



Charities Housing

Tree Report
329, 341, 353 Page Street

Prepared for:
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Tree Report
329, 341, and 353 Page Street
San Jose CA

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Introduction and Overview

Charities Housing is planning to redevelop three parcels located on Page Street in San Jose, CA. Current site use is residential with associated parking. Charities Housing requested that HortScience, Inc. prepare a **Tree Report** for the site. This report provides the following information:

1. A survey of trees currently growing on the site.
2. An assessment of the impacts of constructing the proposed project on the trees.
3. Recommendations for tree removal and replacement.
4. Preliminary estimate of mitigation requirements.

Assessment Methods

Trees were assessed in July 2017. Trees were evaluated through a visual assessment from the ground and consisted of the following steps:

1. Tagging each tree with an identifying number and record its location on a map.
2. Identifying the tree as to species.
3. Measuring the trunk diameter at 24" above grade.
4. Determining if the tree requires a permit for removal in the City of San Jose (ordinance size tree).
5. Evaluating the health and structural condition using a scale of 0 – 5 where 0 = dead, 1 = poor and 5 = excellent.
6. Noting any significant structural characteristics including decay, poor crown form, dieback and a history of failure.
7. Rating the suitability for preservation as “high”, “moderate” or “low”. 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.
8. Recording the tree’s location on a map.

Each tree is described in the attached ***Tree Assessment Form*** and its approximate location plotted in the ***Tree Assessment Map*** located in the Attachments.

Description of Trees

Twenty-three (23) trees were evaluated, representing 12 species (Table 1). All of the trees were either planted or invaded the site. Species present were typical of landscape plants used in the San Jose area. Boxelder is native to the San Jose area but was not indigenous to the site.

Table 1. Species present and tree condition. 329, 341, 353 Page Street. San Jose CA.

Common name	Scientific name	Condition				No. of Trees	
		Poor (1,2)	Fair (3)	Good (4)	Excell. (5)	Ordinance	Total
Boxelder	<i>Acer negundo</i>	1	--	--	--	1	1
Tree of heaven	<i>Ailanthus altissima</i>	3	5	2	--	5	10
Blue Atlas cedar	<i>Cedrus atlantica</i> 'Glauca'	--	1	--	--	1	1
Lemon	<i>Citrus limon</i>	1	--	--	--	--	1
Orange	<i>Citrus sinensis</i>	--	--	1	--	--	1
Cordyline	<i>Cordyline australis</i>	--	1	--	--	1	1
Jap. Loquat	<i>Eriobotrya japonica</i>	--	1	1	--	1	2
Ginkgo	<i>Ginkgo biloba</i>	1	--	--	--	1	1
Lemon bottlebrush	<i>Melaleuca citrina</i>	1	1	--	--	--	2
Olive	<i>Olea europaea</i>	--	1	--	--	1	1
Avocado	<i>Persea americana</i>	--	--	1	--	--	1
Calif. pepper	<i>Schinus molle</i>	--	--	1	--	1	1
Total, all trees assessed		7	10	6	0	12	23

The City of San Jose defines Ordinance Sized Tree "as any live or dead woody perennial plant having a main stem or trunk 56 inches or more in circumference (18 inches in diameter) at a height measured 24 inches above natural grade slope" (San Jose Municipal Code Section 13.32.20.1). Twelve (12) trees met this criterion. Ordinance Sized Trees are identified on the **Tree Assessment Form**.

The City of San Jose has also designated a number of Heritage Trees. No Heritage trees were present at the Page Street sites.

Tree of heaven was the most frequently occurring species with 10 trees. The species is an invasive plant that spreads by seed and sprouts from the roots and stumps. Trees #74 to 81 were in the rear yard of 329 Page Street while #90 and 92 were in the rear yard of 353 Page St. Trees ranged from semi-mature to mature in development. Trunk diameters were between 6" and 24". Tree condition varied from poor (#70, 78, 80) to fair (#74, 75, 76, 79, 92) to good (#81, 90). The primary factor determining tree condition was overall crown form and structure. Trees in poor condition were not vertically oriented and/or were suppressed in development.

No other species was represented by more than two trees. Included in this group were:

- Lemon bottlebrush #70 and 71 were in front of the home at 329 Page Street. Both trees were mature in development. Both were within 1' of the house foundation. Tree #70 was 13" and in fair condition while #71 was 10" and in poor condition.
- Ginkgo #72 was in the rear yard of 329 Page Street (Photo 1). This 24" tree was in poor condition due to a history of topping and crown reduction pruning. Several sets of codominant attachments were present.

Photo 1. Ginkgo #72 (foreground) and blue Atlas cedar (#73). Note small overall size of ginkgo and flat-topped form of the cedar.



- Blue Atlas cedar #73 was also in the rear yard of 329 Page Street (Photo 1). The tree was mature in development, 30" in diameter and in fair condition. Large branches had been stubbed back.
- Avocado #82 was a small tree in front of 341 Page St. Trunk diameter was 4'. Condition was good.
- Orange #83 was also in front of 341 Page Street. It was a large shrub in good condition.
- Lemon #84 was in the rear yard of 341 Page Street. It was also a large shrub but in poor condition.
- Calif. pepper #85 was in the front yard of 353 Page St. (Photo 2). This mature tree was 24" in diameter and in good condition. The crown was somewhat vase-shaped.

Photo 2. Looking across Page St. at Calif. pepper #85.



- Cordyline #86 was adjacent to the house at 353 Page St. It was somewhat suppressed in development and in fair condition.

- Boxelder #87 was 30" and largely dead (Photo 3). Only a few small sprouts were present.

Photo 3. Boxelder #87.

- Japanese loquats #88 and 89 were in the rear of 353 Page St. Both trees were mature in development but in crowded growing conditions with conflicts between the tree, pavement and housing. Tree #88 was in fair condition; #89 was good.
- Olive #91 was also in the rear of 353 Page Street, located 1' from the back property fence. The trunk was 20" and the tree was mature in development but somewhat suppressed. Tree condition was fair.



Suitability for Preservation

Trees that are preserved on development sites must be carefully selected to make sure that they may 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. 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 soil compaction than are 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. For example, olive and Calif. pepper are somewhat tolerant of construction impacts while ginkgo is sensitive.
- **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.
- **Species invasiveness**
Species which spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database (<http://www.cal-ipc.org/paf/>) lists species identified as having being invasive. San Jose is part of the Central West Floristic Province. Tree of heaven and olive are listed as being 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 (Table 2).

Table 2. Tree suitability for preservation. 329, 341, 353 Page Street. San Jose CA.

High	Trees with good health and structural stability that have the potential for longevity at the site. No trees were rated as having good suitability for preservation.
Moderate	Trees in fair health and/or possessing structural defects that may be abated with treatment. Trees in this category require more intense management and monitoring, and may have shorter life-spans than those in the "high" category. Seven (7) trees were rated as having moderate suitability for preservation: tree of heaven #81, 90; avocado #82, blue Atlas cedar #73, Calif. pepper #85, Jap. loquat #89, and orange #83.
Low	Trees in poor health or possessing 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. Sixteen (16) trees were rated as having poor suitability for preservation: tree of heaven #74 - 80, 92; lemon bottlebrush #70, 71; boxelder #87, cordyline #86, ginkgo #72, Jap. loquat #88, lemon #84 and olive #91.

We consider trees with high suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Evaluation of Impacts and Recommendations for Action

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** was the reference point for tree condition and quality. Potential impacts from the proposed project were assessed the Massing Study provided by Charities Housing.

The Massing Study depicted the location of the proposed building and associated infrastructure. The site would be redeveloped from property line to property line. Existing structures, parking, other improvements, and landscape would be demolished and new structures installed.

Impacts to trees will be significant across the project site. First, demolition of existing structures will directly damage tree roots and crowns. Second, grading, excavation, and other construction activities may also damage trees, through both direct mechanical injury and indirectly by altering drainage. Third, trees may be located in areas planned for new development.

Based on my review of the Massing Study, I recommend removal of all 23 trees.

Tree Mitigation

The City of San Jose requires mitigation of trees removed on development sites. The species and exact number of trees to be planted on the site will be determined in consultation with the City Arborist and the Department of Planning, Building, and Code Enforcement.

All trees that are to be removed shall be replaced at the following ratios:

Diameter of Tree to be Removed	Type of Tree to be Removed			Minimum Size of Each Replacement Tree
	Native	Non-Native	Orchard	
18 inches or greater	5:1	4:1	3:1	24-inch box
12 - 18 inches	3:1	2:1	none	24-inch box
less than 12 inches	1:1	1:1	none	15-gallon container
x:x = tree replacement to tree loss ratio				
Note: Trees greater than 18" diameter shall not be removed unless a Tree Removal Permit, or equivalent, has been approved for the removal of such trees.				

Where trees had more than one trunk, the diameters of individual trunks were added together to establish the diameter class for mitigation purposes. Orange #83 and lemon #84 were considered as orchard trees for purposes of mitigation.

Based on my calculations, the required mitigation would be 5 15 gal. trees and 57 24" box trees (Table 3).

Table 3. Estimated tree mitigation. 329, 341, 353 Page Street. San Jose CA.

Diameter of tree to be removed	Number of Trees to be Removed			Replacement tree size	
	Native	Non-Native	Orchard	15 Gallon	24" Box
18 inches or greater	1	11	0	--	
12 - 18 inches	0	4	0	--	--
less than 12 inches	0	5	2	--	--
Total	1	20	2	--	--

Diameter of tree to be removed	Number of Mitigation Trees Required			Replacement tree size	
	Native	Non-Native	Orchard	15 Gallon	24" Box
18 inches or greater	5	44	0	-	49
12 - 18 inches	0	8	0	-	8
less than 12 inches	0	5	0	5	-
Total	5	52	0	5	57

Alternative Mitigation Measures

In the event the project site does not have sufficient area to accommodate the required tree mitigation, one or more of the following measures may be implemented, to the satisfaction of the City's Environmental Principal Planner, at the development permit stage:

- The size of a 15-gallon replacement tree can be increased to 24-inch box and count as two replacement trees.
- An alternative site(s) will be identified for additional tree planting. Alternative sites may include local parks or schools or installation of trees on adjacent properties for screening
- A donation of \$300 per mitigation tree to Our City Forest or San Jose Beautiful for in-lieu off-site tree planting in the community. These funds will be used for tree planting and maintenance of planted trees for approximately three years. A donation receipt for off-site tree planting will be provided to the Planning Project Manager prior to issuance of a development permit.

Summary

Twenty-three (23) trees were assessed, representing 12 species. Tree of heaven was the most frequently encountered species with 10 trees. The remaining 11 species were represented by one or two trees. Twelve (12) of the 23 trees were large enough to require a permit for their removal. Overall tree condition was variable: seven trees were in poor condition, 10 were fair, and six were good.

The Massing Study depicts extensive change to the site. All of the existing structures and improvements would be removed, replaced by a multi-story housing complex. Impacts from the re-development of the three parcels are severe enough that I recommend removal of all 23 trees.

HortScience, Inc.



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Attachments

Tree Assessment Form

Tree Location Plan

Tree Assessment Form

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July 2017



TREE SPECIES No.	TRUNK DIAMETER (in.)	ORDINANCE SIZE TREE?	CONDITION 1=poor 5=excell.	SUITABILITY for PRESERVATION	COMMENTS	
70	Lemon bottlebrush	13	No	3	Low	1' from house; codominant trunks @ 1'; 2 stems vertical; 3rd bowed heavily to E.; very rangy form.
71	Lemon bottlebrush	10	No	2	Low	1' from house; multiple attachments @ base but 2 stems x'd; 3rd stem bowed E. with base outside of dripline.
72	Ginkgo	24	Yes	2	Low	Poor form & structure; topped; codominant trunks @ 3', 5' & 6'; female.
73	Blue Atlas cedar	30	Yes	3	Moderate	Numerous low branches stubbed off; multiple attachments @ 18'; laterals bowing out; flat-topped; lost central leader @ top.
74	Tree of heaven	16,13,11	Yes	3	Low	Multiple attachments @ 1' with included bark; base adj. to bldg.; open & rangy form.
75	Tree of heaven	20	Yes	3	Low	Leans W.; high crown; engulfed in ivy.
76	Tree of heaven	13,11	Yes	3	Low	Codominant trunks @ base with included bark; one-sided to W.; small basal cavities.
77	Tree of heaven	11	No	2	Low	Poor form & structure; suppressed; leans W.
78	Tree of heaven	13	No	2	Low	One-sided & slight lean to W.; lost central leader @ top.
79	Tree of heaven	15	No	3	Low	High flat-topped crown.
80	Tree of heaven	14	No	2	Low	One-sided & slight lean to W.; codominant trunks high in crown.
81	Tree of heaven	24	Yes	4	Moderate	One-sided to S.
82	Avocado	4	No	4	Moderate	Okay tree.
83	Orange	3,3,2	No	4	Moderate	Typical form & structure.
84	Lemon	8	No	2	Low	Poor form & structure; ext. trunk wounds; supported by stake.

Tree Assessment Form

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TREE SPECIES No.	TRUNK DIAMETER (in.)	ORDINANCE SIZE TREE?	CONDITION 1=poor 5=excell.	SUITABILITY for PRESERVATION	COMMENTS
85 Calif. pepper	24	Yes	4	Moderate	Codominant trunks @ 5'; multiple attachments @ 12'; wide vase-shaped crown with small gap in canopy on E.
86 Cordyline	12,9,6	Yes	3	Low	Suppressed; multiple attachments @ base.
87 Boxelder	30	Yes	1	Low	All but dead.
88 Jap. loquat	16	No	3	Low	1' from pavement on 3 sides; multiple attachments @ 2'.
89 Jap. loquat	13,10	Yes	4	Moderate	Base of bldg; codominant trunks @ base; full dense crown.
90 Tree of heaven	16,14,13,11	Yes	4	Moderate	Multiple attachments @ 1'; vertical; high vase-shaped crown.
91 Olive	20	Yes	3	Low	1' from fence; codominant trunks @ 10'; flat-topped; rangy form.
92 Tree of heaven	6	No	3	Low	No tag; lost central leader; engulfed in ivy.

Tree Assessment Map

329, 341, 353 Page Street
San Jose, CA

Prepared for:
 Charities Housing
 San Jose, CA

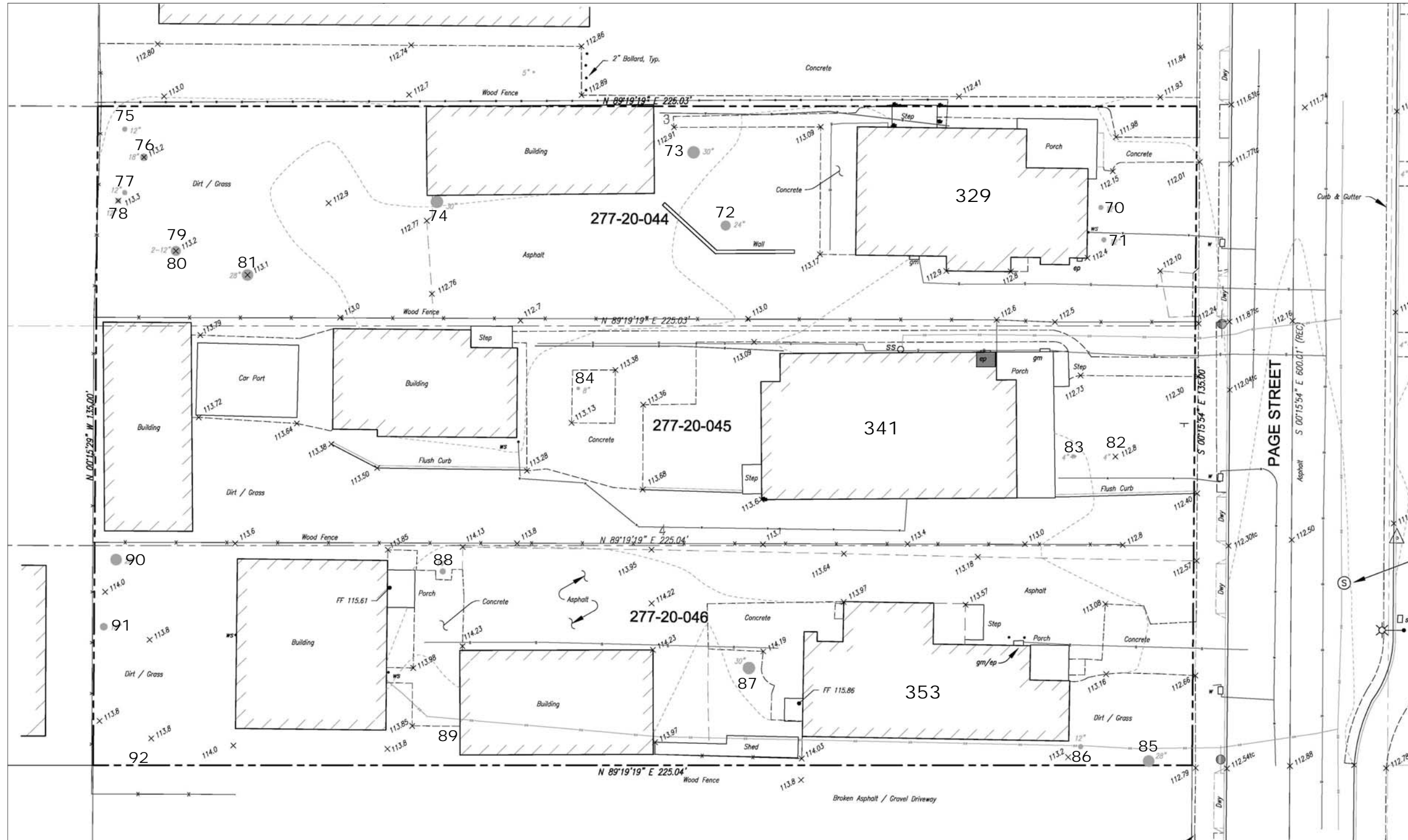
July 2017



No Scale

Notes:

- Base map provided by: JMH Weiss, Inc. San Jose, CA
- Numbered tree locations are approximate.



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