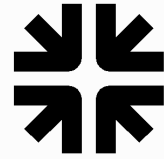


CITY OF EMERYVILLE

MEMORANDUM



DATE: October 16, 2012

TO: Patrick D. O’Keeffe, City Manager

FROM: Charles S. Bryant, Director of Planning and Building

SUBJECT: Discussion of Parkside Park Design and Removal of Existing Trees

ACTION REQUESTED

At the request of Councilmember Asher, the City Council is being asked for direction as to whether the Parkside Park (formerly called “Papermill Park”) should be redesigned to preserve any of the existing trees.

SUMMARY

The Archstone Parkside (formerly “Papermill”) apartment project was approved by the City Council in November 2008. A condition of approval requires the developer to design and construct a new City park, and a reconfigured private parking lot, adjacent to the project on the site of the existing City and private parking lot on the north side of Stanford Avenue. The plan for the park and reconfigured parking lot was approved by the City Council in February 2012. There were 33 trees surrounding this parking lot, seven of which have now been removed and the remaining 26 of which are to be removed for construction of the park and reconfigured parking lot. Construction drawings for the new park and reconfigured parking lot have been prepared, and a building permit application has been submitted, which is currently under review. Recently, citizens have raised questions as to whether some of the existing trees could be preserved. The questions before the Council are whether to require the new park and reconfigured parking lot to be redesigned so as to preserve any of the existing trees and, if so, what the source of funding should be for additional design, construction, and permit fees.

BACKGROUND

Park/Parking Lot Design.

The Papermill apartment project, including the park/parking lot concepts, was first introduced to the public at a community meeting in April 2007, and was reviewed at study sessions by the Planning Commission in August 2007, October 2007, and February 2008, and by the City Council in April 2008. It was recommended for approval

by the Planning Commission in October 2008 and was approved by the City Council in November 2008. The Council's approval required the developer to design and construct a new City park, and a reconfigured private parking lot, on the site of the existing City parking lot on the north side of Stanford Avenue, and to retain two of the brick walls of the existing building on the eastern portion of the site and incorporate them into the design of the project.

Concurrently, the City engaged in negotiations with PRC Medical Group, owners of the building on the south side of Stanford Avenue, who also own about half of the parking spaces in the existing City parking lot. They were not willing to lose this parking (which is required for their use by zoning), and there were lengthy discussions about how best to accommodate a small parking lot for them in the new park design. Several options were reviewed and considered by the City Council, ultimately resulting in the decision to build the new PRC parking lot at the east end of the park with a driveway on Doyle Street. All of the options considered would have required the removal of some of the existing trees, but this issue was not raised during these City Council discussions.

Two community meetings were held on the park design, in August 2008 and October 2011. Both were held on the project site, immediately adjacent to the proposed park location, and both were noticed to residents in the vicinity of the project. Although these meetings were sparsely attended, there were lively discussions about dog parks, bocce ball courts, exercise equipment, a plaza for the restaurant, and other park amenities. There was also discussion about trees in the new park/parking lot design, but the issue of preserving the existing trees and designing the new park around them was not raised. According to the landscape architect's notes from the second community meeting on October 11, 2011, comments related to trees included an appreciation for the proposed specimen tree in a raised planter near the corner of Hollis Street and Stanford Avenue, that open lawn was preferable to trees to keep space open, that the existing brick façade to be incorporated into the project should not be hidden by trees, and that the street trees along the western portion of Stanford Avenue could be in the lawn area instead of between the sidewalk and curb, in order to maximum the park area.

When the park and parking lot design was more fully developed, it was reviewed and approved by both the Planning Commission and the City Council. The Planning Commission considered the design on December 8, 2011. The Commission was made fully aware of the need to remove all of the existing trees. Some of the Commissioners expressed regret that the trees needed to be removed, but understood that this was necessary to accommodate the proposed park and parking lot design. The Commission, which at the time included an arborist, a landscape designer, and a landscape architect, voted unanimously to recommend City Council approval of the park/parking lot design, including the tree removal. (An email from Commissioner Gail Donaldson, who is a landscape architect, explaining her vote to a citizen, is attached for reference; see Attachment 2. Commissioner Donaldson wishes to make it clear that she

is open to considering options for retaining some of the existing trees if possible.) The agenda for the Planning Commission meeting, which also served as the public notice, clearly indicated that trees were to be removed. The community meeting was summarized in the Planning Commission staff report, and the report also included the following section:

“Tree Removal: In order to accommodate the park and the parking lot, 38 trees will be removed and replaced (See Sheet L-3). These trees lie on City-owned property are considered street trees subject to the provisions of the Urban Forestry Ordinance (UFO). However, as this is a public park, UFO Section 7-10.10 exempts the City from the requirement for tree removal permits.”

The park/parking lot design was considered by the City Council on February 7, 2012. Again, the Council was made fully aware of the need to remove all of the existing trees to accommodate the proposed design. The Council vote on the park design was 3-1, with the Mayor recused. The “no” vote was Councilmember Atkin, who had issues with the design of the dog park. At that time, none of the Council members (except the Mayor, who was recused) expressed a desire to redesign the park to retain any of the existing trees. Similar to the Planning Commission notice, the City Council public notice for this item clearly indicated the proposed removal of the trees, and the staff report included the following section:

“Tree Removal: In order to accommodate the park and the parking lot, 33 trees will be removed and replaced (See Sheet L-3). The trees to be removed are spread around the perimeter of the existing parking lot. The replacement trees and landscaping will be primarily located around proposed park as well as fronting the southern side of the proposed buildings. The trees to be removed lie on City-owned property and are considered street trees subject to the provisions of the Urban Forestry Ordinance (UFO). However, as this is a public park, UFO Section 7-10.10 exempts the City from the requirement for tree removal permits.”

(The change from 38 to 33 trees to be removed was because Archstone’s plans for the park/parking lot showed 38 existing trees, whereas their arborist report only identified 33. This is because the landscape architect took his information from old surveys, while the arborist actually looked at the trees in the field. The discrepancy of five trees includes three along the northeast edge, next to the existing brick façade, one near the Doyle/Stanford intersection, and one along Stanford Avenue near Hollis Street.)

Arborist Report.

In January 2012, after the Planning Commission had approved the park/parking lot design, Archstone submitted a report from their arborist, HortScience, Inc., on the

existing trees on the site. The City did not request this report, but felt that it should be provided to the City Council, even though the Planning Commission had not had the opportunity to review it prior to approving the park design. Therefore, the report was included in the February 7, 2012 City Council packet.

After the Council had approved the park design, it was noticed that the introductory section of the arborist report indicated that it contained information about the appraised value of the trees and guidelines for tree preservation during the design, construction and maintenance phases of development, although these sections were not actually contained in the report. When asked about this, staff recalled having told Archstone to have the arborist remove those sections from the report, since the City is not subject to the Urban Forestry Ordinance and no trees were being recommended for preservation. This could not be confirmed, however, since staff had not retained the previous version of the report. This led to questions as to whether staff had deliberately withheld this information from the Council in order to influence their decision not to preserve the existing trees.

To clear up this issue, staff has now obtained all previous versions of the report from the arborist. It turns out that there was a total of four versions of the report, prepared on January 18, January 21, January 23, and January 24. All four versions are attached for the Council's reference (see Attachments 3, 4, 5, and 6). The January 24 version is the one that was provided to the City Council at their February 7, 2012 meeting. Upon reviewing these various versions of the arborist report, it can be seen that all of them include a reference to the appraised value of the trees in the introductory section, but none of them actually include this information. Staff has confirmed with the arborist that he never prepared an appraisal of the value of the trees. The reference in the introductory section of the reports to this information was a mistake (probably based on the arborist's standard report format). Furthermore, the tree preservation guidelines that were included in the first two versions of the report related to street trees on Powell and Doyle Streets that were to be preserved, not to any of the trees on the park site. In fact, no version of this report ever recommended preservation of any of the trees on the park site. The inclusion of references to the tree preservation guidelines in the introductory section of the last two versions of the report was likewise a mistake.

The differences in the four versions of the report primarily relate to the number of trees included. In the first two versions, 47 trees are evaluated, including 33 in the City parking lot, two on the project site, ten along Powell Street, and two along Doyle Street. In the third version of the report, only the 33 trees in the parking lot and the two trees on the project site are included, and in the final version that was provided to the City Council, only the 33 trees in the parking lot are included. In the first version of the report, the two street trees on Doyle Street were recommended for preservation, and all other trees were recommended for removal. In the second version of the report, these two trees plus two of the street trees on Powell Street were recommended for preservation. Although these four trees are only of "moderate" suitability for

preservation, they were recommended for preservation because, according to the report, "These trees are located on top of an existing gas line and if removed, they could not be replaced. Preservation is predicated on following the Tree Preservation Guidelines provided at the end of this document." Since these trees were not included in the third and fourth versions of the report, the Tree Preservation Guidelines likewise were not included. (Staff had previously had the City Arborist prepare a report on the street trees on Powell and Doyle Streets, in November 2011, so this information was not necessary to include in the Archstone arborist report. On April 3, 2012, the City Council approved removal of the street trees on Powell Street, and required preservation of the two trees on Doyle Street, based on the City Arborist report.)

Building Permits and Construction Process.

The Parkside apartment project is a large, complex project involving a number of building permits. These include:

- Demolition of two existing buildings (permit B2012-0025)
- Site grading (permit G2012-0002)
- Underground storage tank removal (permit B2012-0137)
- Temporary construction trailer (permit B2012-0138)
- Temporary excavation shoring for basement of Building A (permit B2012-0039)
- Temporary bracing of existing brick wall for Building B (permit B2012-0038)
- Structural reinforcement of existing brick wall for Building B (permit B2012-0105)
- Construction of Building A (west building) (permit B2012-0199)
- Construction of Building B (east building) (permit B2012-0200)
- Construction of Building C (common building/exercise room) (permit B2012-0201)
- Construction of park and reconfigured parking lot (permit B2012-0110)

All of these permits have now been issued with the exception of construction of the park and reconfigured parking lot; that application is still under review. The total valuation of these permits, not including the park/parking lot, is about \$50 million. The valuation of the park/parking lot permit is about \$550,000.

Construction of the project will be complicated, involving a number of "moving parts". Reinforcement and modifications to the existing brick wall that is to be retained and incorporated into the project will require the erection of scaffolding where the trees in the northeastern portion of the City parking lot site are located. To this end, these seven trees have already been removed.

Construction staging is planned to take place on the northwestern portion of the City parking lot site, which will require removal of the existing trees in this area. For constricted urban sites such as this, staging often occurs within the public right-of-way with the temporary elimination of on-street parking. However, there is no parking lane

on either Hollis or Powell Street, so staging there would involve travel lane closures and traffic disruption. Staging on Doyle Street is not an option, given the existing brick wall that needs to be preserved along that frontage. Thus, the only viable option is to stage on the southern edge of the site, in the City parking lot property.

Construction traffic, especially during excavation of the basement garage in Building A, will enter the site by turning right from Powell Street, and will then cross the middle of the site to Stanford Avenue, turning right there and heading west back towards Hollis Street and the freeway. Because of the median in Powell Street, traffic cannot leave the site by turning left there, and so would have to turn right and circle the block via Doyle Street to head back to the freeway, which is not desirable. This construction traffic has to be carefully orchestrated so as not to interfere with the existing private PRC parking in the Stanford Avenue lot.

Archstone is obligated to continuously provide parking for PRC, even while the reconfigured parking lot is under construction. Some of their existing parking spaces are on the eastern portion of the site where their new parking lot will be; these, and the other existing spaces, will be reconfigured into a new temporary lot on the west end of the site. Because of the construction staging area in the northern portion of the west end of the site, this temporary parking lot will have to be shifted southward from the existing parking lot, which will require removal of the existing trees in this area. Then all spaces will be relocated to the new parking lot at the east end of the site when it is completed. After that, the new park will be built where the temporary parking lot was on the western portion of the site.

DISCUSSION

Attachment 1 shows the approved park/parking lot design with the existing trees superimposed. Symbols for the existing trees indicate information from the arborist report about tree species and suitability for preservation, rated as “good”, “moderate”, or “poor”. The seven trees in the northeast quadrant that have now been removed are shown with an “X” over their symbols. These ratings are defined as follows:

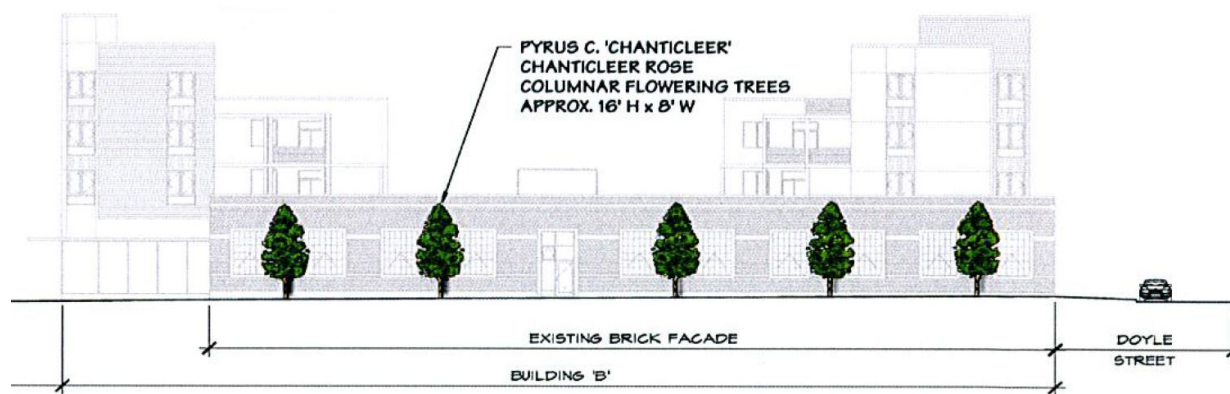
- Good:** Trees with good health and structural stability that have the potential for longevity at the site.
- Moderate:** Trees with declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in ‘good’ category.
- Poor :** Trees in poor health or with significant structural defects that cannot be mitigated. The tree is expected to continue to decline, regardless of treatment and may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Of the 33 trees on the site, 22 are Chinese elm (*Ulmus pumila*), shown on the plan as diamonds, and 11 are African fern pine (*Podocarpus gracilior*), shown on the plan as circles. Nine trees have good suitability for preservation (shown as green symbols), 22 have moderate suitability for preservation (shown as orange symbols), and two have poor suitability for preservation (shown as red symbols). All of the trees with good suitability for preservation are Chinese elms, and both trees with poor suitability are African fern pines. Of the trees with moderate suitability, nine are African fern pines and 13 are Chinese elms.

The following narrative discusses the trees in the northeast, southeast, northwest, and southwest quadrants of the site, respectively, including their feasibility of preservation in light of the characteristics of the approved project, park design and construction activities .

Northeast Quadrant.

These trees along the northern edge of the eastern portion of the existing parking lot, adjacent to the southern brick wall of the existing building, have now been removed. The brick wall is to be retained and incorporated into the new project. There were seven trees in this area, including three Chinese elms and four African fern pines. All were of moderate suitability for preservation with the exception of one African fern pine, which was of poor suitability. In the October 11, 2011 community meeting, one of the points made was that this brick wall should not be hidden by trees. Thus, the approved plan calls for five new Chanticleer Pear trees in this area, adjacent to the north edge of the new parking lot, spaced to line up between the windows of the existing brick wall, and of a size and scale compatible with this façade (see illustration below). (It should be noted that the City Arborist recommends against Chanticleer Pear trees due to the ease at which fire blight can spread from tree to tree, so these will probably be replaced with a different species of similar size and shape.)



Southeast Quadrant.

These trees are along the southern edge of the eastern portion of the existing parking lot, adjacent to Stanford Avenue at Doyle Street. There are seven trees in this area; all are Chinese elm. Four are of good suitability for preservation and three are of moderate suitability. Four are located within the area of the new PRC parking lot, two are within the area of the approved new sidewalk on the north side of Stanford Avenue, and one is on the edge of the Doyle Street driveway into the new parking lot.

Retaining the four trees within the new parking lot area would mean that the parking lot would have to be completely redesigned, and the proposed land swap between the City and PRC would have to be renegotiated after a new parking lot layout was agreed upon. Retaining the two trees in the sidewalk area would mean either that this sidewalk would have to be eliminated, that it would have to be redesigned to have street trees behind the sidewalk instead of between the curb and sidewalk, or that the sidewalk would have to have a serpentine configuration, meandering between new street trees next to the curb and existing trees behind the sidewalk.

Retaining the existing tree on the edge of the new PRC driveway might be a viable option. This is a large, nice looking tree and is of good suitability for preservation. However, keeping this tree would probably mean narrowing the driveway to one lane (meaning that cars going out would have to wait for cars going in). In fact, staff had originally proposed a one-lane driveway, but PRC was adamant that they needed a two-lane driveway for their patients and would not agree to the parking lot reconfiguration without it. Thus, a requirement to retain this tree would probably mean re-opening the negotiations with PRC, with uncertain results.

The approved plan calls for seven new Raywood Ash street trees in this area in a planter strip between the curb and sidewalk. (It should be noted that the City Arborist recommends against Raywood Ash due to Botryosphaeria and draught stress related decline, of which there are many examples in Emeryville, including on this block of Stanford Avenue. Therefore, these will probably be replaced with a different species of similar size.)

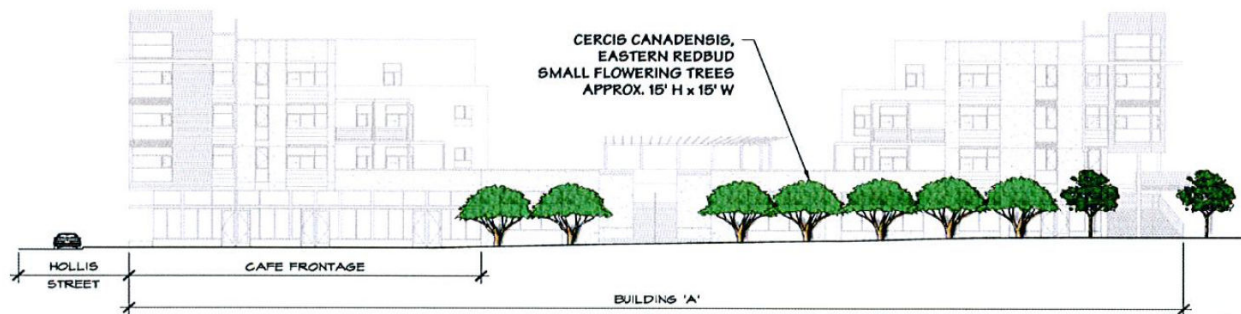
Northwest Quadrant.

These trees are along the northern edge of the western portion of the existing parking lot, adjacent to the southern edge of the site of future Parkside Building A. There are nine trees in this area, including two Chinese elms and seven African fern pines. All are of moderate suitability for preservation with the exception of one African fern pine, which is of poor suitability. These trees will need to be removed for construction staging. In addition, the excavation of the basement parking garage for Building A could damage the roots of these trees, leading to their eventual demise. Also, scaffolding will

need to be placed in this area during construction of Building A, which will also require the trees' removal.

To retain these trees would require extensive redesign of Building A, for which a building permit has already been issued. It would also require relocation of the construction staging area, probably to Powell or Hollis Street resulting in closure of a travel lane. One of the trees is at the base of the proposed "grand staircase" from the park to the Building A podium level, and three are in front of the proposed ground-floor cafe space, including one in the middle of a doorway. All of these design features on the south façade of Building A would have to be rearranged, and the basement parking garage would need to be eliminated or made smaller.

The approved design calls for nine new trees in this area, including seven Eastern Redbuds, and two Strawberry (*Arbutus*) Trees. These will be located to complement the façade of Building A while keeping the café frontage open for tables and chairs (see illustration below).



Southwest Quadrant.

These trees are along the southern edge of the western portion of the existing parking lot, adjacent to Stanford Avenue at Hollis Street. There are ten trees in this area; all are Chinese elm. Five are of good suitability for preservation and five are of moderate suitability.

Most of these trees will need to be removed to accommodate the temporary PRC parking lot during construction of their permanent lot at the eastern end of the site. This is because the construction staging area on the northern edge of the western portion of the site, as discussed above, will require the parking lot to be shifted to the south, where the trees are currently located. It may be possible to preserve one or two of the trees at the western edge of the site, adjacent to Hollis Street; however, this would require a redesign of the plaza area and proposed specimen tree in this location.

Four of the existing trees are within or on the edge of the proposed dog run; four are within or on the edge of the proposed lawn area; one is in the middle of the proposed sidewalk next to Stanford Avenue, and one is adjacent to the Hollis Street sidewalk. To preserve these trees would require a complete redesign of the park and dog run areas.

While it may appear from the plan that the existing trees are very close to the location of the approved new trees, there are significant grade differences across the site, including a berm that the existing trees sit on, that will require reconfiguration of the site topography to accommodate the approved plan. To preserve the existing trees would thus require modifications not only in the site plan, but also in site topography, which could have further implications for site design and viability of tree preservation. It would also leave insufficient room on the site to accommodate PRC's parking during construction of their permanent parking lot. (It should be noted that Archstone has unsuccessfully sought off-site parking lots for PRC to use during the construction period, but none are available in the immediate vicinity.)

The approved plan calls for nine new Raywood Ash street trees in this area to be planted behind the sidewalk in order to maximize park space and accommodate ten new on-street parking spaces to serve the project's café and retail space. (As noted above, the City Arborist recommends against Raywood Ash so these will probably be replaced with a different species of similar size.) The approved plan also calls for a specimen Magnolia Saucer tree surrounded by a curved seat wall as an accent feature near the Stanford and Hollis intersection. This tree will grow to 25 feet tall by 25 feet wide, flowering in late winter into spring, as illustrated below.



FISCAL IMPACT

In reliance on the City Council's February 7, 2012 approval of the park and parking lot design, Archstone has spent significant money on the preparation of construction drawings for the park and reconfigured parking lot, and plans to spend about \$550,000

on its construction. Plan check fees to date have totaled about \$12,400, and additional fees will be required when the building permit is issued. If the City Council requires the park and parking lot to be redesigned to preserve some of the existing trees, the City will need to pay the expenses of revising the construction drawings, additional plan check and permit fees, and any additional construction costs that may result. The Council will need to give staff direction as to the source of funds for these additional expenses.

RECOMMENDATION

Staff requests that the City Council provide direction as to whether the Parkside Park and reconfigured PRC parking lot should be redesigned to preserve some of the existing trees, and, if so, what should be the source of funds for additional costs related to design, construction, and permit fees.

SUBMITTED BY:

Charles S. Bryant
Director of Planning and Building

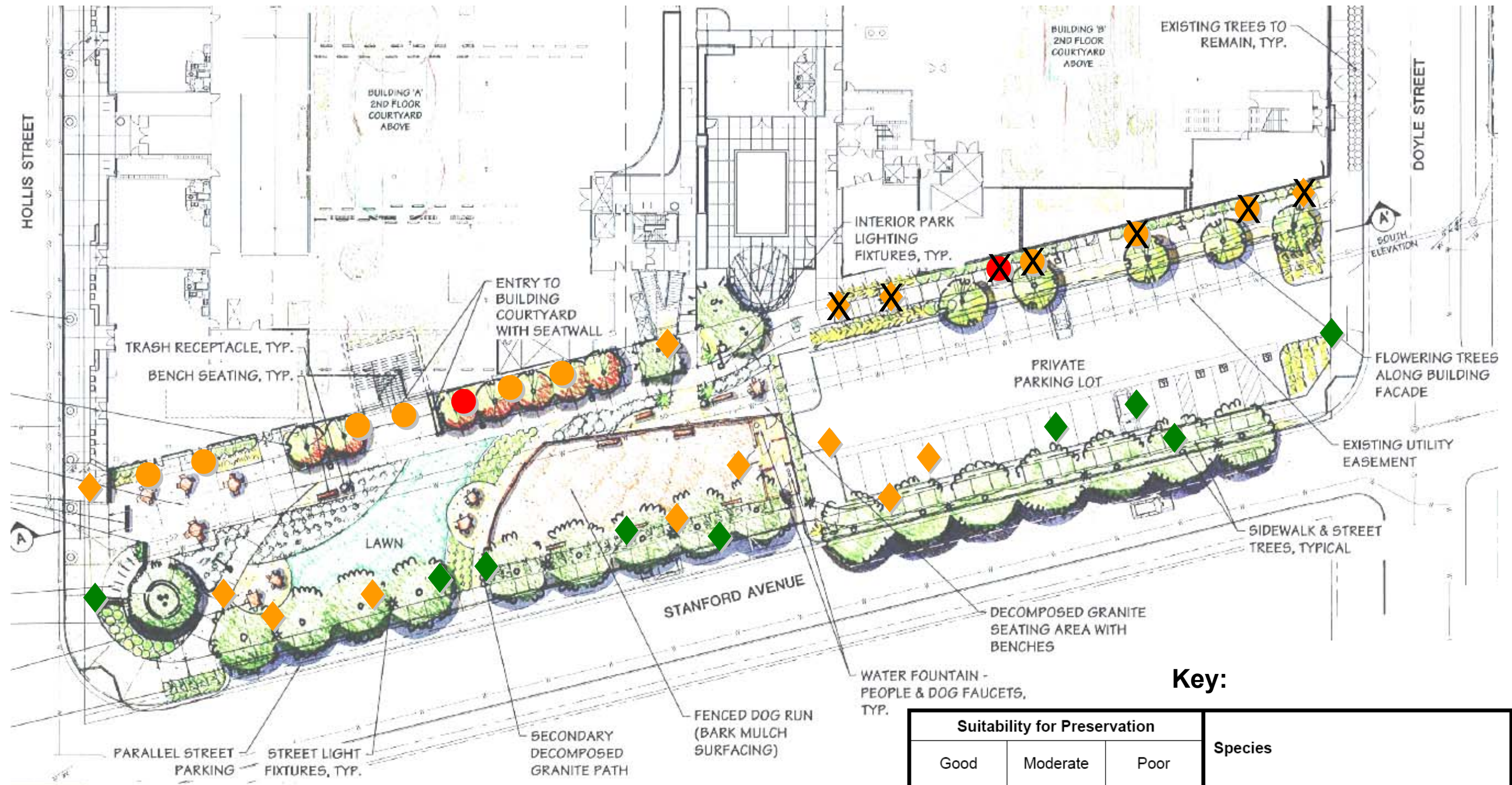
APPROVED AND FORWARDED TO THE EMERYVILLE CITY COUNCIL BY:



Patrick D. O'Keefe
City Manager

- Attachments:
1. Parkside Park Plan showing existing trees and planned improvements.
 2. Email from Planning Commissioner Gail Donaldson to Adrian McGilly, dated October 5, 2012.
 3. First version of arborist report, prepared January 18, 2012.
 4. Second version of arborist report, prepared January 21, 2012.
 5. Third version of arborist report, prepared January 23, 2012.
 6. Fourth version of arborist report, prepared January 24, 2012.

Parkside Park – Existing Trees and Planned Improvements



Key:

Suitability for Preservation			Species
Good	Moderate	Poor	
◆	◇		Chinese elm (<i>Ulmus pumila</i>)
	●	●	African fern pine (<i>Podocarpus gracilior</i>)

X = Trees removed as of 10/5/12.

Re: Questions re mature tree removal at Parkside public park

Gail Donaldson [donaldson1286@yahoo.com]

Sent: Friday, October 05, 2012 10:06 AM

To: adrian@mcgilly.com

Cc: Charles Bryant

Mr. McGilly,

Please excuse the delayed response. I have been working overtime on deadlines this week and wanted to have the time to make a thoughtful response.

I did attend one community meeting regarding the park. I did not take any notes at that meeting, but my recollection was that tree removal was discussed, and that there were varied reasons for removing the existing trees. Among those reasons was the need to reconfigure the parking lot and street front in order to be able to build a park at all, due to the private ownership of the existing parking spaces. I also recall that preservation of the trees on the western end, where the park will be, would have resulted in grading issues that would have greatly compromised the ability to create usable park space. I recall that there was in fact some discussion of whether it was feasible to retain at least several specific trees, but that their removal seemed justified. I don't recall the specific details on each tree at this point.

The notices about the Planning Commission meeting and the materials reviewed by the Planning Commission did clearly indicate that the plan called for removal of the existing trees. We were not aware of the existence of an arborist's report at that time.

I do truly appreciate the value and the beauty of mature trees. I also believe that the park as designed will result in a well used public space where there will be large, healthy trees. It is difficult when choices have to be made to evaluate these types of trade offs, and I don't make those decisions lightly.

As I stated at the study session last week, I absolutely agree with you that the City should follow the notice procedures of the UFO, especially posting notices on potentially impacted trees. There appears to be unanimous support for that from the Planning Commission, at least from those present at the last meeting.

Thank you for expressing your concerns, I think it will help to avoid this lack of adequate notice in the future.

Sincerely,

Gail Donaldson

From: Adrian McGilly <adrian@mcgilly.com>
To: donaldson1286@yahoo.com
Sent: Thursday, October 4, 2012 6:10 PM
Subject: Questions re mature tree removal at Parkside public park

Commissioner Donaldson,

I have not received a reply to this. I would appreciate one.
Thank you.

Adrian McGilly

Commissioner Donaldson,

I spoke during public comment at last Thursday's meeting just before the study session on street trees. I spoke regarding the Commission's 6-0 decision to approve the public park design on Stanford, which involves the removal of all the mature trees there. I made it clear to you how misguided I felt it was to destroy mature trees in a place that is being turned into a public park. I feel the city is lucky to have large, mature, shade-providing, greenhouse gas-fighting trees already on a site that is being turned into a public park, and it is foolish to destroy them just to achieve some narrow design aesthetic.

Another resident, Judy Timmel, spoke after me at last Thursday's meeting. Unlike me, she had attended the park design meetings and felt that it was not made clear to those in attendance that the trees shown in the design drawings were not in fact the pre-existing trees.

My questions to you are:

1. Did you at any point ask Archstone to propose a park design that incorporates some or all of the existing trees? If not, why not?
2. Were you fully aware that the design you were

approving required the removal of all the existing trees on the site?

3. Do you feel it's possible that those citizens in attendance at the design meetings weren't made perfectly aware that the design that was approved would require the destruction of all the existing trees on the site?

I appreciate your service on the planning commission. I saw for myself how challenging and time-consuming your work can be. I accept responsibility for not having attended the design meetings and spoken up sooner. But even so, I find that the system has failed me, and I am trying to understand how and why this happened. In that light, I would appreciate it if you could answer those questions.

In addition to having concerns as to how the Planning Commission handled this decision, I have uncovered several procedural mis-steps by City Staff which further doomed these trees:

1. the city staff unilaterally decided not to post signs on the trees alerting citizens that their removal was being considered and
2. the city staff manipulated the arborist report drawn up by Archstone before sending that report to the City Council in support of the resolution to approve the park design. The sections they had removed were entitled: *"Guidelines for tree preservation during the design, construction and maintenance phases of development"* and *"The appraised value of the trees."*

I have outlined these missteps in an open letter to the City Council which you can read [here](#), if you are interested.

Feel free to call me if that's easier for you than emailing. Thank you for your time.

Adrian McGilly
5514 Doyle Street, #9
Emeryville, CA
510-428-1035



DRAFT Arborist Report

**Parkside Park
Emeryville, CA**

Prepared for:
**Archstone
807 Broadway, Suite 210
Oakland, CA 94607**

Prepared by:
**HortScience, Inc.
325 Ray St.
Pleasanton, CA 94566**

**January 2012
(Prepared January 18, 2012)**



Attachment 3

DRAFT ARBORIST REPORT
Parkside Park
Emeryville, CA

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Attachments

Tree Assessment Forms

Tree Assessment Map

Introduction and Overview

Archstone is proposing the redevelopment of the Parkside Park site, located at the corners of Hollis St. and Stanford Ave., in Emeryville. The project proposes to redevelop the northern portion of the site into a high-density residential complex. A linear park is proposed in the southwestern corner of the site, in the area of the existing parking lot. HortScience, Inc. was asked to prepare an **Arborist Report** for the project, including an assessment of the tree's suitability for transplanting.

This report provides the following information:

1. An evaluation of the health and structural condition of the trees from a visual inspection.
2. An assessment of the impacts of the proposed development on the trees and identification of trees to be preserved and removed.
3. The appraised value of the trees.
4. Guidelines for tree preservation during the design, construction and maintenance phases of development.

Survey Methods

Trees were surveyed on January 4, 2012. The assessment included all trees measuring 9" and greater in diameter. The survey procedure consisted of the following steps:

1. Identifying the tree as to species;
2. Tagging each tree with an identifying number and recording its location on a map;
3. Measuring the trunk diameter of trees 9" and greater in diameter at a point 54" above grade;
4. Evaluating the health and structural condition using a scale of 1 – 5:
 - 5** - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
 - 4** - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3** - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
 - 2** - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - 1** - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated;
 - 0** - Dead.
5. Rating the suitability for preservation as "good", "moderate" or "poor". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

Good: Trees with good health and structural stability that have the potential for longevity at the site.

Moderate: Trees with declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'good' category.

Poor : Trees in poor health or with significant structural defects that cannot be mitigated. The tree is expected to continue to decline, regardless of treatment and may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Description of Trees

Forty-seven (47) trees were evaluated, representing 6 species (Table 1, following page). Eleven (11) street trees were assessed, including nine (9) along Powell Street and two (2) on Doyle Street. Descriptions of each tree are found in the **Tree Assessment Form** and locations are plotted on the **Tree Assessment Map** (see Attachments).

All trees surveyed had been planted as part of the landscape design. None of the trees were native to the site. Table 1, following page, provides tree condition by species.

Chinese elm, with 22 trees, was the most commonly encountered species. These were young trees, with diameters between 6" and 12", planted in and around the parking lot. The trees were in good (18 trees) to fair condition (4 trees). Sixteen (16) were growing on a raised berm along the southern edge of the parking lot, and had been provided adequate space to develop good form and structure (Photo 1). Two (2) trees had been planted adjacent to the building and leaned to the south (#1 and 19).



Photo 1. Chinese elms #3 (foreground), 4 (middle) and 5 (background left), were typical of the species at the Parkside Park site. Most of the Chinese elms had been planted along the berm between the parking lot and Stanford Avenue. The trees were young and had performed well.

All 12 of the African fern pines had been planted along the south side of the existing buildings, producing trees with leans or one-sided crowns to the south. The African fern pines were young in development, with diameters from 6-14". Condition was good (8 trees) to fair (4) trees.

Street trees included eight (8) New Zealand Christmas trees, two (2) callery pears and one (1) cork oak. Overall, street trees were in good condition. The New Zealand Christmas trees and the cork oak had been planted along Powell St., and the Callery pears on Doyle Street. All had been planted in small tree wells, and five (5) of the New Zealand Christmas trees were displacing the sidewalk, curb and gutter 1-5" (Photo 2, inset). The trees were one-sided north, away from the building and had been pruned on the north side by the trucks travelling east on Powell St. (Photo 2, following page).

**Table 1. Tree condition & frequency of occurrence
 Parkside Park, Emeryville CA**

Common Name	Scientific Name	Condition Rating		No. of trees
		Fair (3)	Good (4-5)	
New Zealand Christmas tree	<i>Metrosideros excelsa</i>	2	6	8
African fern pine	<i>Podocarpus gracillor</i>	4	8	12
Callery pear	<i>Pyrus calleryana</i>	-	2	2
Cork oak	<i>Quercus suber</i>	1	-	1
Water gum	<i>Tristaniopsis laurina</i>	-	2	2
Chinese elm	<i>Ulmus pumila</i>	4	18	22
Total		11	36	47
		23%	77%	100%



Photo 2. Street trees included eight (8) New Zealand Christmas trees and one (1) cork oak along Powell St., and two (2) Callery pears on Doyle Street. The trees had performed well, despite the tough growing conditions. Inset shows the base of tree #36, which had displaced the sidewalk and curb by approximately 5”.



Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to better ensure that they survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development includes the relocation of existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and construction disturbances than non-vigorous trees.
- **Structural integrity**
Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely.
- **Species response**
There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, for example, Chinese elm, African fern pine and Callery pear are tolerant of site disturbance, while New Zealand Christmas tree is more sensitive to construction impacts.
- **Tree age and longevity**
Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.
- **Invasiveness**
Trees with the potential to invade native habitats, reproduce rapidly, and grow in sub-optimal environments are considered invasive. Species with these qualities may alter the functional and aesthetic qualities of the habitats they invade. None of the species assessed at the Parkside Park site have the potential to be invasive.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see Table 2, following page).

**Table 2: Tree suitability for preservation
Parkside Park, Emeryville CA**

Good	These are trees with good health and structural stability that have the potential for longevity at the site. Ten (10) trees were of good suitability for preservation, including 9 Chinese elms and one (1) water gum.
Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. These trees require more intense management and monitoring, and may have shorter life-spans than those in the "good" category. Thirty-five (35) trees were of moderate suitability for preservation, including 13 Chinese elms, 10 African fern pines, eight (8) New Zealand Christmas trees, two (2) Callery pears, one (1) water gum and one (1) cork oak.
Poor	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Two (2) of the African fern pines were of poor suitability for preservation.

Evaluation of Impacts and Recommendations

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The ***Tree Assessment Form*** was the reference point for tree health and condition. I referred to the Site Plan and Preferred Park Concept Plan prepared by Environmental Foresight (dated 08-18-11 and 11-23-11, respectively) to estimate the impacts to trees from the proposed changes.

The Site Plan showed the location of buildings, roads and hardscape improvements, but grading, utility and drainage improvements were not represented. Surveyed tree trunk locations were included on the plans.

The project would construct a 3-story mixed use apartment project with 175 units, ground floor level retail and flex space, and a mix of subterranean and street level parking. The project design features two podium style buildings surrounding central courtyards and amenities, including a swimming pool & spa, exercise facilities, business center and community room. A city park will be constructed on the western half of the existing parking lot as part of the project.

Using the proposed plan, potential impacts from construction were estimated for each tree. The most significant impacts to the trees would occur as a result of the demolition of the existing buildings, construction of the park, reconfiguration of the parking lot and improvements along Powell Street.

Based on my assessment of the plan, removal would be required for 45 trees, including nine (9) of the street trees. Seventeen (17) of these would be impacted by demolition of the existing buildings and construction of the new buildings, 10 by the new park design and seven (7) by the parking lot reconfiguration (Table 3, following page). Street trees on Powell Street are proposed to be removed and replaced to match the streetscape on the north side of the street. Removal of street trees must be done with the City's permission.

The two (2) street trees on Doyle St. can be preserved. Preservation is predicated on following the **Tree Preservation Guidelines** provided at the end of this document.

**Table 3. Preliminary trees recommended for removal
 Parkside Park, Emeryville CA**

Tree No.	Common Name	Trunk Diameter	Reason for Removal
1	Chinese elm	10	Impacted by bldng. demo and const.
2	Chinese elm	10	Impacted by park design
3	Chinese elm	7	Impacted by park design
4	Chinese elm	9	Impacted by park design
5	Chinese elm	8	Impacted by park design
6	Chinese elm	8	Impacted by park design
7	Chinese elm	8	Impacted by park design
8	Chinese elm	9	Impacted by park design
9	Chinese elm	6	Impacted by park design
10	Chinese elm	8	Impacted by park design
11	Chinese elm	8	Impacted by park design
12	Chinese elm	11	Impacted by parking lot reconfig.
13	Chinese elm	8	Impacted by parking lot reconfig.
13	Chinese elm	8	Impacted by parking lot reconfig.
15	Chinese elm	8	Impacted by parking lot reconfig.
16	Chinese elm	8	Impacted by parking lot reconfig.
17	Chinese elm	8	Impacted by parking lot reconfig.
18	Chinese elm	12	Within new parking lot entry
19	Chinese elm	12	Impacted by bldng. demo and const.
20	African fern pine	8	Impacted by bldng. demo and const.
21	African fern pine	6	Impacted by bldng. demo and const.
22	African fern pine	8	Impacted by bldng. demo and const.
23	African fern pine	7	Impacted by bldng. demo and const.
24	Chinese elm	8	Impacted by bldng. demo and const.
25	Chinese elm	8	Impacted by bldng. demo and const.
26	Chinese elm	9	Impacted by bldng. demo and const.
27	African fern pine	9	Impacted by bldng. demo and const.
28	African fern pine	8	Impacted by bldng. demo and const.
29	African fern pine	8	Impacted by bldng. demo and const.
30	African fern pine	11	Impacted by bldng. demo and const.
31	African fern pine	11	Impacted by bldng. demo and const.
32	African fern pine	9	Impacted by bldng. demo and const.
33	African fern pine	6	Impacted by bldng. demo and const.
34	African fern pine	14	Within new bldng.
35	NZ Christmas tree	11	Within new bldng.
36	NZ Christmas tree	11	Replace to match exist. trees on Powell
37	NZ Christmas tree	10	Replace to match exist. trees on Powell
38	Water gum	8	Replace to match exist. trees on Powell
39	NZ Christmas tree	8	Within new bldng.
40	Water gum	6	Replace to match exist. trees on Powell
41	NZ Christmas tree	8	Within new bldng.
42	NZ Christmas tree	7	Replace to match exist. trees on Powell
43	Cork oak	7	Replace to match exist. trees on Powell
44	NZ Christmas tree	12	Replace to match exist. trees on Powell
45	NZ Christmas tree	11	Replace to match exist. trees on Powell

Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained at the Parkside Park site that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees will depend on the amount of excavation and grading and the construction methods.

The following recommendations will help reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Design recommendations

1. Any changes to the plans affecting the trees shall be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, demolition plans, site plans, improvement plans, utility and drainage plans, grading plans, and landscape and irrigation plans.
2. A **TREE PROTECTION ZONE (TPZ)** shall be established around each tree to be preserved. No grading, excavation, construction or storage of materials shall occur within that zone. The **TPZ** shall be established at the dripline in all directions around street trees #46 and 47.
3. No underground services including utilities, sub-drains, water or sewer shall be placed in the **TREE PROTECTION ZONE**.
4. Irrigation systems must be designed so that no trenching will occur within the **TREE PROTECTION ZONE**.
5. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.

Pre-construction treatments and recommendations

1. Fence all trees to be retained to completely enclose the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link or equivalent as approved by the Consulting Arborist. Fences are to remain until all grading and construction is completed.
2. If fencing at the dripline is not an option for the street trees, in the minimum wrap the trunk to a height of 8' with straw wattle and orange snow fencing to provide a visual cue and protection from incidental contact.
3. Trees may require pruning to provide construction clearance. All pruning shall be completed by a Certified Arborist or Tree Worker and adhere to the latest edition of the ANSI Z133 and A300 standards as well as the *Best Management Practices -- Tree Pruning* published by the International Society of Arboriculture. Brush shall be chipped and spread beneath the trees within the **TREE PROTECTION ZONE**.

Recommendations for tree protection during construction

1. Prior to beginning work, the contractors working in the vicinity of trees to be preserved are required to meet with the Consulting Arborist at the site to review all work procedures, access routes, storage areas and tree protection measures.

2. Any grading, construction, demolition or other work that is expected to encounter tree roots should be monitored by the Consulting Arborist.
3. Fences have been erected to protect trees to be preserved. Fences define a specific **TREE PROTECTION ZONE** for each tree or group of trees. Fences are to remain until all site work has been completed. Fences may not be relocated or removed without permission of the Consulting Arborist.
4. Construction trailers, traffic and storage areas must remain outside fenced areas at all times.
5. Prior to grading or trenching, trees may require root pruning outside the **TREE PROTECTION ZONE** by cutting all roots cleanly to the depth of the excavation. Roots shall be cut by manually digging a trench and cutting exposed roots with a saw, a vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment. The Consulting Arborist will identify where root pruning is required.
6. Any root pruning required for construction purposes shall receive the prior approval of and be supervised by the Consulting Arborist.
7. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
8. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the **TREE PROTECTION ZONE**.
9. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

Maintenance of impacted trees

Trees preserved at the Parkside Park site may experience a physical environment different from that pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. As trees age, the likelihood of failure of branches or entire trees increases. Thus, it is recommended that the property owner have the trees inspected annually for hazard potential.

HortScience, Inc.



John Leffingwell
Board Certified Master Arborist #WE-3966B
Registered Consulting Arborist #442

Attached: ***Tree Assessment Form***

Tree Assessment Map

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1	Chinese elm	10	4	Moderate	Close to building; one sided S.
2	Chinese elm	10	4	Good	Multiple attachments at 10'; branch wound.
3	Chinese elm	7	4	Moderate	Multiple attachments at 7'; growing in small island.
4	Chinese elm	9	4	Moderate	Multiple attachments at 7'; corrected lean E.; stubs.
5	Chinese elm	8	3	Moderate	Multiple attachments at 7'; trunk wound; fair structure.
6	Chinese elm	8	5	Good	Multiple attachments at 6'; good form and structure; stub N.
7	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
8	Chinese elm	9	4	Good	Multiple attachments at 7'; leans E.
9	Chinese elm	6	3	Moderate	Multiple attachments at 8'; fair form and structure.
10	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
11	Chinese elm	8	4	Moderate	Multiple attachments at 10'; high crown; growing in small island.
12	Chinese elm	11	4	Moderate	Multiple attachments at 10'; slight lean E.; growing in
13	Chinese elm	8	3	Moderate	Multiple attachments at 7'; fair form and structure.
13	Chinese elm	8	4	Moderate	Multiple attachments at 7'; sweeps from base.
15	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
16	Chinese elm	8	4	Good	Multiple attachments at 7'; crowded with upright form.
17	Chinese elm	8	4	Good	Multiple attachments at 8'; one sided E.
18	Chinese elm	12	5	Good	Multiple attachments at 10'; good form and structure; small laterals NE.
19	Chinese elm	12	4	Moderate	Close to building; leans SE.
20	African fern pine	8	4	Moderate	Close to building; one sided S.
21	African fern pine	6	4	Moderate	Close to building; good young tree.
22	African fern pine	8	4	Moderate	Close to building; one sided S.; recent excavation 3' E.

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
23	African fern pine	7	3	Poor	Close to building; one sided S.; poor color.
24	Chinese elm	8	4	Moderate	Multiple attachments at 8'; slight lean N.; growing in small island.
25	Chinese elm	8	4	Moderate	Multiple attachments at 8'; slight lean N.; growing in small island.
26	Chinese elm	9	3	Moderate	Multiple attachments at 8'; anthracnose canker; growing in small island.
27	African fern pine	9	4	Moderate	Close to building; one sided S.
28	African fern pine	8	4	Moderate	Close to building; one sided S.
29	African fern pine	8	3	Poor	Close to building; leans E.; poor form an structure.
30	African fern pine	11	3	Moderate	Close to building; leans E.; fair form, poor structure.
31	African fern pine	11	4	Moderate	Close to building; leans E.; good form and structure.
32	African fern pine	9	4	Moderate	Close to building; one sided S.
33	African fern pine	6	3	Moderate	Close to building; one sided S.; poor color.
34	African fern pine	14	4	Moderate	Multiple attachments at 8'; close to building; one sided S.
35	New Zealand Christmas tree	11	3	Moderate	Street tree; displacing sidewalk 3"; trunk wound N; close to building; one sided N.
36	New Zealand Christmas tree	11	4	Moderate	Street tree; displacing sidewalk & curb 5"; close to building; one sided N.
37	New Zealand Christmas tree	10	3	Moderate	Street tree; trunk wounds; close to building; one sided N.
38	Water gum	8	4	Moderate	Close to building; leans E.
39	New Zealand Christmas tree	8	4	Moderate	Street tree; fair structure; pruned by traffic N.
40	Water gum	6	4	Good	Close to building; slight lean W.
41	New Zealand Christmas tree	8	4	Moderate	Street tree; fair structure; leans NE.

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
42	New Zealand Christmas tree	7	4	Moderate	Street tree; included bark; displacing sidewalk 1".
43	Cork oak	7	3	Moderate	Street tree; fair beanch structure; leans E.
44	New Zealand Christmas tree	12	4	Moderate	Street tree; displacing sidewalk 4"; close to building; one sided N.
45	New Zealand Christmas tree	11	4	Moderate	Street tree; displacing sidewalk 2"; branch wounds; close to building; one sided N.
46	Callery pear	10	4	Moderate	Street tree; codominant trunks at 7'; fair structure; branch over building W.
47	Callery pear	10	4	Moderate	Street tree; codominant trunks at 8'; fair structure.

Tree Assessment Map

Parkside Park
Emeryville, CA

Prepared for:
Archstone
Oakland, CA

January 2012

No Scale

Notes:
Base map provided by:
Archstone
Oakland, CA

Numbered tree locations
are approximate.

TS = tree smaller than 6" in diameter
(not included in survey)



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Arborist Report

Parkside Park Emeryville, CA

Prepared for:
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807 Broadway, Suite 210
Oakland, CA 94607

Prepared by:
HortScience, Inc.
325 Ray St.
Pleasanton, CA 94566

January 2012
(Prepared January 21, 2012)



ARBORIST REPORT
Parkside Park
Emeryville, CA

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Attachments

Tree Assessment Forms

Tree Assessment Map

Introduction and Overview

Archstone is proposing the redevelopment of the Parkside Park site, located at the corners of Hollis St. and Stanford Ave., in Emeryville. The project proposes to redevelop the northern portion of the site into a high-density residential complex. A linear park is proposed in the southwestern corner of the site, in the area of the existing parking lot. HortScience, Inc. was asked to prepare an **Arborist Report** for the project, including an assessment of the tree's suitability for transplanting.

This report provides the following information:

1. An evaluation of the health and structural condition of the trees from a visual inspection.
2. An assessment of the impacts of the proposed development on the trees and identification of trees to be preserved and removed.
3. The appraised value of the trees.
4. Guidelines for tree preservation during the design, construction and maintenance phases of development.

Survey Methods

Trees were surveyed on January 4, 2012. The assessment included all trees measuring 9" and greater in diameter. The survey procedure consisted of the following steps:

1. Identifying the tree as to species;
2. Tagging each tree with an identifying number and recording its location on a map;
3. Measuring the trunk diameter of trees 9" and greater in diameter at a point 54" above grade;
4. Evaluating the health and structural condition using a scale of 1 – 5:
 - 5 - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
 - 4 - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3 - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
 - 2 - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - 1 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated;
 - 0 - Dead.
5. Rating the suitability for preservation as "good", "moderate" or "poor". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

Good: Trees with good health and structural stability that have the potential for longevity at the site.

Moderate: Trees with declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'good' category.

Poor : Trees in poor health or with significant structural defects that cannot be mitigated. The tree is expected to continue to decline, regardless of treatment and may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Description of Trees

Forty-seven (47) trees were evaluated, representing 6 species (Table 1, following page). Eleven (11) street trees were assessed, including nine (9) along Powell Street and two (2) on Doyle Street. Descriptions of each tree are found in the **Tree Assessment Form** and locations are plotted on the **Tree Assessment Map** (see Attachments).

All trees surveyed had been planted as part of the landscape design. None of the trees were native to the site. Table 1, following page, provides tree condition by species.

Chinese elm, with 22 trees, was the most commonly encountered species. These were young trees, with diameters between 6" and 12", planted in and around the parking lot. The trees were in good (18 trees) to fair condition (4 trees). Sixteen (16) were growing on a raised berm along the southern edge of the parking lot, and had been provided adequate space to develop good form and structure (Photo 1). Two (2) trees had been planted adjacent to the building and leaned to the south (#1 and 19).



Photo 1. Chinese elms #3 (foreground), 4 (middle) and 5 (background left), were typical of the species at the Parkside Park site. Most of the Chinese elms had been planted along the berm between the parking lot and Stanford Avenue. The trees were young and had performed well.

All 12 of the African fern pines had been planted along the south side of the existing buildings, producing trees with leans or one-sided crowns to the south. The African fern pines were young in development, with diameters from 6-14". Condition was good (8 trees) to fair (4) trees.

Street trees included eight (8) New Zealand Christmas trees, two (2) evergreen pears and one (1) cork oak. Overall, street trees were in good condition. The New Zealand Christmas trees and the cork oak had been planted along Powell St., and the evergreen pears on Doyle Street. All had been planted in small tree wells, and five (5) of the New Zealand Christmas trees were displacing the sidewalk, curb and gutter 1-5" (Photo 2, inset). The trees were one-sided north, away from the building and had been pruned on the north side by the trucks travelling east on Powell St. (Photo 2, following page).

**Table 1. Tree condition & frequency of occurrence
 Parkside Park, Emeryville CA**

Common Name	Scientific Name	Condition Rating		No. of trees
		Fair (3)	Good (4-5)	
New Zealand Christmas tree	<i>Metrosideros excelsa</i>	2	6	8
African fern pine	<i>Podocarpus gracillor</i>	4	8	12
Evergreen pear	<i>Pyrus kawakamii</i>	-	2	2
Cork oak	<i>Quercus suber</i>	1	-	1
Water gum	<i>Tristaniopsis laurina</i>	-	2	2
Chinese elm	<i>Ulmus pumila</i>	4	18	22
Total		11	36	47
		23%	77%	100%



Photo 2. Street trees included eight (8) New Zealand Christmas trees and one (1) cork oak along Powell St., and two (2) Callery pears on Doyle Street. The trees had performed well, despite the tough growing conditions. Inset shows the base of tree #36, which had displaced the sidewalk and curb by approximately 5”.



Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to better ensure that they survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development includes the relocation of existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and construction disturbances than non-vigorous trees.
- **Structural integrity**
Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely.
- **Species response**
There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, for example, Chinese elm, African fern pine and Callery pear are tolerant of site disturbance, while New Zealand Christmas tree is more sensitive to construction impacts.
- **Tree age and longevity**
Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.
- **Invasiveness**
Trees with the potential to invade native habitats, reproduce rapidly, and grow in sub-optimal environments are considered invasive. Species with these qualities may alter the functional and aesthetic qualities of the habitats they invade. None of the species assessed at the Parkside Park site have the potential to be invasive.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see Table 2, following page).

**Table 2: Tree suitability for preservation
Parkside Park, Emeryville CA**

Good	These are trees with good health and structural stability that have the potential for longevity at the site. Ten (10) trees were of good suitability for preservation, including 9 Chinese elms and one (1) water gum.
Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. These trees require more intense management and monitoring, and may have shorter life-spans than those in the "good" category. Thirty-five (35) trees were of moderate suitability for preservation, including 13 Chinese elms, 10 African fern pines, eight (8) New Zealand Christmas trees, two (2) evergreen pears, one (1) water gum and one (1) cork oak.
Poor	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Two (2) of the African fern pines were of poor suitability for preservation.

Evaluation of Impacts and Recommendations

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The ***Tree Assessment Form*** was the reference point for tree health and condition. I referred to the Site Plan and Preferred Park Concept Plan prepared by Environmental Foresight (dated 08-18-11 and 11-23-11, respectively) to estimate the impacts to trees from the proposed changes.

The Site Plan showed the location of buildings, roads and hardscape improvements, but grading, utility and drainage improvements were not represented. Surveyed tree trunk locations were included on the plans.

The project would construct a 3-story mixed use apartment project with 175 units, ground floor level retail and flex space, and a mix of subterranean and street level parking. The project design features two podium style buildings surrounding central courtyards and amenities, including a swimming pool & spa, exercise facilities, business center and community room. A city park will be constructed on the western half of the existing parking lot as part of the project.

Using the proposed plan, potential impacts from construction were estimated for each tree. The most significant impacts to the trees would occur as a result of the demolition of the existing buildings, construction of the park, reconfiguration of the parking lot and improvements along Powell Street.

Based on my assessment of the plan, removal would be required for 43 trees, including seven (7) of the street trees. Seventeen (17) of these would be impacted by demolition of the existing buildings and construction of the new buildings, 10 by the new park design and seven (7) by the parking lot reconfiguration (Table 3, following page). Street trees on Powell Street are proposed to be removed and replaced to match the streetscape on the north side of the street. Removal of street trees must be done with the City's permission.

Four (2) street trees, including two on Powell (#44 and 45) and two (2) on Doyle St. (#46 and 47) will be preserved. These trees are located on top of an existing gas line and if removed, they could not be replaced. Preservation is predicated on following the **Tree Preservation Guidelines** provided at the end of this document.

**Table 3. Preliminary trees recommended for removal
 Parkside Park, Emeryville CA**

Tree No.	Common Name	Trunk Diameter	Reason for Removal
1	Chinese elm	10	Impacted by bldng. demo and const.
2	Chinese elm	10	Impacted by park design
3	Chinese elm	7	Impacted by park design
4	Chinese elm	9	Impacted by park design
5	Chinese elm	8	Impacted by park design
6	Chinese elm	8	Impacted by park design
7	Chinese elm	8	Impacted by park design
8	Chinese elm	9	Impacted by park design
9	Chinese elm	6	Impacted by park design
10	Chinese elm	8	Impacted by park design
11	Chinese elm	8	Impacted by park design
12	Chinese elm	11	Impacted by parking lot reconfig.
13	Chinese elm	8	Impacted by parking lot reconfig.
13	Chinese elm	8	Impacted by parking lot reconfig.
15	Chinese elm	8	Impacted by parking lot reconfig.
16	Chinese elm	8	Impacted by parking lot reconfig.
17	Chinese elm	8	Impacted by parking lot reconfig.
18	Chinese elm	12	Within new parking lot entry
19	Chinese elm	12	Impacted by bldng. demo and const.
20	African fern pine	8	Impacted by bldng. demo and const.
21	African fern pine	6	Impacted by bldng. demo and const.
22	African fern pine	8	Impacted by bldng. demo and const.
23	African fern pine	7	Impacted by bldng. demo and const.
24	Chinese elm	8	Impacted by bldng. demo and const.
25	Chinese elm	8	Impacted by bldng. demo and const.
26	Chinese elm	9	Impacted by bldng. demo and const.
27	African fern pine	9	Impacted by bldng. demo and const.
28	African fern pine	8	Impacted by bldng. demo and const.
29	African fern pine	8	Impacted by bldng. demo and const.
30	African fern pine	11	Impacted by bldng. demo and const.
31	African fern pine	11	Impacted by bldng. demo and const.
32	African fern pine	9	Impacted by bldng. demo and const.
33	African fern pine	6	Impacted by bldng. demo and const.
34	African fern pine	14	Within new bldng.
35	NZ Christmas tree	11	Within new bldng.
36	NZ Christmas tree	11	Replace to match exist. trees on Powell
37	NZ Christmas tree	10	Replace to match exist. trees on Powell
38	Water gum	8	Replace to match exist. trees on Powell
39	NZ Christmas tree	8	Within new bldng.
40	Water gum	6	Replace to match exist. trees on Powell
41	NZ Christmas tree	8	Within new bldng.
42	NZ Christmas tree	7	Replace to match exist. trees on Powell
43	Cork oak	7	Replace to match exist. trees on Powell

Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained at the Parkside Park site that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees will depend on the amount of excavation and grading and the construction methods.

The following recommendations will help reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Design recommendations

1. Any changes to the plans affecting the trees shall be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, demolition plans, site plans, improvement plans, utility and drainage plans, grading plans, and landscape and irrigation plans.
2. A **TREE PROTECTION ZONE (TPZ)** shall be established around each tree to be preserved. No grading, excavation, construction or storage of materials shall occur within that zone. The **TPZ** shall be established at the dripline in all directions around street trees #44-47.
3. No underground services including utilities, sub-drains, water or sewer shall be placed in the **TREE PROTECTION ZONE**.
4. Irrigation systems must be designed so that no trenching will occur within the **TREE PROTECTION ZONE**.
5. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.

Pre-construction treatments and recommendations

1. Fence all trees to be retained to completely enclose the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link or equivalent as approved by the Consulting Arborist. Fences are to remain until all grading and construction is completed.
2. If fencing at the dripline is not an option for the street trees, in the minimum wrap the trunk to a height of 8' with straw wattle and orange snow fencing to provide a visual cue and protection from incidental contact.
3. Trees may require pruning to provide construction clearance. All pruning shall be completed by a Certified Arborist or Tree Worker and adhere to the latest edition of the ANSI Z133 and A300 standards as well as the *Best Management Practices -- Tree Pruning* published by the International Society of Arboriculture. Brush shall be chipped and spread beneath the trees within the **TREE PROTECTION ZONE**.

Recommendations for tree protection during construction

1. Prior to beginning work, the contractors working in the vicinity of trees to be preserved are required to meet with the Consulting Arborist at the site to review all work procedures, access routes, storage areas and tree protection measures.

2. Any grading, construction, demolition or other work that is expected to encounter tree roots should be monitored by the Consulting Arborist.
3. Fences have been erected to protect trees to be preserved. Fences define a specific **TREE PROTECTION ZONE** for each tree or group of trees. Fences are to remain until all site work has been completed. Fences may not be relocated or removed without permission of the Consulting Arborist.
4. Construction trailers, traffic and storage areas must remain outside fenced areas at all times.
5. Prior to grading or trenching, trees may require root pruning outside the **TREE PROTECTION ZONE** by cutting all roots cleanly to the depth of the excavation. Roots shall be cut by manually digging a trench and cutting exposed roots with a saw, a vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment. The Consulting Arborist will identify where root pruning is required.
6. Any root pruning required for construction purposes shall receive the prior approval of and be supervised by the Consulting Arborist.
7. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
8. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the **TREE PROTECTION ZONE**.
9. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

Maintenance of impacted trees

Trees preserved at the Parkside Park site may experience a physical environment different from that pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. As trees age, the likelihood of failure of branches or entire trees increases. Thus, it is recommended that the property owner have the trees inspected annually for hazard potential.

HortScience, Inc.



John Leffingwell
Board Certified Master Arborist #WE-3966B
Registered Consulting Arborist #442

Attached: ***Tree Assessment Form***

Tree Assessment Map

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1	Chinese elm	10	4	Moderate	Close to building; one sided S.
2	Chinese elm	10	4	Good	Multiple attachments at 10'; branch wound.
3	Chinese elm	7	4	Moderate	Multiple attachments at 7'; growing in small island.
4	Chinese elm	9	4	Moderate	Multiple attachments at 7'; corrected lean E.; stubs.
5	Chinese elm	8	3	Moderate	Multiple attachments at 7'; trunk wound; fair structure.
6	Chinese elm	8	5	Good	Multiple attachments at 6'; good form and structure; stub N.
7	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
8	Chinese elm	9	4	Good	Multiple attachments at 7'; leans E.
9	Chinese elm	6	3	Moderate	Multiple attachments at 8'; fair form and structure.
10	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
11	Chinese elm	8	4	Moderate	Multiple attachments at 10'; high crown; growing in small island.
12	Chinese elm	11	4	Moderate	Multiple attachments at 10'; slight lean E.; growing in small island.
13	Chinese elm	8	3	Moderate	Multiple attachments at 7'; fair form and structure.
13	Chinese elm	8	4	Moderate	Multiple attachments at 7'; sweeps from base.
15	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
16	Chinese elm	8	4	Good	Multiple attachments at 7'; crowded with upright form.
17	Chinese elm	8	4	Good	Multiple attachments at 8'; one sided E.
18	Chinese elm	12	5	Good	Multiple attachments at 10'; good form and structure; small laterals NE.
19	Chinese elm	12	4	Moderate	Close to building; leans SE.
20	African fern pine	8	4	Moderate	Close to building; one sided S.
21	African fern pine	6	4	Moderate	Close to building; good young tree.

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
22	African fern pine	8	4	Moderate	Close to building; one sided S.; recent excavation 3' E.
23	African fern pine	7	3	Poor	Close to building; one sided S.; poor color.
24	Chinese elm	8	4	Moderate	Multiple attachments at 8'; slight lean N.; growing in small island.
25	Chinese elm	8	4	Moderate	Multiple attachments at 8'; slight lean N.; growing in small island.
26	Chinese elm	9	3	Moderate	Multiple attachments at 8'; anthracnose canker; growing in small island.
27	African fern pine	9	4	Moderate	Close to building; one sided S.
28	African fern pine	8	4	Moderate	Close to building; one sided S.
29	African fern pine	8	3	Poor	Close to building; leans E.; poor form an structure.
30	African fern pine	11	3	Moderate	Close to building; leans E.; fair form, poor structure.
31	African fern pine	11	4	Moderate	Close to building; leans E.; good form and structure.
32	African fern pine	9	4	Moderate	Close to building; one sided S.
33	African fern pine	6	3	Moderate	Close to building; one sided S.; poor color.
34	African fern pine	14	4	Moderate	Multiple attachments at 8'; close to building; one sided S.
35	New Zealand Christmas tree	11	3	Moderate	Street tree; displacing sidewalk 3"; trunk wound N; close to building; one sided N.
36	New Zealand Christmas tree	11	4	Moderate	Street tree; displacing sidewalk & curb 5"; close to building; one sided N.
37	New Zealand Christmas tree	10	3	Moderate	Street tree; trunk wounds; close to building; one sided N.
38	Water gum	8	4	Moderate	Close to building; leans E.
39	New Zealand Christmas tree	8	4	Moderate	Street tree; fair structure; pruned by traffic N.
40	Water gum	6	4	Good	Close to building; slight lean W.
41	New Zealand Christmas tree	8	4	Moderate	Street tree; fair structure; leans NE.

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
42	New Zealand Christmas tree	7	4	Moderate	Street tree; included bark; displacing sidewalk 1".
43	Cork oak	7	3	Moderate	Street tree; fair beanch structure; leans E.
44	New Zealand Christmas tree	12	4	Moderate	Street tree; displacing sidewalk 4"; close to building; one sided N.
45	New Zealand Christmas tree	11	4	Moderate	Street tree; displacing sidewalk 2"; branch wounds; close to building; one sided N.
46	Evergreen pear	10	4	Moderate	Street tree; codominant trunks at 7'; fair structure; branch over building W.
47	Evergreen pear	10	4	Moderate	Street tree; codominant trunks at 8'; fair structure.

Tree Assessment Map

Parkside Park
Emeryville, CA

Prepared for:
Archstone
Oakland, CA

January 2012

No Scale

Notes:
Base map provided by:
Archstone
Oakland, CA

Numbered tree locations
are approximate.

TS = tree smaller than 6" in diameter
(not included in survey)



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Arborist Report

Parkside Park Emeryville, CA

Prepared for:
Archstone
807 Broadway, Suite 210
Oakland, CA 94607

Prepared by:
HortScience, Inc.
325 Ray St.
Pleasanton, CA 94566

January 2012
(Prepared January 23, 2012)



ARBORIST REPORT
Parkside Park
Emeryville, CA

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Attachments

Tree Assessment Forms

Tree Assessment Map

Introduction and Overview

Archstone is proposing the redevelopment of the Parkside Park site, located at the corners of Hollis St. and Stanford Ave., in Emeryville. The project proposes to redevelop the northern portion of the site into a high-density residential complex. A linear park is proposed in the southwestern corner of the site, in the area of the existing parking lot. HortScience, Inc. was asked to prepare an **Arborist Report** for the project, including an assessment of the tree's suitability for transplanting.

This report provides the following information:

1. An evaluation of the health and structural condition of the trees from a visual inspection.
2. An assessment of the impacts of the proposed development on the trees and identification of trees to be preserved and removed.
3. The appraised value of the trees.
4. Guidelines for tree preservation during the design, construction and maintenance phases of development.

Survey Methods

Trees were surveyed on January 4, 2012. The assessment included all trees measuring 9" and greater in diameter. The survey procedure consisted of the following steps:

1. Identifying the tree as to species;
2. Tagging each tree with an identifying number and recording its location on a map;
3. Measuring the trunk diameter of trees 9" and greater in diameter at a point 54" above grade;
4. Evaluating the health and structural condition using a scale of 1 – 5:
 - 5** - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
 - 4** - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3** - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
 - 2** - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - 1** - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated;
5. Rating the suitability for preservation as "good", "moderate" or "poor". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

- Good:** Trees with good health and structural stability that have the potential for longevity at the site.
- Moderate:** Trees with declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'good' category.
- Poor :** Trees in poor health or with significant structural defects that cannot be mitigated. The tree is expected to continue to decline, regardless of treatment and may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Description of Trees

Thirty-five (35) trees were evaluated, representing 3 species (Table 1, following page). Descriptions of each tree are found in the **Tree Assessment Form** and locations are plotted on the **Tree Assessment Map** (see Attachments).

All trees surveyed had been planted as part of the landscape design. None of the trees were native to the site. Table 1, following page, provides tree condition by species.

Chinese elm, with 22 trees, was the most commonly encountered species. These were young trees, with diameters between 6" and 12", planted in and around the parking lot. The trees were in good (18 trees) to fair condition (4 trees). Sixteen (16) were growing on a raised berm along the southern edge of the parking lot, and had been provided adequate space to develop good form and structure (Photo 1). Two (2) trees had been planted adjacent to the building and leaned to the south (#1 and 19).



Photo 1. Chinese elms #3 (foreground), 4 (middle) and 5 (background left), were typical of the species at the Parkside Park site. Most of the Chinese elms had been planted along the berm between the parking lot and Stanford Avenue. The trees were young and had performed well.

All 11 of the African fern pines had been planted along the south side of the existing buildings, producing trees with leans or one-sided crowns to the south. The African fern pines were young in development, with diameters from 6-11". Condition was good (7 trees) to fair (4) trees.

The remaining two (2) trees were water gums planted in landscaped beds adjacent to the buildings fronting Powell Street. These were young trees with diameters of 6-8". Both were in good condition, but both had been planted close to the existing buildings, producing trees with leans.

**Table 1. Tree condition & frequency of occurrence
Parkside Park, Emeryville CA**

Common Name	Scientific Name	Condition Rating		No. of trees
		Fair (3)	Good (4-5)	
African fern pine	<i>Podocarpus gracillor</i>	4	7	11
Water gum	<i>Tristaniopsis laurina</i>	-	2	2
Chinese elm	<i>Ulmus pumila</i>	4	18	22
Total		8 23%	27 77%	36 100%

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to better ensure that they survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development includes the relocation of existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and construction disturbances than non-vigorous trees.
- **Structural integrity**
Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely.
- **Species response**
There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, for example, Chinese elm and African fern pine are tolerant of site disturbance, while water gum is more sensitive to construction impacts.
- **Tree age and longevity**
Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

- **Invasiveness**

Trees with the potential to invade native habitats, reproduce rapidly, and grow in sub-optimal environments are considered invasive. Species with these qualities may alter the functional and aesthetic qualities of the habitats they invade. None of the species assessed at the Parkside Park site have the potential to be invasive.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see Table 2, following page).

**Table 2: Tree suitability for preservation
Parkside Park, Emeryville CA**

Good	These are trees with good health and structural stability that have the potential for longevity at the site. Ten (10) trees were of good suitability for preservation, including nine (9) Chinese elms and one (1) water gum.
Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. These trees require more intense management and monitoring, and may have shorter life-spans than those in the "good" category. Twenty-three (23) trees were of moderate suitability for preservation, including 13 Chinese elms, nine (9) African fern pines, and one (1) water gum.
Poor	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Two (2) of the African fern pines were of poor suitability for preservation.

Evaluation of Impacts and Recommendations

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The **Tree Assessment Form** was the reference point for tree health and condition. I referred to the Site Plan and Preferred Park Concept Plan prepared by Environmental Foresight (dated 08-18-11 and 11-23-11, respectively) to estimate the impacts to trees from the proposed changes.

The Site Plan showed the location of buildings, roads and hardscape improvements, but grading, utility and drainage improvements were not represented. Surveyed tree trunk locations were included on the plans.

The project would construct a 3-story mixed use apartment project with 175 units, ground floor level retail and flex space, and a mix of subterranean and street level parking. The project design features two podium style buildings surrounding central courtyards and amenities, including a swimming pool & spa, exercise facilities, business center and community room. A city park will be constructed on the western half of the existing parking lot as part of the project.

Using the proposed plan, potential impacts from construction were estimated for each tree. The most significant impacts to the trees would occur as a result of the demolition of the existing buildings, construction of the park, reconfiguration of the parking lot and improvements along Powell Street.

Based on my assessment of the plan, removal would be required for all 35 trees (Table 3). Twenty-five (25) trees would be impacted by the site improvements and the remaining trees will be removed in order to accommodate the public park.

**Table 3. Preliminary trees recommended for removal
 Parkside Park, Emeryville CA**

Tree No.	Common Name	Trunk Diameter	Reason for Removal
1	Chinese elm	10	Impacted by bldng. demo and const.
2	Chinese elm	10	Impacted by park design
3	Chinese elm	7	Impacted by park design
4	Chinese elm	9	Impacted by park design
5	Chinese elm	8	Impacted by park design
6	Chinese elm	8	Impacted by park design
7	Chinese elm	8	Impacted by park design
8	Chinese elm	9	Impacted by park design
9	Chinese elm	6	Impacted by park design
10	Chinese elm	8	Impacted by park design
11	Chinese elm	8	Impacted by park design
12	Chinese elm	11	Impacted by parking lot reconfig.
13	Chinese elm	8	Impacted by parking lot reconfig.
13	Chinese elm	8	Impacted by parking lot reconfig.
15	Chinese elm	8	Impacted by parking lot reconfig.
16	Chinese elm	8	Impacted by parking lot reconfig.
17	Chinese elm	8	Impacted by parking lot reconfig.
18	Chinese elm	12	Within new parking lot entry
19	Chinese elm	12	Impacted by bldng. demo and const.
20	African fern pine	8	Impacted by bldng. demo and const.
21	African fern pine	6	Impacted by bldng. demo and const.
22	African fern pine	8	Impacted by bldng. demo and const.
23	African fern pine	7	Impacted by bldng. demo and const.
24	Chinese elm	8	Impacted by bldng. demo and const.
25	Chinese elm	8	Impacted by bldng. demo and const.
26	Chinese elm	9	Impacted by bldng. demo and const.
27	African fern pine	9	Impacted by bldng. demo and const.
28	African fern pine	8	Impacted by bldng. demo and const.
29	African fern pine	8	Impacted by bldng. demo and const.
30	African fern pine	11	Impacted by bldng. demo and const.
31	African fern pine	11	Impacted by bldng. demo and const.
32	African fern pine	9	Impacted by bldng. demo and const.
33	African fern pine	6	Impacted by bldng. demo and const.
38	Water gum	8	Within new bldng.
40	Water gum	6	Within new bldng.

If you have any questions regarding my observations or recommendations, please contact me.

HortScience, Inc.

A handwritten signature in black ink that reads "John Leffingwell". The signature is written in a cursive style with a large initial "J" and "L".

John Leffingwell
Board Certified Master Arborist #WE-3966B
Registered Consulting Arborist #442

Attached: *Tree Assessment Form*

Tree Assessment Map

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1	Chinese elm	10	4	Moderate	Close to building; one sided S.
2	Chinese elm	10	4	Good	Multiple attachments at 10'; branch wound.
3	Chinese elm	7	4	Moderate	Multiple attachments at 7'; growing in small island.
4	Chinese elm	9	4	Moderate	Multiple attachments at 7'; corrected lean E.; stubs.
5	Chinese elm	8	3	Moderate	Multiple attachments at 7'; trunk wound; fair structure.
6	Chinese elm	8	5	Good	Multiple attachments at 6'; good form and structure; stub N.
7	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
8	Chinese elm	9	4	Good	Multiple attachments at 7'; leans E.
9	Chinese elm	6	3	Moderate	Multiple attachments at 8'; fair form and structure.
10	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
11	Chinese elm	8	4	Moderate	Multiple attachments at 10'; high crown; growing in small island.
12	Chinese elm	11	4	Moderate	Multiple attachments at 10'; slight lean E.; growing in small island.
13	Chinese elm	8	3	Moderate	Multiple attachments at 7'; fair form and structure.
13	Chinese elm	8	4	Moderate	Multiple attachments at 7'; sweeps from base.
15	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
16	Chinese elm	8	4	Good	Multiple attachments at 7'; crowded with upright form.
17	Chinese elm	8	4	Good	Multiple attachments at 8'; one sided E.
18	Chinese elm	12	5	Good	Multiple attachments at 10'; good form and structure; small laterals NE.
19	Chinese elm	12	4	Moderate	Close to building; leans SE.
20	African fern pine	8	4	Moderate	Close to building; one sided S.
21	African fern pine	6	4	Moderate	Close to building; good young tree.

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
22	African fern pine	8	4	Moderate	Close to building; one sided S.; recent excavation 3' E.
23	African fern pine	7	3	Poor	Close to building; one sided S.; poor color.
24	Chinese elm	8	4	Moderate	Multiple attachments at 8'; slight lean N.; growing in small island.
25	Chinese elm	8	4	Moderate	Multiple attachments at 8'; slight lean N.; growing in small island.
26	Chinese elm	9	3	Moderate	Multiple attachments at 8'; anthracnose canker; growing in small island.
27	African fern pine	9	4	Moderate	Close to building; one sided S.
28	African fern pine	8	4	Moderate	Close to building; one sided S.
29	African fern pine	8	3	Poor	Close to building; leans E.; poor form an structure.
30	African fern pine	11	3	Moderate	Close to building; leans E.; fair form, poor structure.
31	African fern pine	11	4	Moderate	Close to building; leans E.; good form and structure.
32	African fern pine	9	4	Moderate	Close to building; one sided S.
33	African fern pine	6	3	Moderate	Close to building; one sided S.; poor color.
38	Water gum	8	4	Moderate	Close to building; leans E.
40	Water gum	6	4	Good	Close to building; slight lean W.

Tree Assessment Map

Parkside Park
Emeryville, CA

Prepared for:
Archstone
Oakland, CA

January 2012

No Scale

Notes:
Base map provided by:
Archstone
Oakland, CA

Numbered tree locations
are approximate.



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Arborist Report

**Parkside Park
Emeryville, CA**

Prepared for:
**Archstone
807 Broadway, Suite 210
Oakland, CA 94607**

Prepared by:
**HortScience, Inc.
325 Ray St.
Pleasanton, CA 94566**

**January 2012
(Prepared January 24, 2012)**



Attachment 6

ARBORIST REPORT
Parkside Park
Emeryville, CA

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Introduction and Overview

Archstone is proposing the redevelopment of the Parkside Park site, located at the corners of Hollis St. and Stanford Ave., in Emeryville. The project proposes to redevelop the northern portion of the site into a high-density residential complex. A linear park is proposed in the southwestern corner of the site, in the area of the existing parking lot. HortScience, Inc. was asked to prepare an **Arborist Report** for the project, including an assessment of the tree's suitability for transplanting.

This report provides the following information:

1. An evaluation of the health and structural condition of the trees from a visual inspection.
2. An assessment of the impacts of the proposed development on the trees and identification of trees to be preserved and removed.
3. The appraised value of the trees.
4. Guidelines for tree preservation during the design, construction and maintenance phases of development.

Survey Methods

Trees were surveyed on January 4, 2012. The assessment included all trees measuring 9" and greater in diameter. The survey procedure consisted of the following steps:

1. Identifying the tree as to species;
2. Tagging each tree with an identifying number and recording its location on a map;
3. Measuring the trunk diameter of trees 9" and greater in diameter at a point 54" above grade;
4. Evaluating the health and structural condition using a scale of 1 – 5:
 - 5 - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
 - 4 - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3 - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
 - 2 - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - 1 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated;
5. Rating the suitability for preservation as "good", "moderate" or "poor". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

- Good:** Trees with good health and structural stability that have the potential for longevity at the site.
- Moderate:** Trees with declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'good' category.
- Poor :** Trees in poor health or with significant structural defects that cannot be mitigated. The tree is expected to continue to decline, regardless of treatment and may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Description of Trees

Thirty-three (32) trees were evaluated, representing 2 species (Table 1, following page). Descriptions of each tree are found in the ***Tree Assessment Form*** and locations are shown on the ***Tree Assessment Map*** (see Attachments).

All trees surveyed had been planted as part of the landscape design. None of the trees were native to the site. Table 1, following page, provides tree condition by species.

Chinese elm, with 22 trees, was the most commonly encountered species. These were young trees, with diameters between 6" and 12", planted in and around the parking lot. The trees were in good (18 trees) to fair condition (4 trees). Sixteen (16) were growing on a raised berm along the southern edge of the parking lot, and had been provided adequate space to develop good form and structure (Photo 1). Two (2) trees had been planted adjacent to the building and leaned to the south (#1 and 19).



Photo 1. Chinese elms #3 (foreground), 4 (middle) and 5 (background left), were typical of the species at the Parkside Park site. Most of the Chinese elms had been planted along the berm between the parking lot and Stanford Avenue. The trees were young and had performed well.

All 11 of the African fern pines had been planted along the south side of the existing buildings, producing trees with leans or one-sided crowns to the south. The African fern pines were young in development, with diameters from 6-11". Condition was good (7 trees) to fair (4) trees.

**Table 1. Tree condition & frequency of occurrence
Parkside Park, Emeryville CA**

Common Name	Scientific Name	Condition Rating		No. of trees
		Fair (3)	Good (4-5)	
African fern pine	<i>Podocarpus gracillor</i>	4	7	11
Chinese elm	<i>Ulmus pumila</i>	4	18	22
Total		8 24%	25 76%	33 100%

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to better ensure that they survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development includes the relocation of existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and construction disturbances than non-vigorous trees.
- **Structural integrity**
Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely.
- **Species response**
There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, for example, Chinese elm and African fern pine are tolerant of site disturbance, while water gum is more sensitive to construction impacts.
- **Tree age and longevity**
Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

- **Invasiveness**

Trees with the potential to invade native habitats, reproduce rapidly, and grow in sub-optimal environments are considered invasive. Species with these qualities may alter the functional and aesthetic qualities of the habitats they invade. None of the species assessed at the Parkside Park site have the potential to be invasive.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see Table 2, following page).

**Table 2: Tree suitability for preservation
Parkside Park, Emeryville CA**

Good	These are trees with good health and structural stability that have the potential for longevity at the site. Nine (9) of the Chinese elms were of good suitability for preservation.
Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. These trees require more intense management and monitoring, and may have shorter life-spans than those in the "good" category. Twenty-two (22) trees were of moderate suitability for preservation, including 13 Chinese elms and nine (9) African fern pines.
Poor	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Two (2) of the African fern pines were of poor suitability for preservation.

Evaluation of Impacts and Recommendations

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The ***Tree Assessment Form*** was the reference point for tree health and condition. I referred to the Site Plan and Preferred Park Concept Plan prepared by Environmental Foresight (dated 08-18-11 and 11-23-11, respectively) to estimate the impacts to trees from the proposed changes.

The Site Plan showed the location of buildings, roads and hardscape improvements, but grading, utility and drainage improvements were not represented. Surveyed tree trunk locations were included on the plans.

The project would construct a 3-story mixed use apartment project with 175 units, ground floor level retail and flex space, and a mix of subterranean and street level parking. The project design features two podium style buildings surrounding central courtyards and amenities, including a swimming pool & spa, exercise facilities, business center and community room. A city park will be constructed on the western half of the existing parking lot as part of the project.

Using the proposed plan, potential impacts from construction were estimated for each tree. The most significant impacts to the trees would occur as a result of the demolition of the existing buildings, construction of the park and reconfiguration of the parking lot.

Based on my assessment of the plan, removal would be required for all 33 trees (Table 3).

**Table 3. Preliminary trees recommended for removal
Parkside Park, Emeryville CA**

Tree No.	Common Name	Trunk Diameter
1	Chinese elm	10
2	Chinese elm	10
3	Chinese elm	7
4	Chinese elm	9
5	Chinese elm	8
6	Chinese elm	8
7	Chinese elm	8
8	Chinese elm	9
9	Chinese elm	6
10	Chinese elm	8
11	Chinese elm	8
12	Chinese elm	11
13	Chinese elm	8
13	Chinese elm	8
15	Chinese elm	8
16	Chinese elm	8
17	Chinese elm	8
18	Chinese elm	12
19	Chinese elm	12
20	African fern pine	8
21	African fern pine	6
22	African fern pine	8
23	African fern pine	7
24	Chinese elm	8
25	Chinese elm	8
26	Chinese elm	9
27	African fern pine	9
28	African fern pine	8
29	African fern pine	8
30	African fern pine	11
31	African fern pine	11
32	African fern pine	9
33	African fern pine	6

If you have any questions regarding my observations or recommendations, please contact me.

HortScience, Inc.

A handwritten signature in black ink that reads "John Leffingwell". The signature is written in a cursive style with a large initial "J" and "L".

John Leffingwell
Board Certified Master Arborist #WE-3966B
Registered Consulting Arborist #442

Attached: *Tree Assessment Form*

Tree Assessment Map

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
1	Chinese elm	10	4	Moderate	Close to building; one sided S.
2	Chinese elm	10	4	Good	Multiple attachments at 10'; branch wound.
3	Chinese elm	7	4	Moderate	Multiple attachments at 7'; growing in small island.
4	Chinese elm	9	4	Moderate	Multiple attachments at 7'; corrected lean E.; stubs.
5	Chinese elm	8	3	Moderate	Multiple attachments at 7'; trunk wound; fair structure.
6	Chinese elm	8	5	Good	Multiple attachments at 6'; good form and structure; stub N.
7	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
8	Chinese elm	9	4	Good	Multiple attachments at 7'; leans E.
9	Chinese elm	6	3	Moderate	Multiple attachments at 8'; fair form and structure.
10	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
11	Chinese elm	8	4	Moderate	Multiple attachments at 10'; high crown; growing in small island.
12	Chinese elm	11	4	Moderate	Multiple attachments at 10'; slight lean E.; growing in small island.
13	Chinese elm	8	3	Moderate	Multiple attachments at 7'; fair form and structure.
13	Chinese elm	8	4	Moderate	Multiple attachments at 7'; sweeps from base.
15	Chinese elm	8	5	Good	Multiple attachments at 7'; good form and structure.
16	Chinese elm	8	4	Good	Multiple attachments at 7'; crowded with upright form.
17	Chinese elm	8	4	Good	Multiple attachments at 8'; one sided E.
18	Chinese elm	12	5	Good	Multiple attachments at 10'; good form and structure; small laterals NE.
19	Chinese elm	12	4	Moderate	Close to building; leans SE.
20	African fern pine	8	4	Moderate	Close to building; one sided S.
21	African fern pine	6	4	Moderate	Close to building; good young tree.

Tree Assessment

Parkside Park
Emeryville, California
January 2012



TREE No.	SPECIES	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
22	African fern pine	8	4	Moderate	Close to building; one sided S.; recent excavation 3' E.
23	African fern pine	7	3	Poor	Close to building; one sided S.; poor color.
24	Chinese elm	8	4	Moderate	Multiple attachments at 8'; slight lean N.; growing in small island.
25	Chinese elm	8	4	Moderate	Multiple attachments at 8'; slight lean N.; growing in small island.
26	Chinese elm	9	3	Moderate	Multiple attachments at 8'; anthracnose canker; growing in small island.
27	African fern pine	9	4	Moderate	Close to building; one sided S.
28	African fern pine	8	4	Moderate	Close to building; one sided S.
29	African fern pine	8	3	Poor	Close to building; leans E.; poor form and structure.
30	African fern pine	11	3	Moderate	Close to building; leans E.; fair form, poor structure.
31	African fern pine	11	4	Moderate	Close to building; leans E.; good form and structure.
32	African fern pine	9	4	Moderate	Close to building; one sided S.
33	African fern pine	6	3	Moderate	Close to building; one sided S.; poor color.

Tree Assessment Map

Parkside Park
Emeryville, CA

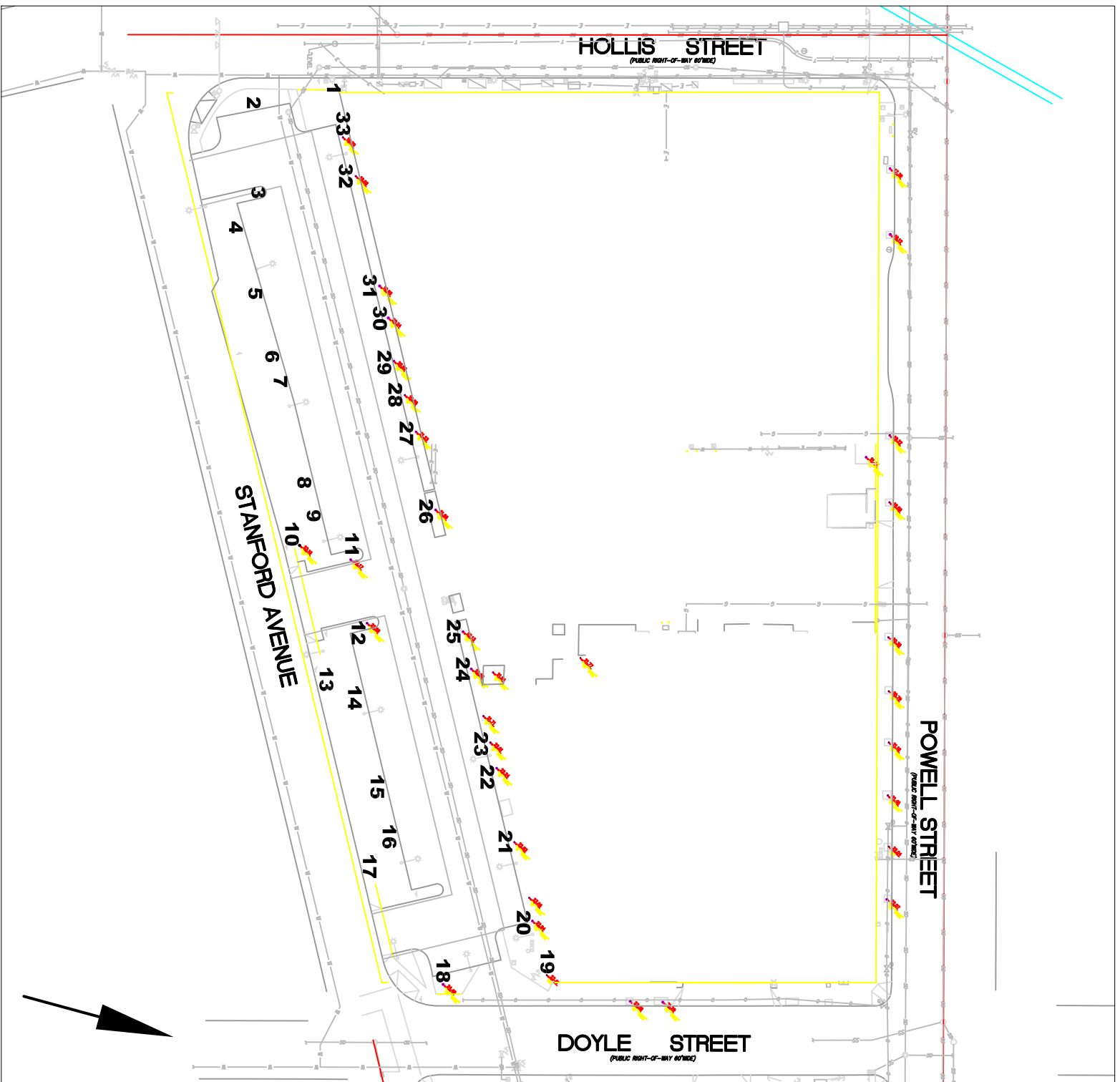
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