LIVE OAK ASSOCIATES, INC.
an Ecological Consulting Firm

May 18, 2015

Nick Pappani
Raney Management
1501 Sports Drive
Sacramento, CA 95834

Subject: Tree Survey Report for the Monterey Central Residential Development project in the City of Morgan Hill, Santa Clara County, California (PN 1940-01)

Dear Mr. Pappani,

Per your request, Live Oak Associates, Inc. (LOA) conducted a tree survey for the approximately 0.9 acre project site located near the corner of East Central Avenue and Monterey Road, Morgan Hill, California (Figure 1). It is our understanding that the proposed project consists of the development of a residential complex with 3 multi-unit buildings, a private access road and turn-around. Therefore, LOA conducted a survey of all trees within the property including those rooted immediately outside of the property but with some likelihood of being impacted by site development. LOA's Certified Arborist Neal Kramer (WE-7833A) conducted this tree survey on May 11, 2015.

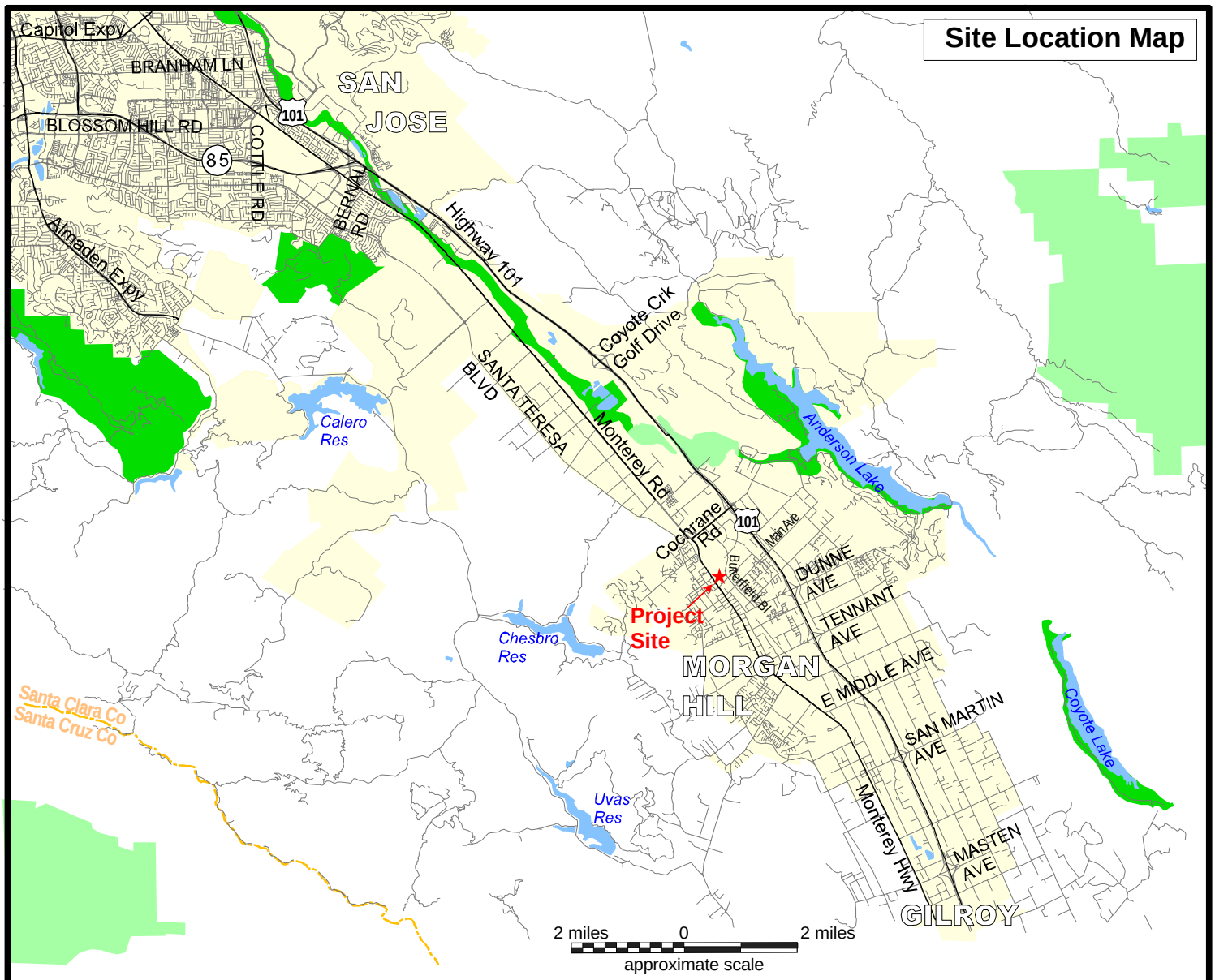
City of Morgan Hill Definitions

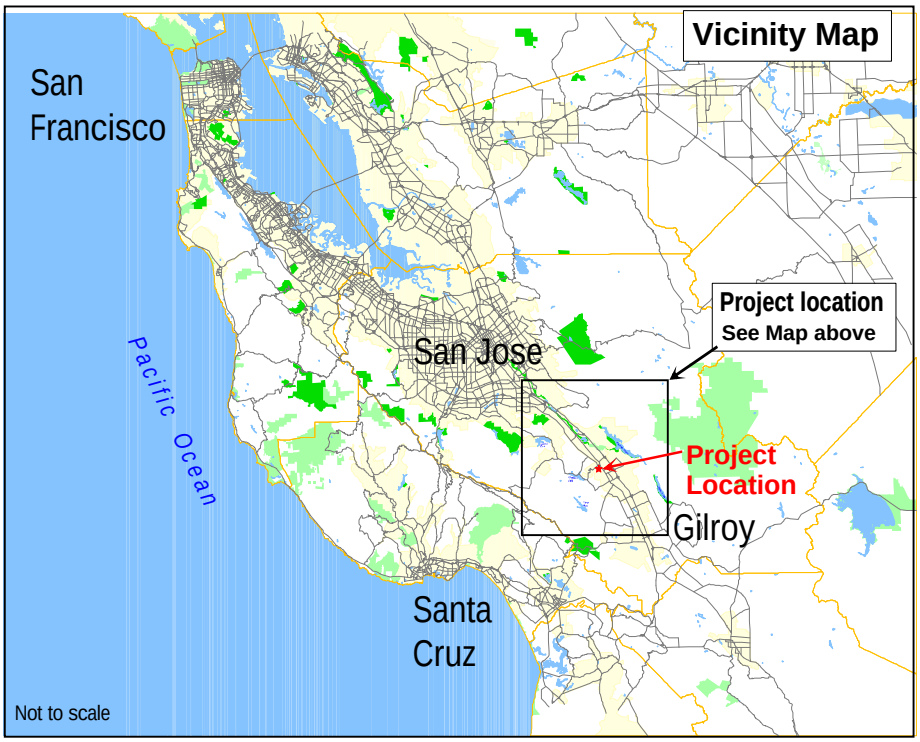
Morgan Hill Municipal Code Section 12.32.020 defines a "tree" as: any live woody plant rising above the ground with a single stem or trunk of a circumference of forty inches (approx. 12.7" dia.) or more for nonindigenous species and eighteen inches (approx. 5.7" dia.) or more for indigenous species measured at four and one-half feet vertically above the ground or immediately below the lowest branch, whichever is lower, and having the inherent capacity of naturally producing one main axis continuing to grow more vigorously than the lateral axes. Trees of any size within the public right-of-way shall constitute a tree for the purposes of this subsection.

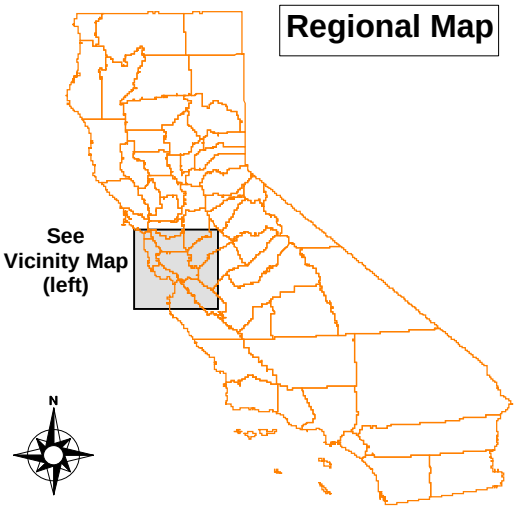
An "indigenous tree" is defined as: Any tree which is native to the Morgan Hill region. Such trees include oaks (all types), California bay, madrone, western sycamore and alder.

METHODS

All trees within the project boundaries, as well as trees immediately adjacent that could be potentially impacted by the project, with a trunk circumference of 18 inches (approx. 5.7" dia.) or greater measured at 54 inches above the ground were surveyed for this report. The survey







Live Oak Associates, Inc.

Monterey Central
Vicinity Map

Date	Project #	Figure #
5/12/2015	1940-01	1

included a record of the tree species, circumference, approximate tree height and canopy spread, and a general assessment of each tree's health and structure. Each tree surveyed was marked with a numbered aluminum tag (excluding offsite trees), and the approximate trunk location was mapped.

SURVEY RESULTS AND DISCUSSION

A total of 28 trees representing 8 species were documented for this survey (Table 1). These include 8 coast live oaks (*Quercus agrifolia*), 8 green acacias (*Acacia dealbata*), 4 valley oaks (*Quercus lobata*), 3 black walnuts (*Juglans hindsii*), 2 cottonwoods (*Populus sp.*), 1 American sycamore (*Platanus occidentalis*), 1 California pepper (*Schinus molle*), and 1 coast redwood (*Sequoia sempervirens*). Two of these species - coast live oak and valley oak - are native to this site. Trees located offsite include one each of the black walnut, green acacia, American sycamore, and coast redwood. Trees are primarily concentrated along the northwest and southeast margins of the property with scattered trees in the central portion of the site (Figure 2).

Table 1. Tree Survey Results for the Monterey Central Project, Morgan Hill, California, May 11, 2015

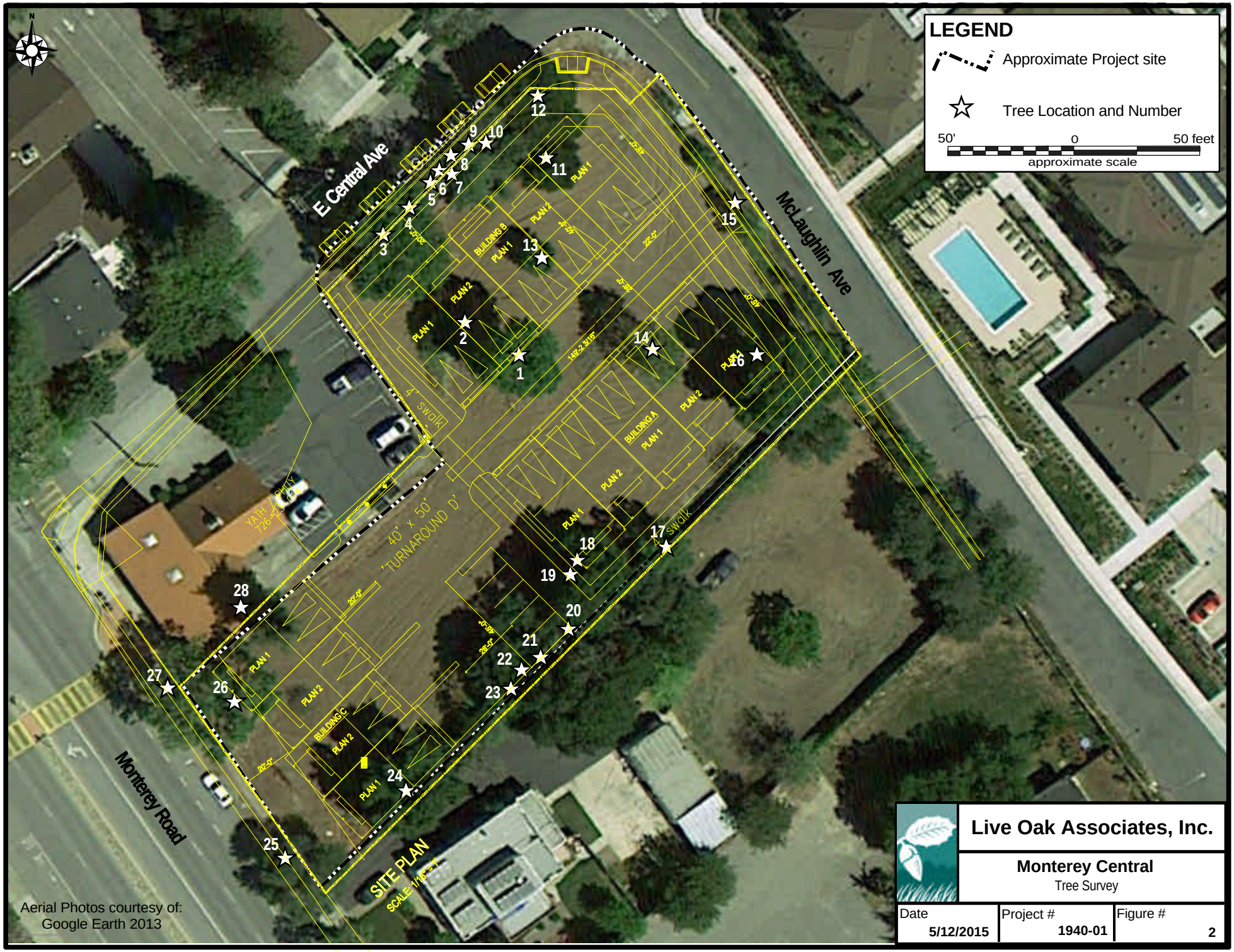
#	Common Name	Scientific Name	Native	M.H. tree[1]	Circumference @ 54" above the ground (inches)[2]	Approx. Height (feet)	Approx. Spread (feet)	Condition[3]	Retain Tree
1	Valley oak*	*Quercus lobata*	Yes	Yes	72	52	32	Fair	-
2	Coast live oak*	*Quercus agrifolia*	Yes	No	16	14	13	Good	-
3	Valley oak*	*Quercus lobata*	Yes	Yes	52, 42, 41, 31 [166]	45	38	Fair	-
4	Green acacia	*Acacia dealbata*	No	Yes	35, 25 [60]	27	25	Poor	-
5	Green acacia	*Acacia dealbata*	No	Yes	47	30	18	Dead	-
6	Green acacia	*Acacia dealbata*	No	No	20	23	13	Fair	-
7	Green acacia	*Acacia dealbata*	No	No	35	35	25	Fair	-
8	Green acacia	*Acacia dealbata*	No	No	31	18	28	Poor	-
9	Green acacia	*Acacia dealbata*	No	Yes	19, 25 [44]	32	16	Fair	-
10	Green acacia	*Acacia dealbata*	No	No	25	32	15	Poor	-
11	Coast live oak*	*Quercus agrifolia*	Yes	Yes	46	31	23	Good	-
12	Coast live oak*	*Quercus agrifolia*	Yes	Yes	74	34	36	Good	Possible
13	Valley oak*	*Quercus lobata*	Yes	Yes	19, 13, 9, 9, 6, 6 [62]	24	14	Fair	-
14	Cottonwood	*Populus sp.*	No	Yes	85, 66 [151]	40	26	Poor	-
15	Cottonwood	*Populus sp.*	No	No	19, 9, 9 [37]	28	14	Poor	-
16	Valley oak*	*Quercus lobata*	Yes	Yes	82	48	46	Good	-
17[4]	Black walnut	*Juglans hindsii*	No	Yes	57	30	24	Fair	Retain
18	Coast live oak*	*Quercus agrifolia*	Yes	Yes	60	38	30	Good	-
19	Coast live oak*	*Quercus agrifolia*	Yes	Yes	42	40	22	Good	-
20	California pepper	*Schinus molle*	No	Yes	41	25	20	Poor	-
21	Coast live oak*	*Quercus agrifolia*	Yes	Yes	19	30	15	Fair	-
22	Coast live oak*	*Quercus agrifolia*	Yes	Yes	52, 28 [80]	28	27	Fair	-
23	Black walnut	*Juglans hindsii*	No	Yes	53	29	18	Poor	-
24	Coast live oak*	*Quercus agrifolia*	Yes	Yes	85	35	38	Good	-
25[4]	Green acacia	*Acacia dealbata*	No	Yes	53, 30, 27 [110]	25	30	Fair	Retain
26	Black walnut	*Juglans hindsii*	No	Yes	107	42	33	Fair	-
27[4]	American sycamore	*Platanus occidentalis*	No	Yes	50	30	38	Good	Retain
28[4]	Coast redwood	*Sequoia sempervirens*	No	Yes	88	66	25	Fair	Retain

[1] "M.H. Tree" means a tree subject to the City of Morgan Hill Ordinance, i.e., a tree as defined by the City of Morgan Hill.

[2] Brackets identify the sum of all stem circumferences for multi-stem trees.

[3] Basis of condition ratings: **Good** = 80-100% healthy foliage and no significant defects; **Fair** = 50-79% healthy foliage and/or minor defects; **Poor** = 5-49% healthy foliage and/or other significant defects; and **Dead** = less than 5% healthy foliage.

[4] Tree trunk is located off-site, but immediately adjacent to project boundary with potential to be impacted by development.



Aerial Photos courtesy of:
Google Earth 2013

Live Oak Associates, Inc.

Monterey Central
Tree Survey

Date	Project #	Figure #
5/12/2015	1940-01	2

Of the 28 documented trees, 22 fall under the definition of a tree by the City of Morgan Hill. Trees 2, 6, 7, 8, 10 and 15 (Table 1) are not defined as trees under the City's Municipal Code. One tree species identified during the survey, the green acacia, is considered to be invasive with a moderate threat of causing ecological harm by the California Invasive Plant Council.

Development Impacts and Mitigation Recommendations.

Based on conceptual site plans (dated 5/14/15) available for review at the time of this report, all trees within the project boundaries will likely be removed for project development. A total of 24 trees are likely to be removed.

However, with hardscape design alternatives and strong tree protection and monitoring measures in place for project development, it may be possible to retain tree number 12, a coast live oak in good condition, located near the corner of East Central Avenue and Mclaughlin Avenues. Final grading plans should be reviewed by a certified arborist to make a final determination about whether this tree can be retained.

Trees numbered 17, 25, 27, and 28 occurring on private property or public right of way immediately adjacent to the project site will be retained, but they have been included with this survey because they would likely be negatively impacted by project development without specific tree protection measures.

Tree Protection Plan. Development will alter the natural terrain and drainage patterns in the project area. Construction activities may result in soil compaction and/or cause physical damage to tree roots, trunks or canopies. These factors and other development activities can affect long term health and survival of trees to be retained – including adjacent offsite trees. To minimize development impacts to retained trees (if any) and offsite trees, a Tree Protection Plan should be developed by a Certified Arborist outlining specific procedures to ensure that retained trees (if any) and offsite trees (#17, 25, 27 and 28) are adequately protected during development activities. This plan must be prepared prior to any ground disturbance.

Tree replacement. The City of Morgan Hill does not maintain standard ratios for replacement trees; therefore, LOA recommends that trees to be removed be replaced according to tree replacement guidelines depicted in Table 2 below. The City of Morgan Hill community development director should be consulted to approve any tree replacement plans.

Table 2. Recommended Tree Replacement Mitigation Ratios

Circumference of Tree to be Removed	Type of Tree to be Removed			Minimum Size of Each Replacement Tree
	Native	Non-Native (not invasive)	Invasive	
57 inches or greater	5:1	4:1	none	15-gallon container
38 - 56 inches	3:1	2:1	none	15-gallon container
less than 38 inches	1:1	1:1	none	15-gallon container
x:x = tree replacement to tree loss ratio				

Table 1 describes 28 trees that were included in the survey, 4 of which are located offsite and will be retained. The remaining site trees are considered to be likely to be removed as part of project build-out. Table 3 categorizes the site trees by circumference and species type. With all

site trees removed, 59 15-gallon replacement trees would be recommended for mitigating the impacts resulting from tree loss. Preservation of any of the non-invasive trees of the site, including the coast live oak (tree 12) discussed above, would reduce the recommended mitigation rate according to Table 2 ratios.

Table 3. Trees of the Monterey Central Project likely to be removed by type and circumference category.

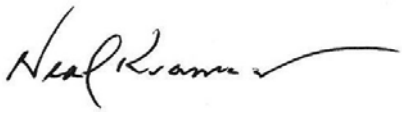
Circumference of Tree to be Removed	Type of Tree to be Removed			Total
	Native	Non-Native (not invasive)	Invasive	
57 inches or greater	8	1	1	10
38 - 56 inches	2	3	2	7
less than 38 inches	2	1	4	7
Totals	12	5	7	**24**

Subsequent to tree removal and installation of mitigation trees, a formal verification should be conducted by a qualified arborist to ensure that trees were mitigated according to project conditions and to ensure trees were installed appropriately.

Unless expressed otherwise, tree evaluations were limited to visual examination of accessible parts without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in question may not arise in the future.

If you have any questions regarding findings or other elements of this report, please feel free to contact me at (650) 563-9943 or (650) 208-0061.

Sincerely,



Neal Kramer
Certified Arborist #WE-7833A