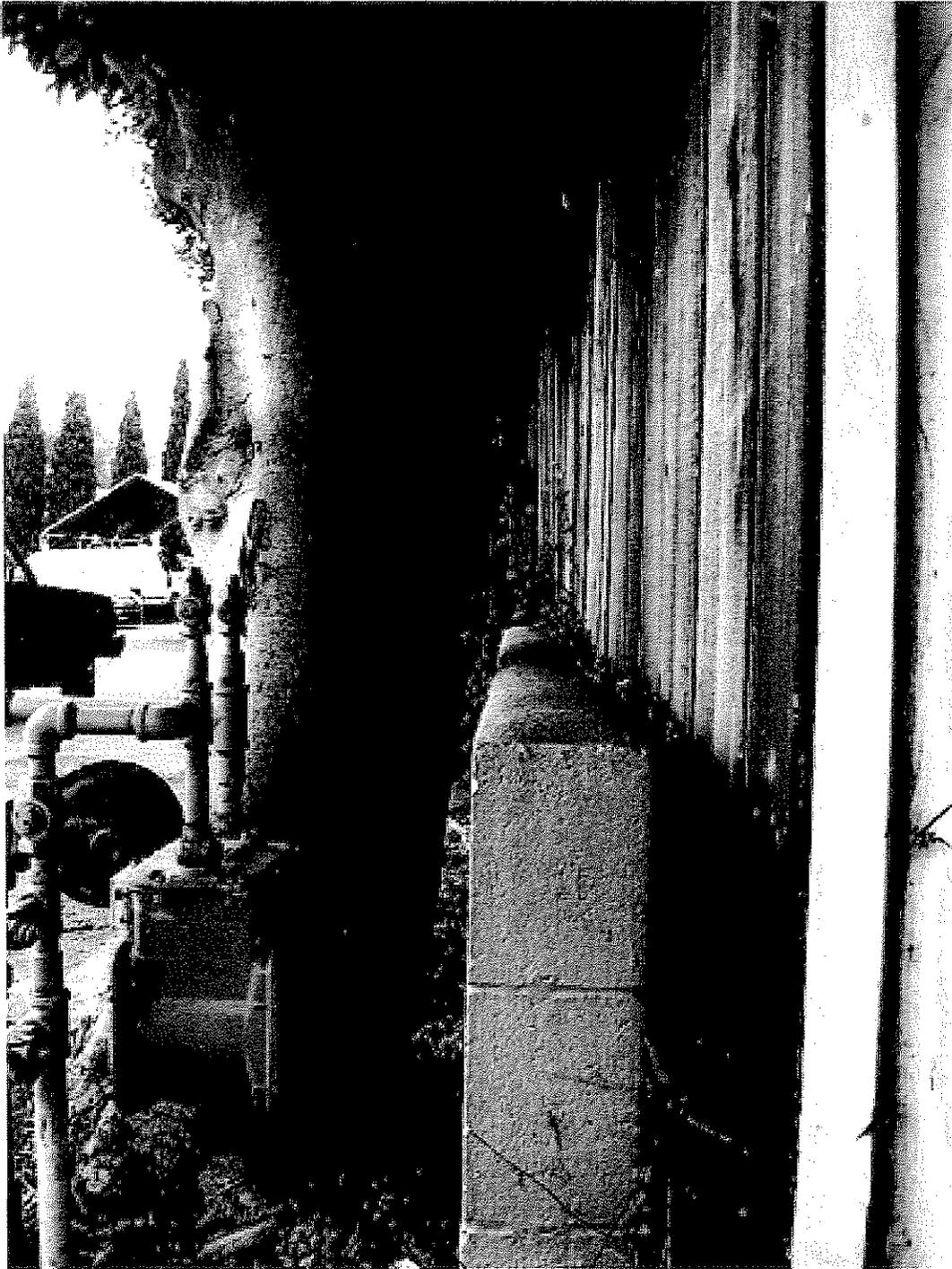


Photo 2: Note the proximity of the trees to the retaining wall.

6. On the north side of the property line (separated by the block wall and fence) is a residential property with a garage.
7. It appears the trees have been trimmed on the neighbor's side to contain their spread. On the south side, only the first ten trees have been trimmed over the parking lot. At the west end, the trees have been allowed to grow most likely due to lack of access (conflict with a car canopy).
8. The lower 6' of foliage has been pruned on the south side over the parking lot.

DISCUSSION

Ficus nitida are a fast growing tree that are frequently used as hedges and recognized city wide as a common street tree. In the city of Santa Barbara, these trees have been heavily cut and root pruned to accommodate sidewalks, curbs and gutters. Although the city has been practicing this hard-handed procedure with little consequence (regarding tree health), two trees have recently died after crown and root pruning and a few others are in bad condition. This is an indication that this species cannot be unlimitedly cut without consequence despite their reputation.

In many other situations, I have observed heavy pruning and root cutting without obvious effects. Yet science proves, severe damage to the trunk and roots cannot go without long-term impacts, despite the fact that consequences may not be recognized in the short term.

The project calls for removal of the existing curb on the south side of the tree row, and excavating soil for a lower level garage. There will undoubtedly be extensive root cutting on the south side of the trees, almost against the trunk. This will be damaging, although the trees may be able to sustain that injury for years (maybe ten) before decay sets into the trunk and impacts structural integrity.

It may be reasonable to interplant (between ficus) with small (5 gallon) trees that can replace this hedge over time. Also a decision to retain this hedge should include a plan of regular shearing (every six to twelve months) and occasional concrete/asphalt repair (perhaps every 5 years). Root barriers have been effective in reducing impacts to infrastructure and should also be considered. This may eliminate or prolong repairs to infrastructure for at least ten years.

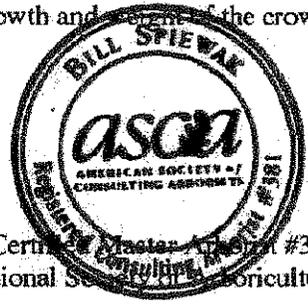
CONCLUSION/RECOMMENDATIONS

1. The project will be damaging to the trees although the impacts may not be recognized for many years.
2. During excavation, cleanly cut roots greater than 1/2" in diameter with sharp tools.
3. Install a chemical root barrier (*bio barrier*) along the south side of the trees to a depth of about 36".
4. Interplant between trunks with 5-gallon species that can grow into hedge form over the next ten years. As these trees grow, the ficus will need to be slowly trimmed away to allow the new trees to fill the space.
5. Ficus trees should be sheared regularly to reduce root growth and damage to the crown.

Please contact me with any questions.

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Photo 3: Note the proximity of the trees to the curb.