ADDENDUM TO THE ENVIRONMENTAL IMPACT REPORT

APPENDICES

The Village At Calabasas

Prepared for:

City of Calabasas

Prepared By:

CAJA Environmental Services, LLC

July 2013

Appendix A:

Visual Impact Analysis

VISUAL IMPACTS ANALYSIS

THE VILLAGE AT CALABASAS

CALABASAS, CALIFORNIA

THE NEW HOME COMPANY

& 23500 PARK SORRENTO VENTURES, LLC

Robert Hidey **Architects**

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PROJECT NUMBER: 12059 03/28/2013

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THE NEW HOME COMPANY
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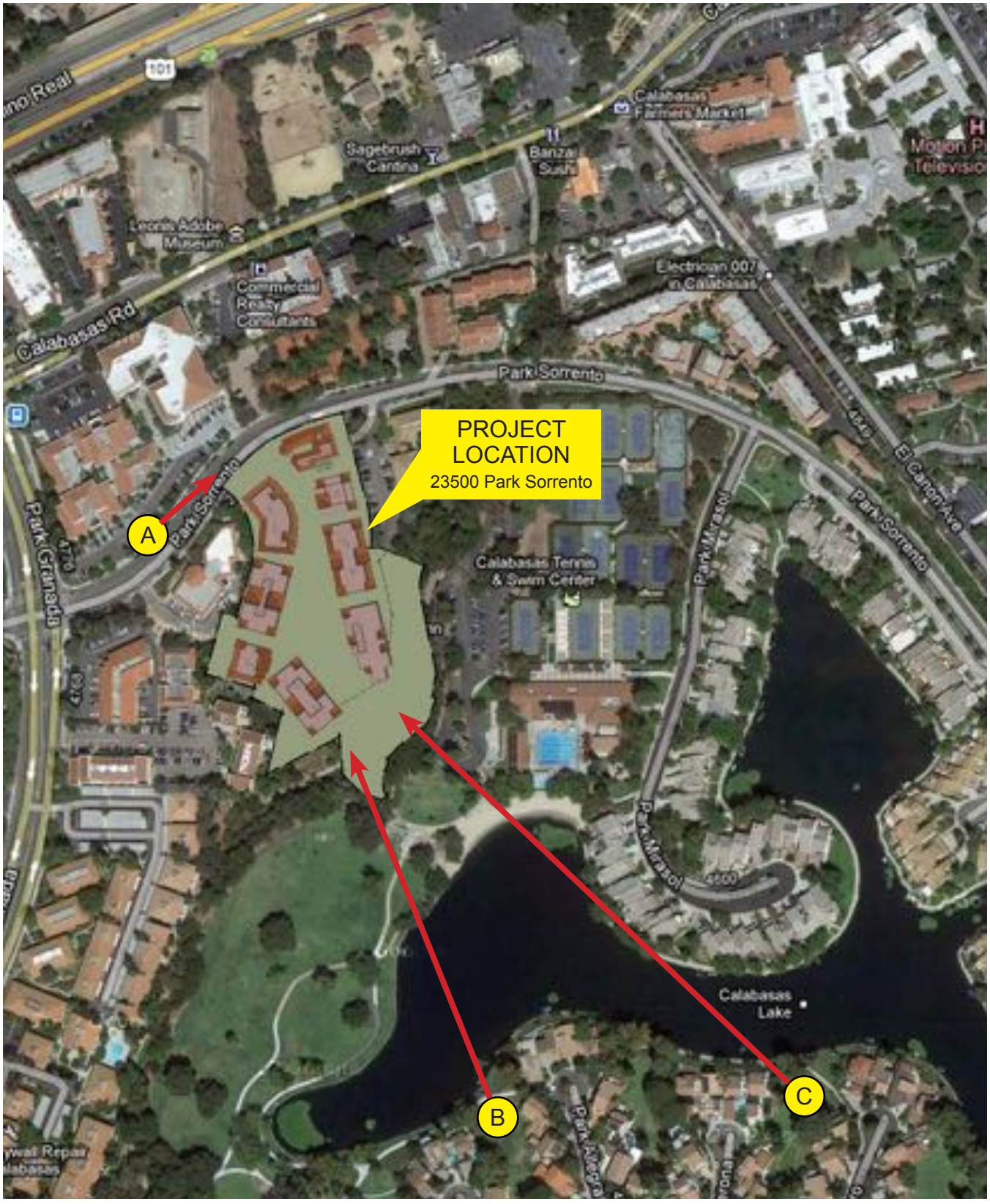

PROJECT VIEW LOCATIONS

VISUAL IMPACTS ANALYSIS

THE VILLAGE AT CALABASAS

N

THE NEW HOME COMPANY

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CALABASAS, CALIFORNIA

PROJECT NUMBER: 12059 03/28/2013

PARK SORRENTO VIEW
Park Sorrento Existing Conditions View

BASELINE DATA SUMMARY:

Date Photo Taken:	January 4, 2013
Location of Photo:	Park Sorrento / Park Granada
Direction View Reference:	East
Project Site Address:	23500 Park Sorrento

EXHIBIT A1

VISUAL IMPACTS ANALYSIS

THE VILLAGE AT CALABASAS

THE NEW HOME COMPANY

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PARK SORRENTO VIEW
Park Sorrento Proposed Project View

BASELINE DATA SUMMARY:

Date Photo Taken:	January 4, 2013
Location of Photo:	Park Sorrento / Park Granada
Direction View Reference:	East
Project Site Address:	23500 Park Sorrento

EXHIBIT A2

VISUAL IMPACTS ANALYSIS

THE VILLAGE AT CALABASAS

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PARK ALLEGRA VIEW
Park Allegra Existing Conditions View

BASELINE DATA SUMMARY:

Date Photo Taken: January 4, 2013
Location of Photo: Park Allegra
Direction View Reference: West-Northwest

EXHIBIT B1

VISUAL IMPACTS ANALYSIS

THE VILLAGE AT CALABASAS

THE NEW HOME COMPANY

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CALABASAS, CALIFORNIA

PROJECT NUMBER: 12059 03/28/2013

PARK ALLEGRA VIEW
Park Allegra Proposed Project View

BASELINE DATA SUMMARY:

Date Photo Taken: January 4, 2013
Location of Photo: Park Allegra
Direction View Reference: West-Northwest

EXHIBIT B2

VISUAL IMPACTS ANALYSIS

THE VILLAGE AT CALABASAS

CALABASAS, CALIFORNIA

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PARK CORDERO VIEW
Park Allegra Existing Conditions View

BASELINE DATA SUMMARY:

Date Photo Taken: January 4, 2013
Location of Photo: Park Cordero
Direction View Reference: West-Northwest

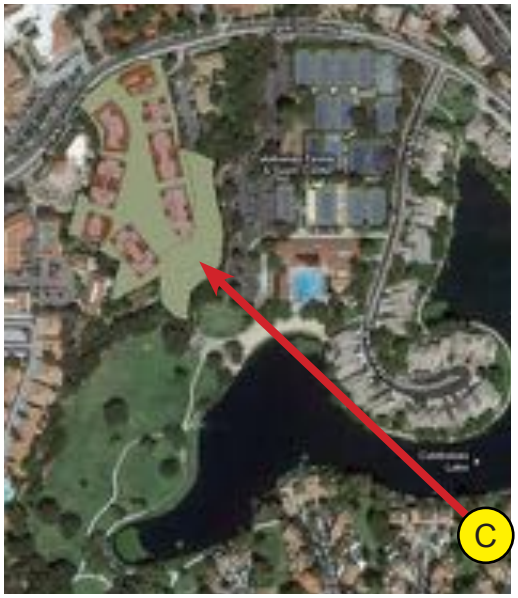

EXHIBIT C1

VISUAL IMPACTS ANALYSIS

THE VILLAGE AT CALABASAS

CALABASAS, CALIFORNIA

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PARK CORDERO VIEW
Park Allegra Proposed Project View

BASELINE DATA SUMMARY:

Date Photo Taken: January 4, 2013
Location of Photo: Park Cordero
Direction View Reference: West-Northwest

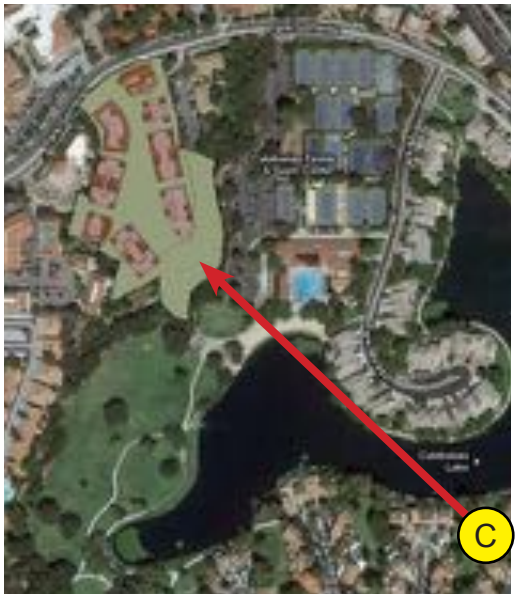

EXHIBIT C2

VISUAL IMPACTS ANALYSIS

THE VILLAGE AT CALABASAS

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Appendix B:

Air Quality Analysis

CAJA Environmental Services, LLC

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Los Angeles, CA 90049
Phone 310-469-6700 Fax 310-806-9801

May 9, 2013

Mr. Stephen T. Jordan, Vice President
The New Home Company
95 Enterprise, Suite 235
Aliso Viejo, CA 92656

RE: Air Quality Analysis for the Revised Village at Calabasas Project

Dear Mr. Jordan:

This letter evaluates the potential air quality impacts associated with the proposed revisions ("Revised Project") to the approved Village at Calabasas Project ("Approved Project"). The Revised Project would not result in new significant air quality impacts or a substantial increase in previously identified air quality impacts. As such, the Revised Project's impact on air quality and greenhouse gases would meet the criteria established in Section 15164 of the State CEQA Guidelines governing the preparation of an Addendum to an EIR.

Approved Project

The Approved Project permits the development 174,413 square feet of residential, retail, and restaurant uses, with a floor area ratio (FAR) of 0.7447. The Approved Project would contain 79 residential condominiums and 13,135 square feet of commercial space. The retail component would be located on the ground level with the residential condominiums located on levels one through four. A total of 302 parking spaces would be provided onsite through a combination of surface parking and an underground parking garage.

Revised Project

The Revised Project is a mixed-use development that includes 80 residential units and up to 11,700 square feet of neighborhood-serving commercial uses. A total of 294 parking spaces are proposed, including 90 spaces in a subterranean garage.

PROJECT IMPACTS

Construction Impacts

Approved Project

Construction activities for the Approved Project were based on the following assumptions. Construction was expected to begin in September of 2008 and end in November 2009 (approximately 15 months). The demolition phase would include removal of the existing 15,000 square foot structure. The grading/excavation phase would include approximately 79,810 cubic yards of soil excavation, which would be exported to allow for the

subterranean garage and the building foundations. The final phase, building construction, would include the construction of the proposed four-story building (approximately 174,413 sf).

As indicated in the Certified EIR's Table IV.C-4, Estimated Mass Daily Construction Emissions, and Table IV.C-5, Summary of Dispersion Modeling Results – Construction, the Approved Project would result in less than significant regional and localized air quality impacts. The Approved Project would be required to implement Mitigation Measures C-1 and C-2 identified in the Certified EIR.

Revised Project

The Revised Project is generally expected to produce less-than-significant construction-related impacts that are comparable or less than the original project for two key reasons.

First, the Revised Project would include less grading and soil export than the Approved Project. While the Approved Project called for 79,810 cubic yards of soil excavation to accommodate the provision of 302 parking spaces and building foundations in underground structures, the Revised Project would only locate 90 parking spaces below grade. The Revised Project is expected to require 37,600 cubic yards of raw cut and 1,600 cubic yards of raw fill, resulting in a net export of 36,000 cubic yards of soil. As a result, grading and foundation work is expected to be less than the Approved Project. On-site emissions from operation of construction equipment and grading activities are also expected to be less than the Approved Project for both localized pollutants PM_{10}, $PM_{2.5}$, and carbon monoxide, as well as ozone precursors ROG and NO_x.

Second, while the Revised Project increases built improvements, the Revised Project calls for a three-phase construction process that significantly reduces the scope of construction activities at any time, when compared to the Approved Project. Specifically, the proposed improvements would be built over a 32-month period starting in late 2013. The phased construction schedule is over twice the duration of the Approved Project and results in much smaller footprints of construction activity. Project phasing includes:

- Phase 1: 14 months of construction of Building 8 which is a mixed-use building with 11,700 sf of commercial development, 8 residential units, and 90 subterranean parking spaces; Building 2 comprising of twelve residential units over parking; and the project plaza and amenities. Total parking provided for Phase 1 is 149 spaces.
- Phase 2: 9 months of construction for Buildings 5, 6, and 7 (30 residential units), and 74 parking spaces.
- Phase 3: 9 months of construction for Buildings 1, 3, and 4 (30 residential units), and 71 parking spaces.

Because significance thresholds are based on acute, daily thresholds of significance, the smaller scope of construction activity at a given time will result in fewer air quality impacts when compared to the Approved Project. Table 1 summarizes the South Coast Air Quality Management District's (SCAQMD) recommended thresholds of significance for construction projects.

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TABLE 1: SCAQMD CONSTRUCTION EMISSIONS THRESHOLDS		
Criteria Pollutant	Regional Emissions (Pounds Per Day)	Localized Emissions (Pounds Per Day) /a/
Volatile Organic Compounds (VOC)	75	--
Nitrogen Oxides (NO_X)	100	104
Carbon Monoxide (CO)	550	652
Sulfur Oxides (SO_X)	150	--
Fine Particulates ($PM_{2.5}$)	55	8
Particulates (PM_{10})	150	11
\/a\/ Localized thresholds based on 50-meter receptor distance and a one acre per day grading schedule. Assumes SRA 6 location. *SOURCE: SCAQMD, 2012.*		

Based on guidance from the SCAQMD, the Revised Project's construction activities would have a significant impact on air quality if:

- Daily regional construction emissions exceed SCAQMD construction emissions thresholds for VOC, NO_x, CO, SO_x, $PM_{2.5}$, or PM_{10}, as presented in Table 1;
- Daily localized construction emissions exceed SCAQMD construction emissions thresholds for NO_x, CO, $PM_{2.5}$, or PM_{10}, as presented in Table 1;
- The project would generate Toxic Air Contaminant (TAC) emissions that generate a health risk that exceeds ten persons in one million; and/or
- The project would create an odor nuisance.

As shown in Table 2, construction emissions would be well below thresholds of significance for all criteria pollutants when incorporating Mitigation Measure C-2, identified in the Certified EIR. Most emissions of particulates would occur during the initial demolition and grading activities, while ROG emissions would peak during the coatings stage prior to building occupancy.

TABLE 2: CONSTRUCTION EMISSIONS IMPACTS (MITIGATED)						
Criteria Pollutant	Regional Threshold (Pounds Per Day)	Localized Threshold (Pounds Per Day) /a/	Peak Regional/Localized Emissions (Pounds Per Day)			Significant Impact?
			Phase 1	Phase 2	Phase 3	
Volatile Organic Compounds (VOC)	75	--	31/31	17/17	16/16	No
Nitrogen Oxides (NO_X)	100	104	40/21	12/12	12/12	No
Carbon Monoxide (CO)	550	652	20/11	9/8	9/8	No
Sulfur Oxides (SO_X)	150	--	<1/<1	0/0	0/0	No
Fine Particulates ($PM_{2.5}$)	55	8	3/2	1/1	1/1	No
Particulates (PM_{10})	150	11	8/8	1/1	1/1	No
SOURCE: DKA Planning 2013 based on URBEMIS 2007, version 9.2.4						

Construction of the Revised Project would neither generate substantial TAC concentrations at nearby community receptors, nor create odor nuisances within the community. Proposed construction equipment includes standard diesel-fueled equipment and on-road motor vehicles. When combined with the distance to sensitive receptors in the community, any TAC or odor emissions would be dispersed to less-than-significant levels.

Operational Impacts

Approved Project

The Approved Project is expected to generate less-than-significant impacts on local and regional air quality. Stationary area source emissions would be generated by the consumption of natural gas for space and water heating devices and cooking appliances, the operation of landscape maintenance equipment, the use of consumer products, and the application of architectural coatings (paints). Mobile emissions would be generated by the motor vehicles traveling to and from the project site (assumed approximately 1,520 average daily vehicle trips). As indicated in Tables IV.C-6 and IV.C-7 in the Certified EIR, these were less-than-significant impacts on regional air quality and localized CO concentrations near project area roadways.

Revised Project

The Revised Project includes a net increase of one residential unit and a net reduction of 1,435 sf of commercial floor area. The Revised Project would produce 1,399 average daily vehicle trips, 121 fewer trips than the Approved

Project.[1] As a result, the Revised Project's regional air quality impacts would be less than the Approved Project, which was not projected to result in any significant impacts to regional air quality.

To reaffirm this finding, an updated operational analysis was performed. Based on SCAQMD guidelines, the Revised Project would have a significant impact if:

- Daily operational construction emissions exceed SCAQMD operational thresholds for VOC, NO_x, CO, SO_x, $PM_{2.5}$, or PM_{10}, as presented in Table 3;
- Project-related traffic causes CO concentrations at study intersections to violate the California Ambient Air Quality Standards (CAAQS) for either the one- or eight-hour period. The CAAQS for the one- and eight-hour periods are 20 ppm and 9.0 ppm, respectively;
- The project would generate significant emissions of TACs;
- The project would create an odor nuisance;
- The project is inconsistent with all feasible and applicable strategies to reduce greenhouse gas emissions in California; and/or
- The project would not be consistent with the AQMP.

TABLE 3: SCAQMD DAILY OPERATIONAL EMISSIONS THRESHOLDS	
Criteria Pollutant	Pounds Per Day
Volatile Organic Compounds (VOC)	55
Nitrogen Oxides (NO_X)	55
Carbon Monoxide (CO)	550
Sulfur Oxides (SO_X)	150
Fine Particulates ($PM_{2.5}$)	55
Particulates (PM_{10})	150
SOURCE: SCAQMD, 2012.	

As shown in Table 4, the Revised Project's operational emissions would be significantly below the thresholds of significance. These estimates include mobile source emissions from vehicles travelling to and from the project site, along with area source emissions from heating, cooling, and other sources associated with operating the Revised Project.

[1] *Updated Traffic, Circulation, and Parking Study for the Village at Calabasas Mixed-Use Project – City of Calabasas, Associated Transportation Engineers, March 22, 2013.*

TABLE 4: DAILY OPERATIONAL EMISSIONS IMPACTS					
Criteria Pollutant	Threshold (Pounds Per Day)	Mobile [a] /Area/Total Emissions (Pounds Per Day)			Significant?
Volatile Organic Compounds (VOC)	55	7	6	13	No
Nitrogen Oxides (NO_X)	55	11	<1	11	No
Carbon Monoxide (CO)	550	100	9	109	No
Sulfur Oxides (SO_X)	150	<1	<1	<1	No
Fine Particulates ($PM_{2.5}$)	55	5	<1	5	No
Particulates (PM_{10})	150	27	<1	27	No

SOURCE: DKA Planning 2013 based on URBEMIS 2007, version 9.2.4
[a] *Includes gross mobile source emissions to represent worst-case scenario.*

Localized air quality would not be significantly impacted by the Revised Project. The Revised Project includes a net decrease of 5 trips during the morning peak hour and 3 fewer trips during the afternoon peak hour. It would not result in any significant impacts on levels of service at 14 traffic intersections in the vicinity of the project in either time period. As a result, the Revised Project's localized CO air quality impacts would also be considered less than significant, slightly reduced when compared to the Approved Project. No violations of CAAQS are expected from the Revised Project.

As with the Approved Project, the Revised Project would neither produce long-term TACs nor odorous emissions that would significantly impact local sensitive receptors. No conventional sources of toxic emissions are expected from the proposed residential and commercial land uses. Proposed land uses also do not include traditional sources of odors (e.g., manufacturing or industrial uses). As a result, the Revised Project would not result in significant impacts with respect to TACs or odors on an operational basis.

Greenhouse Gas Emissions

Approved Project

The Certified EIR determined the Approved Project would generate a net increase of approximately 2,459.13 CO2e per year as a result of the Approved Project's electricity demand, natural gas consumption, and motor vehicle emissions. In addition, the Approved Project was evaluated for consistency with the strategies from the 2006 Climate Action Team Report. As shown in Table IV.C-9 of the Certified EIR, the Approved Project would be consistent with all feasible and applicable strategies to reduce greenhouse gas emissions in California. Therefore, the impact of the Approved Project would be less than significant.

Revised Project

The Revised Project would result in 121 fewer daily vehicle trips. Accordingly, the Revised Project would produce less greenhouse gas emissions when compared to the Approved Project. Similar to the Approved Project, the Revised Project would also be consistent with all feasible and applicable strategies to reduce greenhouse gas emissions in California.

The commercial portion of the Revised Project would also comply with the City of Calabasas Ordinance No. 2003-185, which requires the development of all commercial structures above 5,000 square feet to achieve the equivalent of a "Silver" rating from the Leadership in Energy and Environmental Design (LEED). Therefore, the Revised Project will reduce its carbon footprint by incorporating design, construction and operational elements consistent with the range of categories included in the Green Building rating system. In addition, the Revised Project would include several project design features targeting water and energy conservation that would further reduce the Revised Project's greenhouse gas emissions. Thus, greenhouse gas impacts under the Revised Project would be considered less than significant, and comparable to the Approved Project.

Air Quality Management Plan (AQMP) Consistency

The AQMP is a blueprint for how the region can accommodate growth and achieve federal and State ambient air quality standards. Projects that are consistent with the regional population, housing, and employment forecasts identified by the Southern California Association of Governments are considered to be consistent with the AQMP growth projections, since the forecast assumptions by SCAG forms the basis of the land use and transportation control portions of the AQMP. Since SCAG's regional growth forecasts are based upon, among other things, land uses specified in city General Plans, a project that is consistent with a city's General Plan would also be consistent with the SCAG's regional forecast projections.

The Approved Project was determined to be consistent with SCAG's growth forecasts and the AQMP as a result. The Revised Project would add one more residential unit and reduce commercial development by 1,435 sf. Both land use types are permitted in the City's Commercial Mixed-Use (CMU) Zone. Thus, development of the Revised Project would be consistent with the land use designated in the City's General Plan, would not exceed AQMP population and housing projections, and would not jeopardize attainment of air quality standards. As a result, the Revised Project's impact on regional air quality would be less than significant.

CONCLUSION

The Revised Project would result in fewer air quality impacts than the Approved Project by virtue of its longer phasing of construction, reduced construction grading, and reduced traffic impacts. As a result, the Revised Project would not result in new significant air quality impacts or a substantial increase in previously identified air quality impacts. Therefore, the Revised Project would meet the criteria established in Section 15164 of State CEQA Guidelines that govern the preparation of an Addendum to an EIR.

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Please contact me at (310) 469-6703 or at stacie@ceqa-nepa.com if you have any questions or require any further information.

CAJA Environmental Services, LLC

Stacie Henderson
Project Manager

3/26/2013 9:20:16 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: Y:\Dropbox\DKA\Work\Village at Calabasas\Final Report\March 2013 Villages.urb924

Project Name: Villages at Calabasas

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (tons/year unmitigated)	0.07	0.56	0.33	0.00	0.33	0.03	0.36	0.07	0.03	0.09	68.09
2013 TOTALS (tons/year mitigated)	0.07	0.56	0.33	0.00	0.12	0.03	0.15	0.02	0.03	0.05	68.09
Percent Reduction	0.00	0.00	0.00	0.00	63.73	0.00	58.71	63.71	0.00	46.29	0.00
2014 TOTALS (tons/year unmitigated)	0.20	1.50	1.53	0.00	0.40	0.08	0.47	0.08	0.07	0.15	297.80
2014 TOTALS (tons/year mitigated)	0.20	1.50	1.53	0.00	0.11	0.08	0.18	0.02	0.07	0.09	297.80
Percent Reduction	0.00	0.00	0.00	0.00	72.55	0.00	60.84	71.83	0.00	39.11	0.00
2015 TOTALS (tons/year unmitigated)	0.14	0.99	1.37	0.00	0.01	0.06	0.06	0.00	0.05	0.05	274.34
2015 TOTALS (tons/year mitigated)	0.14	0.99	1.37	0.00	0.01	0.06	0.06	0.00	0.05	0.05	274.34
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016 TOTALS (tons/year unmitigated)	0.43	0.38	0.51	0.00	0.00	0.02	0.02	0.00	0.02	0.02	101.01

3/26/2013 9:20:16 PM

2016 TOTALS (tons/year mitigated)	0.40	0.38	0.51	0.00	0.00	0.02	0.02	0.00	0.02	0.02	101.01
Percent Reduction	8.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.03	0.18	1.36	0.00	0.07	0.06	219.31

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.73	2.47	21.06	0.03	4.83	0.94	2,780.83

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.76	2.65	22.42	0.03	4.90	1.00	3,000.14

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2013	0.07	0.56	0.33	0.00	0.33	0.03	0.36	0.07	0.03	0.09	68.09
Demolition 10/01/2013-10/31/2013	0.01	0.11	0.08	0.00	0.04	0.01	0.05	0.01	0.01	0.02	17.10
Fugitive Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.00	0.01	0.00
Demo Off Road Diesel	0.01	0.07	0.05	0.00	0.00	0.01	0.01	0.00	0.00	0.00	8.05
Demo On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.62
Demo Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43
Mass Grading 11/01/2013-12/31/2013	0.06	0.44	0.26	0.00	0.28	0.02	0.31	0.06	0.02	0.08	50.99
Mass Grading Dust	0.00	0.00	0.00	0.00	0.28	0.00	0.28	0.06	0.00	0.06	0.00
Mass Grading Off Road Diesel	0.05	0.44	0.24	0.00	0.00	0.02	0.02	0.00	0.02	0.02	48.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67

2014	0.20	1.50	1.53	0.00	0.40	0.08	0.47	0.08	0.07	0.15	297.80
Fine Grading 01/01/2014-02/28/2014	0.07	0.56	0.34	0.00	0.39	0.03	0.42	0.08	0.02	0.11	69.96
Fine Grading Dust	0.00	0.00	0.00	0.00	0.39	0.00	0.39	0.08	0.00	0.08	0.00
Fine Grading Off Road Diesel	0.07	0.56	0.32	0.00	0.00	0.03	0.03	0.00	0.02	0.02	66.30
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Trenching 03/01/2014-03/14/2014	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.19
Trenching Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.57
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 03/15/2014-04/24/2016	0.12	0.87	1.15	0.00	0.01	0.05	0.05	0.00	0.04	0.04	218.64
Building Off Road Diesel	0.09	0.70	0.46	0.00	0.00	0.04	0.04	0.00	0.04	0.04	92.91
Building Vendor Trips	0.01	0.15	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	41.61
Building Worker Trips	0.02	0.03	0.56	0.00	0.00	0.00	0.01	0.00	0.00	0.00	84.12
2015	0.14	0.99	1.37	0.00	0.01	0.06	0.06	0.00	0.05	0.05	274.34
Building 03/15/2014-04/24/2016	0.14	0.99	1.37	0.00	0.01	0.06	0.06	0.00	0.05	0.05	274.34
Building Off Road Diesel	0.11	0.79	0.56	0.00	0.00	0.05	0.05	0.00	0.04	0.04	116.59
Building Vendor Trips	0.02	0.16	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	52.21
Building Worker Trips	0.02	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	105.54

2016	0.43	0.38	0.51	0.00	0.00	0.02	0.02	0.00	0.02	0.02	101.01
Building 03/15/2014-04/24/2016	0.04	0.28	0.41	0.00	0.00	0.01	0.02	0.00	0.01	0.01	85.14
Building Off Road Diesel	0.03	0.22	0.17	0.00	0.00	0.01	0.01	0.00	0.01	0.01	36.18
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.20
Building Worker Trips	0.01	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.75
Asphalt 04/25/2016-05/25/2016	0.02	0.10	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.26
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.10	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	11.26
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50
Coating 05/25/2016-06/25/2016	0.38	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61
Architectural Coating	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61

Phase Assumptions

Phase: Demolition 10/1/2013 - 10/31/2013 - Default Demolition Description

Building Volume Total (cubic feet): 225000

Building Volume Daily (cubic feet): 9000

On Road Truck Travel (VMT): 156.25

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 1/1/2014 - 2/28/2014 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 2.65

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Maximum Daily Acreage Disturbed: 0.66

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 11/1/2013 - 12/31/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 2.65

Maximum Daily Acreage Disturbed: 0.66

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 3/1/2014 - 3/14/2014 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 4/25/2016 - 5/25/2016 - Default Paving Description

Acres to be Paved: 0.66

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Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 3/15/2014 - 4/24/2016 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 5/25/2016 - 6/25/2016 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2013	0.07	0.56	0.33	0.00	0.12	0.03	0.15	0.02	0.03	0.05	68.09
Demolition 10/01/2013-10/31/2013	0.01	0.11	0.08	0.00	0.04	0.01	0.05	0.01	0.01	0.02	17.10
Fugitive Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.00	0.01	0.00
Demo Off Road Diesel	0.01	0.07	0.05	0.00	0.00	0.01	0.01	0.00	0.00	0.00	8.05
Demo On Road Diesel	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.62
Demo Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43
Mass Grading 11/01/2013-12/31/2013	0.06	0.44	0.26	0.00	0.08	0.02	0.10	0.02	0.02	0.04	50.99
Mass Grading Dust	0.00	0.00	0.00	0.00	0.07	0.00	0.07	0.02	0.00	0.02	0.00
Mass Grading Off Road Diesel	0.05	0.44	0.24	0.00	0.00	0.02	0.02	0.00	0.02	0.02	48.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67

2014	0.20	1.50	1.53	0.00	0.11	0.08	0.18	0.02	0.07	0.09	297.80
Fine Grading 01/01/2014-02/28/2014	0.07	0.56	0.34	0.00	0.10	0.03	0.13	0.02	0.02	0.05	69.96
Fine Grading Dust	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.02	0.00	0.02	0.00
Fine Grading Off Road Diesel	0.07	0.56	0.32	0.00	0.00	0.03	0.03	0.00	0.02	0.02	66.30
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Trenching 03/01/2014-03/14/2014	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.19
Trenching Off Road Diesel	0.01	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.57
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Building 03/15/2014-04/24/2016	0.12	0.87	1.15	0.00	0.01	0.05	0.05	0.00	0.04	0.04	218.64
Building Off Road Diesel	0.09	0.70	0.46	0.00	0.00	0.04	0.04	0.00	0.04	0.04	92.91
Building Vendor Trips	0.01	0.15	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	41.61
Building Worker Trips	0.02	0.03	0.56	0.00	0.00	0.00	0.01	0.00	0.00	0.00	84.12
2015	0.14	0.99	1.37	0.00	0.01	0.06	0.06	0.00	0.05	0.05	274.34
Building 03/15/2014-04/24/2016	0.14	0.99	1.37	0.00	0.01	0.06	0.06	0.00	0.05	0.05	274.34
Building Off Road Diesel	0.11	0.79	0.56	0.00	0.00	0.05	0.05	0.00	0.04	0.04	116.59
Building Vendor Trips	0.02	0.16	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	52.21
Building Worker Trips	0.02	0.04	0.65	0.00	0.00	0.00	0.01	0.00	0.00	0.00	105.54

2016	0.40	0.38	0.51	0.00	0.00	0.02	0.02	0.00	0.02	0.02	101.01
Building 03/15/2014-04/24/2016	0.04	0.28	0.41	0.00	0.00	0.01	0.02	0.00	0.01	0.01	85.14
Building Off Road Diesel	0.03	0.22	0.17	0.00	0.00	0.01	0.01	0.00	0.01	0.01	36.18
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.20
Building Worker Trips	0.01	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.75
Asphalt 04/25/2016-05/25/2016	0.02	0.10	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.26
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.10	0.08	0.00	0.00	0.01	0.01	0.00	0.01	0.01	11.26
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50
Coating 05/25/2016-06/25/2016	0.34	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61
Architectural Coating	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2014 - 2/28/2014 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Mass Grading 11/1/2013 - 12/31/2013 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

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PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 5/25/2016 - 6/25/2016 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments mid rise	0.58	0.75	6.58	0.01	1.47	0.29	851.26
High turnover (sit-down) rest.	0.99	1.49	12.55	0.02	2.91	0.56	1,671.72
Strip mall	0.16	0.23	1.93	0.00	0.45	0.09	257.85
TOTALS (tons/year, unmitigated)	1.73	2.47	21.06	0.03	4.83	0.94	2,780.83

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

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Analysis Year: 2014 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments mid rise	2.11	5.77	dwelling units	80.00	461.60	4,663.45
High turnover (sit-down) rest.		127.15	1000 sq ft	8.00	1,017.20	9,238.72
Strip mall		42.94	1000 sq ft	3.70	158.88	1,425.61
					1,637.68	15,327.78

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.4	0.4	99.4	0.2
Light Truck < 3750 lbs	6.7	1.5	97.0	1.5
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.1	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	52.2	47.8	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
High turnover (sit-down) rest.				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0

Operational Changes to Defaults

5/9/2013 12:44:31 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Y:\Dropbox\DKA\Work\Village at Calabasas\Air Quality Analysis\Village at Calabasas.urb924

Project Name: Villages at Calabasas Phase I

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

5/9/2013 12:44:31 AM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	4.22	39.61	19.68	0.03	16.87	1.75	18.62	3.54	1.61	5.15	5,920.03
2013 TOTALS (lbs/day mitigated)	4.22	39.61	19.68	0.03	4.55	1.75	6.29	0.96	1.61	2.57	5,920.03
2014 TOTALS (lbs/day unmitigated)	31.31	19.12	12.06	0.00	27.21	1.10	28.10	5.68	1.01	6.50	2,371.58
2014 TOTALS (lbs/day mitigated)	31.31	19.12	12.06	0.00	7.19	1.10	8.08	1.50	1.01	2.32	2,371.58

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.52	0.37	4.82	0.00	0.02	0.02	394.47

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	5.46	7.94	72.92	0.12	20.00	3.89	11,869.82

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.98	8.31	77.74	0.12	20.02	3.91	12,264.29

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 10/1/2013-10/31/2013 Active Days: 23	1.25	9.94	6.72	0.01	3.81	0.59	4.39	0.80	0.54	1.34	1,486.83
Demolition 10/01/2013-10/31/2013	1.25	9.94	6.72	0.01	3.81	0.59	4.39	0.80	0.54	1.34	1,486.83
Fugitive Dust	0.00	0.00	0.00	0.00	3.78	0.00	3.78	0.79	0.00	0.79	0.00
Demo Off Road Diesel	0.91	6.35	4.40	0.00	0.00	0.44	0.44	0.00	0.41	0.41	700.30
Demo On Road Diesel	0.31	3.55	1.44	0.01	0.02	0.14	0.16	0.01	0.13	0.14	662.25
Demo Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Time Slice 11/1/2013-12/31/2013 Active Days: 43	4.22	**39.61**	**19.68**	**0.03**	16.87	**1.75**	18.62	3.54	**1.61**	5.15	**5,920.03**
Mass Grading 11/01/2013-12/31/2013	4.22	39.61	19.68	0.03	16.87	1.75	18.62	3.54	1.61	5.15	5,920.03
Mass Grading Dust	0.00	0.00	0.00	0.00	16.75	0.00	16.75	3.50	0.00	3.50	0.00
Mass Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Mass Grading On Road Diesel	1.64	19.00	7.70	0.03	0.12	0.76	0.88	0.04	0.70	0.74	3,548.43
Mass Grading Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Time Slice 1/1/2014-2/28/2014 Active Days: 59	2.44	19.12	11.56	0.00	27.21	0.89	28.10	5.68	0.82	6.50	2,371.58
Fine Grading 01/01/2014-02/28/2014	2.44	19.12	11.56	0.00	27.21	0.89	28.10	5.68	0.82	6.50	2,371.58
Fine Grading Dust	0.00	0.00	0.00	0.00	27.20	0.00	27.20	5.68	0.00	5.68	0.00
Fine Grading Off Road Diesel	2.41	19.08	10.74	0.00	0.00	0.89	0.89	0.00	0.82	0.82	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.05	0.82	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 3/3/2014-3/14/2014 Active Days: 10	1.63	13.06	8.71	0.00	0.01	0.59	0.60	0.00	0.54	0.55	1,838.90
Trenching 03/01/2014-03/14/2014	1.63	13.06	8.71	0.00	0.01	0.59	0.60	0.00	0.54	0.55	1,838.90
Trenching Off Road Diesel	1.61	13.02	7.89	0.00	0.00	0.59	0.59	0.00	0.54	0.54	1,714.64
Trenching Worker Trips	0.02	0.05	0.82	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27

Time Slice 3/17/2014-11/28/2014 Active Days: 185	2.73	13.48	12.06	0.00	0.02	0.85	0.87	0.01	0.78	0.79	2,011.19
Building 03/15/2014-11/30/2014	2.73	13.48	12.06	0.00	0.02	0.85	0.87	0.01	0.78	0.79	2,011.19
Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.04	0.41	0.38	0.00	0.00	0.02	0.02	0.00	0.02	0.02	118.00
Building Worker Trips	0.05	0.10	1.80	0.00	0.01	0.01	0.02	0.00	0.01	0.01	271.99
Time Slice 12/1/2014-12/15/2014 Active Days: 11	2.51	13.86	10.85	0.00	0.02	1.10	1.12	0.01	1.01	1.02	1,708.67
Asphalt 12/01/2014-12/15/2014	2.51	13.86	10.85	0.00	0.02	1.10	1.12	0.01	1.01	1.02	1,708.67
Paving Off-Gas	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.08	0.88	0.36	0.00	0.01	0.03	0.04	0.00	0.03	0.03	188.11
Paving Worker Trips	0.05	0.09	1.64	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.53
Time Slice 12/16/2014-12/31/2014 Active Days: 12	**31.31**	0.03	0.59	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.70
Coating 12/16/2014-12/31/2014	31.31	0.03	0.59	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.70
Architectural Coating	31.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.59	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.70

Phase Assumptions

Phase: Demolition 10/1/2013 - 10/31/2013 - Default Demolition Description

Building Volume Total (cubic feet): 225000

Building Volume Daily (cubic feet): 9000

On Road Truck Travel (VMT): 156.25

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 1/1/2014 - 2/28/2014 - Default Fine Site Grading/Excavation Description
Total Acres Disturbed: 5.45
Maximum Daily Acreage Disturbed: 1.36
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 11/1/2013 - 12/31/2013 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 5.45
Maximum Daily Acreage Disturbed: 1.36
Fugitive Dust Level of Detail: Low
Onsite Cut/Fill: 26.66 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day
On Road Truck Travel (VMT): 837.21
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 3/1/2014 - 3/14/2014 - Default Trenching Description
Off-Road Equipment:
2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 12/1/2014 - 12/15/2014 - Default Paving Description

Acres to be Paved: 1.36

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 3/15/2014 - 11/30/2014 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 12/16/2014 - 12/31/2014 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

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	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2013-10/31/2013 Active Days: 23	1.25	9.94	6.72	0.01	3.81	0.59	4.39	0.80	0.54	1.34	1,486.83
Demolition 10/01/2013-10/31/2013	1.25	9.94	6.72	0.01	3.81	0.59	4.39	0.80	0.54	1.34	1,486.83
Fugitive Dust	0.00	0.00	0.00	0.00	3.78	0.00	3.78	0.79	0.00	0.79	0.00
Demo Off Road Diesel	0.91	6.35	4.40	0.00	0.00	0.44	0.44	0.00	0.41	0.41	700.30
Demo On Road Diesel	0.31	3.55	1.44	0.01	0.02	0.14	0.16	0.01	0.13	0.14	662.25
Demo Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Time Slice 11/1/2013-12/31/2013 Active Days: 43	4.22	**39.61**	**19.68**	**0.03**	4.55	**1.75**	6.29	0.96	**1.61**	2.57	**5,920.03**
Mass Grading 11/01/2013-12/31/2013	4.22	39.61	19.68	0.03	4.55	1.75	6.29	0.96	1.61	2.57	5,920.03
Mass Grading Dust	0.00	0.00	0.00	0.00	4.42	0.00	4.42	0.92	0.00	0.92	0.00
Mass Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Mass Grading On Road Diesel	1.64	19.00	7.70	0.03	0.12	0.76	0.88	0.04	0.70	0.74	3,548.43
Mass Grading Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.28
Time Slice 1/1/2014-2/28/2014 Active Days: 59	2.44	19.12	11.56	0.00	7.19	0.89	8.08	1.50	0.82	2.32	2,371.58
Fine Grading 01/01/2014-02/28/2014	2.44	19.12	11.56	0.00	7.19	0.89	8.08	1.50	0.82	2.32	2,371.58
Fine Grading Dust	0.00	0.00	0.00	0.00	7.18	0.00	7.18	1.50	0.00	1.50	0.00
Fine Grading Off Road Diesel	2.41	19.08	10.74	0.00	0.00	0.89	0.89	0.00	0.82	0.82	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.05	0.82	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27

Time Slice 3/3/2014-3/14/2014 Active Days: 10	1.63	13.06	8.71	0.00	0.01	0.59	0.60	0.00	0.54	0.55	1,838.90
Trenching 03/01/2014-03/14/2014	1.63	13.06	8.71	0.00	0.01	0.59	0.60	0.00	0.54	0.55	1,838.90
Trenching Off Road Diesel	1.61	13.02	7.89	0.00	0.00	0.59	0.59	0.00	0.54	0.54	1,714.64
Trenching Worker Trips	0.02	0.05	0.82	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 3/17/2014-11/28/2014 Active Days: 185	2.73	13.48	12.06	0.00	0.02	0.85	0.87	0.01	0.78	0.79	2,011.19
Building 03/15/2014-11/30/2014	2.73	13.48	12.06	0.00	0.02	0.85	0.87	0.01	0.78	0.79	2,011.19
Building Off Road Diesel	2.63	12.97	9.89	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,621.20
Building Vendor Trips	0.04	0.41	0.38	0.00	0.00	0.02	0.02	0.00	0.02	0.02	118.00
Building Worker Trips	0.05	0.10	1.80	0.00	0.01	0.01	0.02	0.00	0.01	0.01	271.99
Time Slice 12/1/2014-12/15/2014 Active Days: 11	2.51	13.86	10.85	0.00	0.02	1.10	1.12	0.01	1.01	1.02	1,708.67
Asphalt 12/01/2014-12/15/2014	2.51	13.86	10.85	0.00	0.02	1.10	1.12	0.01	1.01	1.02	1,708.67
Paving Off-Gas	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	8.85	0.00	0.00	1.06	1.06	0.00	0.98	0.98	1,272.04
Paving On Road Diesel	0.08	0.88	0.36	0.00	0.01	0.03	0.04	0.00	0.03	0.03	188.11
Paving Worker Trips	0.05	0.09	1.64	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.53
Time Slice 12/16/2014-12/31/2014 Active Days: 12	**31.31**	0.03	0.59	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.70
Coating 12/16/2014-12/31/2014	31.31	0.03	0.59	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.70
Architectural Coating	31.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.59	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.70

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2014 - 2/28/2014 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

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For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Mass Grading 11/1/2013 - 12/31/2013 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.31	0.18	0.00	0.00	0.00	386.04
Hearth - No Summer Emissions							
Landscape	0.37	0.06	4.64	0.00	0.02	0.02	8.43
Consumer Products	1.03						
Architectural Coatings	0.10						
TOTALS (lbs/day, unmitigated)	1.52	0.37	4.82	0.00	0.02	0.02	394.47

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments mid rise	0.99	1.28	12.22	0.02	3.24	0.63	1,933.08
Racquet club	0.24	0.32	2.95	0.00	0.81	0.16	482.48
High turnover (sit-down) rest.	4.23	6.34	57.75	0.10	15.95	3.10	9,454.26
TOTALS (lbs/day, unmitigated)	5.46	7.94	72.92	0.12	20.00	3.89	11,869.82

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2016 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments mid rise	5.43	9.27	dwelling units	20.00	185.40	1,873.06
Racquet club		14.03	1000 sq ft	3.70	51.91	471.48
High turnover (sit-down) rest.		127.15	1000 sq ft	8.00	1,017.20	9,238.72
					1,254.51	11,583.26

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.2	0.2	99.6	0.2
Light Truck < 3750 lbs	6.7	0.0	98.5	1.5

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck 3751-5750 lbs	23.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.2	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.4	45.8	54.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Racquet club				5.0	2.5	92.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
High turnover (sit-down) rest.				5.0	2.5	92.5

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Y:\Dropbox\DKA\Work\Village at Calabasas\Air Quality Analysis\Village at Calabasas Phase II.urb924

Project Name: Villages at Calabasas Phase II

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015 TOTALS (lbs/day unmitigated)	17.05	11.69	8.61	0.00	0.02	0.72	0.73	0.01	0.66	0.67	1,838.89
2015 TOTALS (lbs/day mitigated)	17.05	11.69	8.61	0.00	0.02	0.72	0.73	0.01	0.66	0.67	1,838.89

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.73	0.31	1.68	0.00	0.01	0.01	378.29

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.14	1.42	13.55	0.02	3.59	0.70	2,142.65

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2.87	1.73	15.23	0.02	3.60	0.71	2,520.94

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2015-1/15/2015 Active Days: 11	1.51	**11.69**	**8.61**	0.00	0.01	0.56	0.56	0.00	0.51	0.52	**1,838.89**
Trenching 01/01/2015-01/15/2015	1.51	11.69	8.61	0.00	0.01	0.56	0.56	0.00	0.51	0.52	1,838.89
Trenching Off Road Diesel	1.48	11.65	7.85	0.00	0.00	0.55	0.55	0.00	0.51	0.51	1,714.64
Trenching Worker Trips	0.02	0.04	0.77	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.25
Time Slice 1/16/2015-10/1/2015 Active Days: 185	0.92	6.59	6.38	**0.00**	**0.02**	0.37	0.39	**0.01**	0.34	0.35	1,302.83
Building 01/16/2015-10/01/2015	0.92	6.59	6.38	0.00	0.02	0.37	0.39	0.01	0.34	0.35	1,302.83
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.04	0.43	0.41	0.00	0.00	0.02	0.02	0.00	0.02	0.02	141.05
Building Worker Trips	0.05	0.09	1.66	0.00	0.01	0.01	0.02	0.00	0.01	0.01	268.39
Time Slice 10/2/2015-10/15/2015 Active Days: 10	1.59	9.27	8.14	0.00	0.01	**0.72**	**0.73**	0.00	**0.66**	**0.67**	1,265.14
Asphalt 10/02/2015-10/15/2015	1.59	9.27	8.14	0.00	0.01	0.72	0.73	0.00	0.66	0.67	1,265.14
Paving Off-Gas	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.41	8.91	6.69	0.00	0.00	0.71	0.71	0.00	0.65	0.65	979.23
Paving On Road Diesel	0.03	0.28	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	68.47
Paving Worker Trips	0.04	0.07	1.34	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.45
Time Slice 10/16/2015-10/30/2015 Active Days: 11	**17.05**	0.03	0.60	0.00	0.00	0.00	0.01	0.00	0.00	0.00	97.22
Coating 10/16/2015-10/31/2015	17.05	0.03	0.60	0.00	0.00	0.00	0.01	0.00	0.00	0.00	97.22
Architectural Coating	17.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.60	0.00	0.00	0.00	0.01	0.00	0.00	0.00	97.22

Phase Assumptions

Phase: Trenching 1/1/2015 - 1/15/2015 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 10/2/2015 - 10/15/2015 - Default Paving Description

Acres to be Paved: 0.45

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 1/16/2015 - 10/1/2015 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 10/16/2015 - 10/31/2015 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/1/2015-1/15/2015 Active Days: 11	1.51	**11.69**	**8.61**	0.00	0.01	0.56	0.56	0.00	0.51	0.52	**1,838.89**
Trenching 01/01/2015-01/15/2015	1.51	11.69	8.61	0.00	0.01	0.56	0.56	0.00	0.51	0.52	1,838.89
Trenching Off Road Diesel	1.48	11.65	7.85	0.00	0.00	0.55	0.55	0.00	0.51	0.51	1,714.64
Trenching Worker Trips	0.02	0.04	0.77	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.25
Time Slice 1/16/2015-10/1/2015 Active Days: 185	0.92	6.59	6.38	**0.00**	**0.02**	0.37	0.39	**0.01**	0.34	0.35	1,302.83
Building 01/16/2015-10/01/2015	0.92	6.59	6.38	0.00	0.02	0.37	0.39	0.01	0.34	0.35	1,302.83
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.04	0.43	0.41	0.00	0.00	0.02	0.02	0.00	0.02	0.02	141.05
Building Worker Trips	0.05	0.09	1.66	0.00	0.01	0.01	0.02	0.00	0.01	0.01	268.39
Time Slice 10/2/2015-10/15/2015 Active Days: 10	1.59	9.27	8.14	0.00	0.01	**0.72**	**0.73**	0.00	**0.66**	**0.67**	1,265.14
Asphalt 10/02/2015-10/15/2015	1.59	9.27	8.14	0.00	0.01	0.72	0.73	0.00	0.66	0.67	1,265.14
Paving Off-Gas	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.41	8.91	6.69	0.00	0.00	0.71	0.71	0.00	0.65	0.65	979.23
Paving On Road Diesel	0.03	0.28	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	68.47
Paving Worker Trips	0.04	0.07	1.34	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.45
Time Slice 10/16/2015-10/30/2015 Active Days: 11	**17.05**	0.03	0.60	0.00	0.00	0.00	0.01	0.00	0.00	0.00	97.22
Coating 10/16/2015-10/31/2015	17.05	0.03	0.60	0.00	0.00	0.00	0.01	0.00	0.00	0.00	97.22
Architectural Coating	17.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.60	0.00	0.00	0.00	0.01	0.00	0.00	0.00	97.22

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Construction Related Mitigation Measures

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.29	0.13	0.00	0.00	0.00	375.48
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	1.54						
Architectural Coatings	0.05						
TOTALS (lbs/day, unmitigated)	1.73	0.31	1.68	0.00	0.01	0.01	378.29

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments mid rise	1.14	1.42	13.55	0.02	3.59	0.70	2,142.65
TOTALS (lbs/day, unmitigated)	1.14	1.42	13.55	0.02	3.59	0.70	2,142.65

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

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Analysis Year: 2016 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments mid rise	1.81	6.85	dwelling units	30.00	205.50	2,076.13
					205.50	2,076.13

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.2	0.2	99.6	0.2
Light Truck < 3750 lbs	6.7	0.0	98.5	1.5
Light Truck 3751-5750 lbs	23.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.2	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.4	45.8	54.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Y:\Dropbox\DKA\Work\Village at Calabasas\Air Quality Analysis\Village at Calabasas Phase III.urb924

Project Name: Villages at Calabasas Phase II

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015 TOTALS (lbs/day unmitigated)	1.51	11.69	8.61	0.00	0.02	0.56	0.56	0.01	0.51	0.52	1,838.89
2015 TOTALS (lbs/day mitigated)	1.51	11.69	8.61	0.00	0.02	0.56	0.56	0.01	0.51	0.52	1,838.89
2016 TOTALS (lbs/day unmitigated)	15.63	8.64	8.00	0.00	0.02	0.65	0.66	0.01	0.59	0.60	1,302.80
2016 TOTALS (lbs/day mitigated)	15.63	8.64	8.00	0.00	0.02	0.65	0.66	0.01	0.59	0.60	1,302.80

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.73	0.31	1.68	0.00	0.01	0.01	378.29

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.14	1.42	13.55	0.02	3.59	0.70	2,142.65

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2.87	1.73	15.23	0.02	3.60	0.71	2,520.94

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 11/2/2015-11/13/2015 Active Days: 10	1.51	**11.69**	**8.61**	0.00	0.01	0.56	0.56	0.00	0.51	0.52	**1,838.89**
Trenching 11/01/2015-11/15/2015	1.51	11.69	8.61	0.00	0.01	0.56	0.56	0.00	0.51	0.52	1,838.89
Trenching Off Road Diesel	1.48	11.65	7.85	0.00	0.00	0.55	0.55	0.00	0.51	0.51	1,714.64
Trenching Worker Trips	0.02	0.04	0.77	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.25
Time Slice 11/16/2015-12/31/2015 Active Days: 34	0.92	6.59	6.38	**0.00**	**0.02**	0.37	0.39	**0.01**	0.34	0.35	1,302.83
Building 11/16/2015-08/01/2016	0.92	6.59	6.38	0.00	0.02	0.37	0.39	0.01	0.34	0.35	1,302.83
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.04	0.43	0.41	0.00	0.00	0.02	0.02	0.00	0.02	0.02	141.05
Building Worker Trips	0.05	0.09	1.66	0.00	0.01	0.01	0.02	0.00	0.01	0.01	268.39
Time Slice 1/1/2016-8/1/2016 Active Days: 152	0.85	5.96	6.19	**0.00**	**0.02**	0.31	0.33	**0.01**	0.29	0.29	1,302.80
Building 11/16/2015-08/01/2016	0.85	5.96	6.19	0.00	0.02	0.31	0.33	0.01	0.29	0.29	1,302.80
Building Off Road Diesel	0.77	5.49	4.26	0.00	0.00	0.29	0.29	0.00	0.27	0.27	893.39
Building Vendor Trips	0.04	0.38	0.38	0.00	0.00	0.02	0.02	0.00	0.01	0.02	141.05
Building Worker Trips	0.04	0.08	1.55	0.00	0.01	0.01	0.02	0.00	0.01	0.01	268.36
Time Slice 8/2/2016-8/15/2016 Active Days: 10	1.50	8.64	8.00	0.00	0.01	**0.65**	**0.66**	0.00	**0.59**	**0.60**	1,265.11
Asphalt 08/02/2016-08/15/2016	1.50	8.64	8.00	0.00	0.01	0.65	0.66	0.00	0.59	0.60	1,265.11
Paving Off-Gas	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.32	8.33	6.64	0.00	0.00	0.63	0.63	0.00	0.58	0.58	979.23
Paving On Road Diesel	0.02	0.25	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	68.47
Paving Worker Trips	0.04	0.07	1.26	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.42

Time Slice 8/16/2016-8/31/2016 Active Days: 12	**15.63**	0.03	0.51	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.10
Coating 08/16/2016-08/31/2016	15.63	0.03	0.51	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.10
Architectural Coating	15.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.03	0.51	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.10

Phase Assumptions

Phase: Trenching 11/1/2015 - 11/15/2015 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 8/2/2016 - 8/15/2016 - Default Paving Description

Acres to be Paved: 0.45

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 11/16/2015 - 8/1/2016 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 8/16/2016 - 8/31/2016 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

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Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 11/2/2015-11/13/2015 Active Days: 10	1.51	**11.69**	**8.61**	0.00	0.01	0.56	0.56	0.00	0.51	0.52	**1,838.89**
Trenching 11/01/2015-11/15/2015	1.51	11.69	8.61	0.00	0.01	0.56	0.56	0.00	0.51	0.52	1,838.89
Trenching Off Road Diesel	1.48	11.65	7.85	0.00	0.00	0.55	0.55	0.00	0.51	0.51	1,714.64
Trenching Worker Trips	0.02	0.04	0.77	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.25
Time Slice 11/16/2015-12/31/2015 Active Days: 34	0.92	6.59	6.38	**0.00**	**0.02**	0.37	0.39	**0.01**	0.34	0.35	1,302.83
Building 11/16/2015-08/01/2016	0.92	6.59	6.38	0.00	0.02	0.37	0.39	0.01	0.34	0.35	1,302.83
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.04	0.43	0.41	0.00	0.00	0.02	0.02	0.00	0.02	0.02	141.05
Building Worker Trips	0.05	0.09	1.66	0.00	0.01	0.01	0.02	0.00	0.01	0.01	268.39
Time Slice 1/1/2016-8/1/2016 Active Days: 152	0.85	5.96	6.19	**0.00**	**0.02**	0.31	0.33	**0.01**	0.29	0.29	1,302.80
Building 11/16/2015-08/01/2016	0.85	5.96	6.19	0.00	0.02	0.31	0.33	0.01	0.29	0.29	1,302.80
Building Off Road Diesel	0.77	5.49	4.26	0.00	0.00	0.29	0.29	0.00	0.27	0.27	893.39
Building Vendor Trips	0.04	0.38	0.38	0.00	0.00	0.02	0.02	0.00	0.01	0.02	141.05
Building Worker Trips	0.04	0.08	1.55	0.00	0.01	0.01	0.02	0.00	0.01	0.01	268.36

Time Slice 8/2/2016-8/15/2016 Active Days: 10	1.50	8.64	8.00	0.00	0.01	**0.65**	**0.66**	0.00	**0.59**	**0.60**	1,265.11
Asphalt 08/02/2016-08/15/2016	1.50	8.64	8.00	0.00	0.01	0.65	0.66	0.00	0.59	0.60	1,265.11
Paving Off-Gas	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.32	8.33	6.64	0.00	0.00	0.63	0.63	0.00	0.58	0.58	979.23
Paving On Road Diesel	0.02	0.25	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	68.47
Paving Worker Trips	0.04	0.07	1.26	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.42
Time Slice 8/16/2016-8/31/2016 Active Days: 12	**15.63**	0.03	0.51	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.10
Coating 08/16/2016-08/31/2016	15.63	0.03	0.51	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.10
Architectural Coating	15.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.03	0.51	0.00	0.00	0.00	0.01	0.00	0.00	0.00	89.10

Construction Related Mitigation Measures

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.29	0.13	0.00	0.00	0.00	375.48
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	1.54						
Architectural Coatings	0.05						
TOTALS (lbs/day, unmitigated)	1.73	0.31	1.68	0.00	0.01	0.01	378.29

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Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments mid rise	1.14	1.42	13.55	0.02	3.59	0.70	2,142.65
TOTALS (lbs/day, unmitigated)	1.14	1.42	13.55	0.02	3.59	0.70	2,142.65

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2016 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments mid rise	1.81	6.85	dwelling units	30.00	205.50	2,076.13
					205.50	2,076.13

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.2	0.2	99.6	0.2
Light Truck < 3750 lbs	6.7	0.0	98.5	1.5
Light Truck 3751-5750 lbs	23.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	10.2	0.0	100.0	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.4	45.8	54.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

Appendix C1:

Biological Resources Analysis

BIOLOGICAL RESOURCES TECHNICAL REPORT

CALABASAS, CALIFORNIA

BIOLOGICAL RESOURCES TECHNICAL REPORT

CALABASAS, CALIFORNIA

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1 Sensitive Biological Resources Evaluations
2 Floral and Faunal Compendia
3 Jurisdictional Waters Delineation Report – VTTM 66208

SUMMARY

This biological constraints analysis reports on the existing biological resources on the Village at Calabasas project site (VTTM 66208 and APN 2068-005-025) and the constraints to development that they represent. The proposed project consists of a mixed-use complex including condominium units and retail stores. The complex also includes underground parking and associated infrastructure. The project site is comprised of approximately 5.43 acres of developed and natural land in Calabasas. The site is composed of 2.87 acres of developed land consisting of a building, parking lot, and associated structures; 1.72 acres of landscaped areas that include lawns and hedges; 0.76 acres of southern coast live oak riparian forest that includes many nonnative canopy and understory elements; and 0.08 acres of unvegetated open water that comprises a portion of the stream that runs along the southern and eastern portions of the project site.

There are 75 sensitive biological resources known to occur in the vicinity, of which 30 are plants, 31 are wildlife, and 14 are habitat types. Of these, four (4) sensitive bird species that occur on the Partners in Flight List are known to occur on the site. Several habitat types protected under City, State and Federal legislation or policies occur on the project site. These include riparian habitats, streamcourses, and mature trees, especially oaks. In each case there is a prescribed permitting process that must be followed and conditions that must be met. The U.S. Army Corps of Engineers, California Regional Water Quality Control Board, and California Department of Fish and Game regulate impacts to streamcourses and riparian habitats.

Oak trees that have a diameter at breast height of two (2) inches or greater (DBH; 4.5 feet above the natural grade surrounding the tree) are protected under the City of Calabasas Oak Tree Preservation and Protection Guidelines and Section 17.26.070 of the Calabasas Municipal Code. There are 153 coast live oaks (*Quercus agrifolia*) and 14 valley oaks (*Quercus lobata*) of ordinance size within 200 feet of the project footprint, totaling 167 oak trees. Of these, 33 oaks (5 removals, 28 permanent encroachments) may be impacted and will be mitigated in accordance with the City Ordinance or special conditions of

approval for this project. Please refer to the oak tree report prepared for the project for details regarding the oak tree survey and results.

Mitigation for impacts to biological resources will be required in order to obtain some or all of the necessary permits. Mitigation may include one or a combination of the following measures: impact avoidance; purchase of credits in an established mitigation bank; purchase and preservation of similar habitats in the project vicinity; $^{\text{and}}/_{\text{or}}$ creation or enhancement of existing similar resources on the project site or in the project vicinity.

In conclusion, project implementation will result in no significant unavoidable impacts to biological resources on the project site. All impacts to biological resources will be mitigated to levels of less than significant.

INTRODUCTION

The project applicant proposes to develop a mixed-use complex with condominium units and retail stores. The complex also includes underground parking and associated infrastructure.

The location of the proposed project site is 23500 Park Sorrento, Calabasas in the western portion of Los Angeles County. The site is surrounded by residential and commercial properties on the north, east, and west, and a recreational park is adjacent to the southern property line. The 5.43-acre site can be located on the United States Geological Survey 7.5 minute *Calabasas* quadrangle map. The site is located in a portion of Section 22 in T1N, R17W San Bernardino Baseline and Meridian.

FIGURE 1: VICINITY MAP

RESOURCE DESCRIPTION

The natural resources known to occur in the project area are described in general terms. The resources found on the project site are described in greater detail. The floral and faunal composition of the project site is described herein from information compiled through field reconnaissance, supplemented by existing documentation of biological resources within the project vicinity. The general survey was conducted by Biological Assessment Services and the initial preliminary constraint survey was conducted by Land Design Consultants biologists Michael Cady and Laurel Peelle on May 11, 2006. A follow up survey was conducted by biologist Joel Boggus of Biological Assessment Services on October 30, 2012. The surveys included vegetation mapping; a comprehensive oak tree survey; general plant inventory; habitat assessment for evaluating the potential for special status wildlife species; general wildlife inventory; and delineation of potential U.S. Army Corps of Engineers and California Department of Fish and Game jurisdictional waters and wetlands. The report was updated on November 2, 2012.

Regional Overview

The proposed project site is located in the foothills at the southeastern edge of the San Fernando Valley. The Santa Monica Mountains rise to the south, with Beverly Hills and the west Los Angeles basin beyond that. The Santa Monica Mountains stretch to the east and west of the site and the San Fernando Valley is just north of the property. The transmontane location of the project site is within the rain shadow Coast Range Mountains. The available, though infrequent, precipitation provides for a series of arid plant communities that show an interesting cross-section of both inland and Southern Coast Range biota.

The region experiences a Mediterranean climate characterized by hot dry summers, and cool, mild winters, with precipitation occurring in the winter months. The area is within the climatic transition zone from the moister coastal region to the more arid inland regions of southern California. The transition zone is characterized by shift in species

composition of the plant and animal communities from coastal species or races to those found in the inland valleys. Many plant and animal specimens collected in this transition region exhibit characteristics of both inland and coastal populations. Valley and coast live oak woodlands and savannas, riparian woodland, chaparral, coastal sage scrub, and grassland compose the natural biotic communities in the project vicinity.

SITE CHARACTERIZATION

The physical and biotic characteristics of the site are described as it existed at the time of the biological surveys.

Non-Biotic Characteristics

The 5.43 acre project site is currently occupied by the Calabasas Inn and approximately 2.87 acres (52.9%) of the property has been developed. The developed areas consist of one building, access roads, a parking lot, and sidewalks. McCoy Creek, a stream that is a tributary to Arroyo Calabasas (all are a part of the Los Angeles River watershed), is located in the southern and eastern portions of the project site. Part of the stream onsite (0.08 acres; 1.5%) is bordered on the north by a concrete bank and lacks any substantial vegetation within the channel. North of the project site, and across Park Sorrento, are residential and commercial developments. A tennis club and commercial complex are located to the east of the site's boundaries, and another commercial complex is located to the west. Beyond the stream to the south is a park that includes a man-made lake.

Habitats

The vegetation on the project site consists of one natural plant community, southern coast live oak riparian forest, and landscaped areas. Figure 2: HABITAT MAP illustrates the location and amount of habitats located onsite.

Southern Coast Live Oak Riparian Forest

Southern coast live oak riparian forest (as defined by Robert Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* 1986) occupies 0.76 acres (14.0%) of the project site along McCoy Creek. According to Holland this vegetation type is open, to locally dense, evergreen sclerophyllous riparian woodlands dominated by coast live oak. Valley oak (*Quercus lobata*), arroyo willow (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), and Fremont cottonwood (*Populus fremontii*) were also found onsite as overstory and mid-story components of the habitat. Nonnative Peruvian peppers (*Schinus molle*) are also present. This habitat appears to be

richer in herbs and poorer in understory shrubs than other riparian communities. The understory was composed primarily of periwinkle (*Vinca major*), poison oak

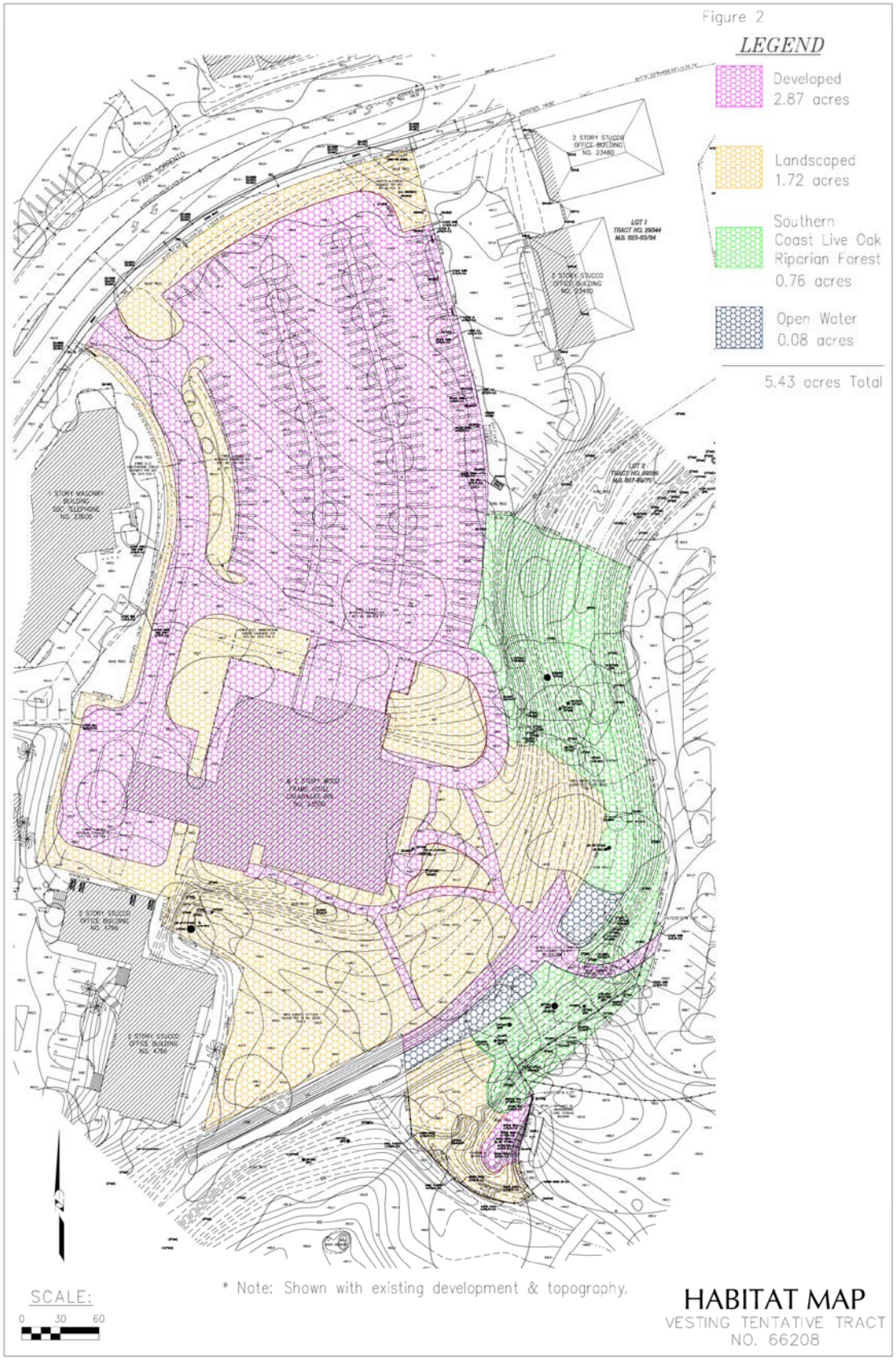


Figure 2
LEGEND
Developed
2.87 acres
Landscaped
1.72 acres
Southern
Coast Live Oak
Riparian Forest
0.76 acres
Open Water
0.08 acres
5.43 acres Total
PARK SORRENTO
2 STORY STUCCO
OFFICE BUILDING
NO. 23480
LOT 1
TRACT NO. 29044
M.B. 823-83/84
1 STORY MASONRY
BUILDING
SBC TELEPHONE
NO. 23500
LOT 2
TRACT NO. 29036
M.B. 807-85/90
2 STORY STUCCO
OFFICE BUILDING
NO. 5786
2 STORY STUCCO
OFFICE BUILDING
NO. 4760
N
SCALE:
0 30 60
* Note: Shown with existing development & topography.
HABITAT MAP
VESTING TENTATIVE TRACT
NO. 66208

(*Toxicodendron diversilobum*) and California blackberry (*Rubus ursinus*). This habitat typically occurs in valley bottoms and outer floodplains along larger streams, in sandy soils or alluvium (Holland 1986; Sawyer and Keeler-Wolf 1995). The southern coast live oak riparian forest area includes trees that are not included in the CDFG jurisdictional area because their canopies do not overhang the streamcourse.

Landscaped

Landscaped areas associated with the Calabasas Inn occupy 1.72 acres (31.6%) of the project site. The landscaping consists primarily of trees and shrubs around the existing residences and around the perimeter of the graded pad above and behind (to the west of) the houses. The remnants of landscaping around the graded pad might indicate that residences once also occupied the pad area. Trees used in the landscaping include American sweetgum (*Liquidambar styraciflua*), London plane (*Platanus acerifolia*), Chinese elm (*Ulmus parviflora*), and Italian stone pine (*Pinus pinea*) among others. Various shrubs are used in the landscaping for ornamental and visual shielding purposes. Several gardens that include a variety of roses and pansies, among other ornamental plants, are found on the project site.

Streamcourse – USACE / CDFG / CRWQCB Jurisdictional Areas

McCoy Creek, located to the south and east of the project site, had a steady flow of water during the surveys of the site. The stream connects to Arroyo Calabasas, which is a direct tributary to the Los Angeles River. This qualifies the stream as "Waters of the US" and puts it under the jurisdiction of the United States Army Corps of Engineers (USACE) under Section 404 of the Federal Clean Water Act. The total amount of USACE jurisdictional "Waters of the US," determined using the ordinary high water mark, is 0.14 acres. The jurisdiction of the Regional Water Quality Control Board (RWQCB) is over discharge into "Waters of the State" which includes any surface or ground water in the state of California, according to the California Porter-Cologne Water Quality Act. While this jurisdiction may at times include more area than the Waters of the US, the extent is equivalent on the Village at Calabasas project site. The RWQCB also asserts jurisdiction over discharge into Waters of the US separately under Section 401 of the Federal Clean Water Act. California Department of Fish and Game (CDFG) jurisdiction includes and

often extends beyond USACE jurisdiction, encompassing the streambed and bank, riparian vegetation adjacent to the stream, and the canopies of the coast live oaks and other various trees that overhang the stream. CDFG jurisdictional areas totaled 0.59 acres onsite. Figure 3: JURISDICTIONAL WATERS MAP illustrates the location and amount of habitats located onsite. Full results and methodology can be found in Appendix 3 - *Jurisdictional Waters Delineation Report – VTTM 66208.*

Oak Trees

An oak tree survey was also conducted on the project site and within 200 feet of the project's boundaries. All of the surveyed trees have a diameter breast height (DBH; 4.5 feet above the natural grade surrounding the tree) of two (2) inches or greater. Oaks with a DBH of less than two inches, but more than one inch, were located and mapped; these trees were not surveyed for health and condition evaluations and did not receive tags. Each tree was assigned three letter grades, one health and one aesthetic rating as required by the City, and an overall grade that incorporates ecological value in addition to health and aesthetic values. The health and aesthetic rating of the trees are based on the guidelines established in the City of Calabasas Oak Tree Preservation and Protection Guidelines. The overall grade of each tree was determined through a subjective evaluation of its health, aesthetic value, and ecological value.

There are 153 coast live oaks (*Quercus agrifolia*) and 14 valley oaks (*Quercus lobata*) of ordinance size within 200 feet of the project footprint, totaling 167 oak trees. Of these, 33 oaks (5 removals, 28 permanent encroachments) may be impacted and will be mitigated in accordance with the City Ordinance or special conditions of approval for this project. Please refer to the oak tree report prepared for the project for details regarding the oak tree survey and results.

Figure 3
LEGEND
CDFG JURISDICTIONAL RIPARIAN HABITAT (INCLUDES WATERS OF THE US)
0.59 acres
USACE/RWQCB WATERS OF THE US/STATE
0.14 acres
SCALE:
0 30 60
JURISDICTIONAL WATERS MAP
VESTING TENTATIVE TRACT NO. 66208

Wildlife

Most wildlife species are not restricted to a single plant community, occurring instead in several communities, especially those of similar species composition and physical structure. However, some animals, birds and wide-ranging mammals in particular, may utilize an array of dissimilar communities for forage and cover. Most animals found onsite during the present survey are common, widespread, and highly adaptable species. Wildlife species recorded as occurring on the project site include both those species that were observed and those whose occurrence can be deduced due to the presence of diagnostic sign on the site. All vertebrates recorded or expected to occur on the project site are listed in APPENDIX 2: FLORAL AND FAUNAL COMPENDIUM.

Wildlife species observed during the site survey were limited because of the large percentage of the site that has been developed. Birds were the most evident and abundant form of fauna observed onsite, especially in the coast live oaks in the riparian area and large ornamental trees that occur within the landscaped area onsite. Acorn (*Melanerpes formicivorus*) and Nuttall's (*Picoides nuttallii*) woodpeckers were observed foraging on the upper trunks of some of the larger trees onsite. Oak titmouse (*Baeolophus inornatus*) and Wilson's warbler (*Wilsonia pusilla*) were seen flitting in the canopies of the oaks in the riparian areas. Mallards (*Anas platyrhynchos*) were found drifting along the stream and red-shouldered hawk (*Buteo lineatus*) and white-throated swifts (*Aeronautes saxatalis*) were observed flying overhead. In the ornamental gardens on the south-side of -the Inn, Anna's (*Calypte anna*) and rufous hummingbirds (*Selasphorus rufus*) were observed feeding on the flowering plants. Many other birds are expected to occur within the southern coast live oak riparian forest and landscaped areas onsite as either foraging transients (local or migratory) $^{\text{and}}/_{\text{or}}$ nesting pairs. Birds likely to nest onsite are the species typically found in association with human development, including American crow (*Corvus brachyrhynchos*), acorn woodpeckers, Anna's hummingbird, and bushtits (*Psaltriparus minimus*) among others.

Two nonnative fish were observed in McCoy Creek: mosquitofish (*Gambusia affinis*) and koi (*Cyprinus carpio*). Observations of amphibians occurring onsite were limited to two

species: Pacific treefrog (*Pseudacris regilla*) and the nonnative American bullfrog (*Rana catesbeiana*). The treefrog was found on the north bank of the stream and the bullfrog was observed several times leaping from streamside basking areas into the stream. Other amphibians expected to occur onsite include black-bellied salamander (*Batrachoseps nigriventris*) and western toad (*Bufo boreas*). Western fence lizard (*Sceloperus occidentalis*) was the only representation of reptiles that was observed onsite, but gophersnake (*Pituophis catenifer*) may also occur in the forested area.

The eastern fox squirrel (*Sciurus niger*), was the only mammal directly observed onsite. Several dusky-footed woodrat (*Neotoma fuscipes*) nests, raccoon (*Procyon lotor*) tracks and coyote (*Canus latrans)* tracks were also observed, confirming the presence of these species. Virginia opossum (*Didelphis virginiana*), desert cottontail (*Sylvilagus audubonii*), Botta's pocket gopher (*Thomomys bottae*) and striped skunk (*Mephitis mephitis*) are also expected to occur onsite.

Sensitive Biological Resources

Sensitive biotic resources reported in the project vicinity and their known or expected status onsite are discussed in this section. The status of each resource was determined by consideration of: known preferred ecologic parameters and direct observation for plants, known habitat preferences and direct observation for faunal components, and direct observation for habitat types.

There are 75 biotic elements (30 plant species, 31 wildlife species, and 14 habitat-types) considered sensitive by resource management organizations and known to occur in the region. This determination is based on local knowledge of LDC biologists and searches of appropriate references and databases. Sources used for the determination of sensitive biological resources and their potential presence onsite are as follows: **wildlife** - U.S. Fish and Wildlife Service (FWS) (2012), California Department of Fish and Game (1980, 1989,) California Natural Diversity Data Base (CNDDB 2012), and Remsen (1978); **plants** - FWS (2012), CDFG (1989, 2012), CNDDB (2012), and California Native Plant Society (CNPS, 2012)(Smith and Berg 1988); and **habitats** - CNDDB (2012) and

Holland (1986). Table 1 below includes each of the sensitive biotic resources reported in the vicinity, its status with the above agencies, and its expected occurrence onsite.

Table 1
SENSITIVE BIOLOGICAL RESOURCES IN THE
VILLAGE AT CALABASAS SITE VICINITY

COMMON NAME	SCIENTIFIC NAME	PRESENCE ONSITE	FWS	CDFG	CNPS PIF
Plants					
Malibu Baccharis	*Baccharis malibuensis*	N	--	--	1B
Southern Tarplant	*Centromadia parryi* ssp. *Australis*	N	--	--	1B
Santa Susana Tarplant	*Deinandra minthornii*	N	--	R	1B
Lyon's Pentachaeta	*Pentachaeta lyonii*	N	E	E	1B
Beach Spectacledpod	*Dithyrea maritime*	N	--	T	1B
Coulter's Saltbush	*Atriplex coulteri*	N	--	--	1B
Parrish's Brittlescale	*Atriplex parishii*	N	--	--	1B
Blochman's Dudleya	*Dudleya blochmaniae* ssp. *Blochmaniae*	N	--	--	1B
Agoura Hills Dudleya	*Dudleya cymosa* ssp. *Agourensis*	N	T	--	1B
Marcescent Dudleya	*Dudleya cymosa* ssp. *Marcescens*	N	T	R	1B
Santa Monica Mountain Dudleya	*Dudleya cymosa* ssp. *Ovatifolia*	N	T	--	1B
Many-stemmed Dudleya	*Dudleya multicaulis*	N	--	--	1B
Conejo Dudleya	*Dudleya parva*	N	T	--	1B
Braunton's Milk-vetch	*Astragalus brauntonii*	N	E	--	1B
Ventura Marsh Milk-vetch	*Astragalus pycnostachyus* var. *lanosissimus*	N	E	E	1B
Coastal Dunes Milk-vetch	*Astragalus tener* var. *titi*	N	E	E	1B
Round-leaved Filaree	*Erodium macrophyllum*	N	--	--	2
Mud Nama	*Nama stenocarpum*	N	--	--	2
Salt Spring Checkerbloom	*Sidalcea neomexicana*	N	--	--	2
San Fernando Valley Spineflower	*Chorizanthe parryi* var. *Fernandina*	N	C	E	1B
Parry's Spineflower	*Chorizanthe parryi* var. *parryi*	N	--	--	3
Slender-horned Spineflower	*Dodecahema leptoceras*	N	E	E	1B
Conejo Buckwheat	*Eriogonum crocatum*	N	--	R	1B
Dune Larkspur	*Delpinium parryi* ssp. *Blochmaniae*	N	--	--	1B
Salt Marsh Bird's-beak	*Cordyylanthus maritimus* ssp. *Maritimus*	N	E	E	1B
Sonoran Maiden Fern	*Thelypteris puberula* var. *sonorensis*	N	--	--	2
Slender Mariposa Lily	*Calochortus clavatus* var. *gracilis*	N	--	--	1B
Plummer's Mariposa Lily	*Calochortus plummerae*	N	--	--	1B
Chaparral Nolina	*Nolina cismontane*	N	--	--	1B
California Orcutt Grass	*Orcuttia californica*	N	E	E	1B
Invertebrates					
Riverside Fairy Shrimp	*Streptocephalus woottoni*	N	E	--	--
Tengellid Spider	*Socalchemmis gertschi*	N	--	--	--
Santa Monica Shieldback Katydid	*Neduba longipennis*	N	--	--	--
Santa Monica Grasshopper	*Trimerotropis occidentaloides*	N	--	--	--

Table 1 SENSITIVE BIOLOGICAL RESOURCES IN THE VILLAGE AT CALABASAS SITE VICINITY					
COMMON NAME	**SCIENTIFIC NAME**	**PRESENCE ONSITE**	**FWS**	**CDFG**	**CNPS PIF**
Sandy Beach Tiger Beetle	*Cicindela hirticollis gravida*	N	--	--	--
Globose Dune Beetle	*Coelus globosus*	N	--	--	--
Monarch Butterfly (roosting)	*Danaus plexippus*	N	--	--	--
Fish					
Tidewater Goby	*Eucyclogobius newberryi*	N	E	--	--
Arroyo Chub	*Gila orcutti*	N	--	SC	--
Southern Steelhead	*Oncorhynchus mykiss irideus*	N	E	--	--
Amphibians					
Western Spadefoot	*Spea hammondii*	N	SC	SC	--
Arroyo Toad	*Bufo californicus*	N	E	SC	--
California Red-legged Frog	*Rana aurora draytonii*	N	T	SC	--
Reptiles					
Southwestern Pond Turtle	*Actinemys marmorata pallida*	N	SC	SC	--
Coast (San Diego) Horned Lizard	*Phrynosoma coronatum blainvillei*	N	--	SC	--
Coastal Western Whiptail	*Aspidoscelis tigris stejnegeri*	N	--	SC	--
San Diego Mountain Kingsnake	*Lampropeltis zonata pulchra*	N	--	SC	--
Two-striped Garter Snake	*Thamnophis hammondii*	P	--	SC	--
San Bernardino Ringneck Snake	*Diadophus punctatus modestus*	P	--	--	--
Birds					
Golden Eagle	*Aquila chrysaetos*	N	FP	SC	--
Burrowing Owl	*Athene cunicularia*	N	SC	SC	--
White-throated Swift	*Aeronautes saxatalis*	O-T	--	--	T&D
Rufous Hummingbird	*Selasphorus rufus*	O-T	--	--	T&D
Nuttall's Woodpecker	*Picoides nuttallii*	O	--	--	RR
Least Bell's Vireo	*Vireo bellii pusillus*	N	E	E	T&D
Bank Swallow	*Riparia riparia*	N	--	T	--
Oak Titmouse	*Baeolophus inornatus*	O	SLC	--	T&D
Coastal California Gnatcatcher	*Polioptila californica californica*	N	T	SC	RR
Southern California Rufous-crowned Sparrow	*Aimophilia ruficeps canescens*	N	--	SC	--
Tricolored Blackbird	*Agelaius tricolor*	N	--	SC	RR
Mammals					
San Diego Desert Woodrat	*Neotoma lepida intermedia*	N	--	SC	--
Habitats					
California Walnut Woodland	--	N	--	--	--
Cismontane Alkali Marsh	--	N	--	--	--
Southern California Coastal Lagoon	--	N	--	--	--
Southern California Steelhead Stream	--	N	--	--	--
Southern Coast Live Oak Riparian Forest*	--	O	--	--	--
Southern Coastal Salt Marsh	--	N	--	--	--
Southern Cottonwood Willow Riparian Forest	--	N	--	--	--
Southern Mixed Riparian Forest	--	N	--	--	--

Table 1 SENSITIVE BIOLOGICAL RESOURCES IN THE VILLAGE AT CALABASAS SITE VICINITY					
COMMON NAME	**SCIENTIFIC NAME**	**PRESENCE ONSITE**	**FWS**	**CDFG**	**CNPS PIF**
Southern Riparian Scrub	--	N	--	--	--
Southern Sycamore Alder Riparian Woodlands	--	N	--	--	--
Southern Willow Scrub	--	N	--	--	--
Valley Needlegrass Grassland	--	N	--	--	--
Valley Oak Woodland*	--	N	--	--	--
Streamcourses**	--	O	--	--	--

FOOTNOTES FOR SENSITIVE BIOLOGICAL RESOURCES -- Table 1

OCCURRENCE

O Species **O**ccurs onsite.
O-T Species **O**ccurs onsite as a **T**ransient
V Species **V**ery likely occurs onsite.
P-T Species **P**ossibly Occurs onsite as a **T**ransient
P Species **P**ossibly may occur onsite.
U Species is **U**nlikely to occur onsite.
N **N**o occurrence onsite.

STATUS

E **E**ndangered; Species is in immediate danger of extirpation or extinction from existing pressures.
SC **S**pecies of **C**oncern, formerly a candidate for federal listing but that category was eliminated but these species are thought to warrant special attention due to suspected declines.
3A Species withdrawn from candidacy for federal listing; believed to be extinct.
3B Species withdrawn from candidacy for federal listing; believed not to be taxonomically valid given current information.
3C Species withdrawn from candidacy for federal listing; proven to be more widespread than previously believed and/or not subject to any identifiable threat.
FP **F**ully **P**rotected by special ordinance or statute.
CT / CE State candidate for listing as threatened (T) or Endangered (E).
PT **P**roposed **T**hreatened; Species for which a proposed rule to list as endangered or threatened has been published in the Federal Register (exclusive of taxa for which the proposed rule has been withdrawn or finalized).
T **T**hreatened; Species not presently threatened with extinction, but is likely to become an Endangered species in the foreseeable future in the absence of special protection and management efforts.
1A CNPS Priority List 1A; plant presumed extinct in CA.
1B CNPS Priority List 1B; plant Rare, Threatened, or Endangered in CA and elsewhere; eligible for State listing.
2 CNPS Priority List 2; plant rare, threatened, or Endangered in CA, but more common elsewhere; eligible for state listing.
3 CNPS Priority List 3; more information is needed about this species.
4 CNPS Priority List 4; on watch list for plants of limited distribution.
* CA has no authority to legally list invertebrate species; however, a legal agreement (1988) requires the state to monitor the status of federally listed species for threats of extinction and/or extirpation.
m Though not protected by the state or federal government, oaks are protected by a number of local ordinances and are invariably defended vehemently by public and private special interest groups.
SC CDFG Species of **S**pecial **C**oncern; native species not having state or federal Threatened or Endangered Species status, but thought to warrant monitoring due to declining population numbers. Includes those species tracked in the CNDDB but not given any other special status.
SLC **S**pecies of **L**ocal **C**oncern as reported in the FWS Sacramento region's Species of concern list.
CSC1 CDFG Species of Special Concern, Highest Priority; species appears to face a high probability of extinction or extirpation from their entire geographic range in CA if current trend continues.

c CDFG Species of Special Concern, Second Priority; population is definitely in jeopardy and declining, but the threat of extinction or extirpation is not immediate.

d CDFG Species of Special Concern, Third Priority; species does not appear to face extinction soon, but populations are declining seriously or they are otherwise highly vulnerable to human developments.

FSS **F**ederal (Bureau of Land Management and US Forest Service) **S**ensitive **S**pecies.

CNDDB ranks are shorthand formulas that provide information on the rarity of a species or subspecies, both throughout its global range and its range within the State. We use the best information available to assign these ranks and they are regularly updated as new information becomes available.

GLOBAL RANKS: Worldwide status of a full species: G1 to G5

G1 = Extremely endangered: <6 viable occurrences (EO's) or <1,000 individuals, or < 2,000 acres of occupied habitat

G2 = Endangered: about 6-20 EO's or 1,000 - 3,000 individuals, or 2,000 to 10,000 acres of occupied habitat

G3 = Restricted range, rare: about 21-80 EO's, or 3,000 – 10,000 individuals, or 10,000 – 50,000 acres of occupied habitat

G4 = Apparently secure; some factors exist to cause some concern such as narrow habitat or continuing threats

G5 = Demonstrably secure; commonly found throughout its historic range

STATE RANKS: Statewide status of a full species or a subspecies: S1 to S5

Same general definitions as global ranks, but just for the range of the taxa within California.

T-RANKS: Status of a subspecies throughout its range: T1 to T5

A subspecies is given a T-rank. This is attached to the G-rank for the full species. The S-rank, in this case, will refer to the status of the subspecies within California. The T-rank has the same general definitions as the global ranks.

RR T&D HC Partners in Flight (PIF) watch list is produced by a coalition of non governmental organizations including the National Audubon Society, American Bird conservancy, American Birding Association, National Fish and Wildlife Foundation, Colorado Bird Observatory, Cornell Lab of Ornithology and others. Watched species are those that are faced with population decline, limited geographic range, and/or threats such as habitat loss on their breeding and wintering grounds. The list excludes species listed under the ESA. HC – **H**ighest **C**oncern – Species that are in imminent danger of extinction in the wild. (may include listed species) RR **R**ange **R**estricted - indicates a species whose range is limited and which might be vulnerable to catastrophic events. T&D **T**hreatened and **D**eclining – Indicates a species for which existing data indicates that ongoing threats are resulting in a decline of the species throughout its range.

W **W**atch List; Location information for this species not computerized. The CNDDB is currently collecting distribution information.

* Protected by County Ordinance (all oak species)

** Protected by CDFG Code Chapter 1600 and Section 404 of the Clean Water Act (U.S. Army Corps of Engineers (USACE).

Vegetation

None of the 30 listed sensitive plant species that have been recorded by CNDDB $^{and}/_{or}$ CNPS in the vicinity of the project site were observed during the surveys. None of the listed sensitive plant species is thought to occur or possibly occur on the project site. This determination was made by post-survey analysis using the data gathered during the surveys in conjunction with the known ecological requirements (habitat, soil, aspect, elevation, etc.) of each of the listed plants. The majority of the site has been developed or landscaped, and the naturally occurring habitats onsite have been degraded due to the proximity of human activity and the introduction of nonnative plant species.

Wildlife

The following discussion provides a brief summary of the results of detailed analysis made for each of the sensitive wildlife species known to occur in the project vicinity. For a more complete analysis please refer to Appendix 1.

No wildlife species listed as Threatened or Endangered is thought to occupy the project site. As illustrated in Table 1, four (4) sensitive wildlife species are known to occur on the site. These are all Partners in Flight Watchlist species. Each of these species either occupies the site as a transient or is a year round resident on the site. These were identified by direct observation.

The oak titmouse and Nuttall's woodpecker were both observed onsite and because the preferred habitat of both species (oaks) occur onsite, it is believed that both species are year-round residents on the project site. The rufous hummingbird and white-throated swift were observed on the project site, but have been classified as occurring as transients. The rufous hummingbird primarily occurs in Southern California as a winter resident or as a transient during the fall and spring migration. The breeding range for the species is from northern California to southern Alaska. The white-throated swift occurs as a year-round resident in Southern California, but the appropriate nesting habitat (cliff walls and ledges) does not occur on this site. The white-throated swift will utilize the airspace over the site for foraging.

Two sensitive reptile species may possibly occur on the site: two-striped garter snake and San Bernardino Ringneck Snake. McCoy Creek and the southern coast live oak riparian forest are appropriate habitat for these species. In addition, the mosquitofish, Pacific treefrog, and the tadpoles of American bullfrog are all prey species for the garter snake and the ringneck snake preys upon small terrestrial creatures found in the undergrowth and leaf litter, especially salamanders.

Habitats

Southern coast live oak riparian forest is the one (1) sensitive habitat, as listed by CNDDB, which occurs onsite. The habitat occupies 0.76 acres of the site along the stream that runs along the southern and eastern portions of the site. Coast live oaks are the dominant plant species, typically occurring in dense stands that limit the amount of sunlight available to the understory components of the habitat. Southern coast live oak riparian forest, like most riparian habitats are in rapid decline in southern California due to development.

Streamcourses

Often with only seasonal surface water in Southern California, streamcourses are becoming increasingly rare due to the pressures of development. As a result, the California Department of Fish & Game (CDFG) Code Chapter 1600 and Sections 401, 402, and 404 of the Clean Water Act stringently protect these areas. McCoy Creek is considered "Waters of the U.S." by the U.S. Army Corps of Engineers (USACE), which administers Section 404. Impacts to the streambed, bank, and associated riparian vegetation are regulated by the CDFG, which administers the Fish and Game Code. The Regional Water Quality Control Board regulates discharge into “Waters of the US” under Section 401 of the Clean Water Act and “Waters of the State” under the Porter-Cologne Water Quality Act.

Wildlife Movement Corridors

A wildlife corridor is a strip of land that connects two, or more, larger land areas and is free of barriers that would seriously curtail or prevent wildlife passage. These corridors

can serve as useful habitat in their own right, or can serve as travel lanes for seasonal movements of wildlife. Their value depends upon width, habitat type and structure, nature of surrounding habitat, human use patterns, and other factors. Typically, a wildlife corridor provides refuge and ease of movement, and often follows ridgelines or drainages. Wildlife movement corridors are important for the free movement of animals between population centers, for access to food and water sources during drought, as escape routes from brush fires, and, in the longer term, for dispersal of genetic traits between population centers.

Urban development fragments natural habitats into smaller and more isolated units. In the process, it destroys habitat of many species, modifies habitat of others, and creates new habitat for some (Adams and Dove, 1989). Many studies have indicated that, in general, habitat size is the most important factor in determining land vertebrate species diversity (Adams and Dove 1989). The degree of habitat isolation and percentage of vegetative cover are other major factors in species variety and abundance.

Genetic dispersion is the key factor in maintaining viable wildlife and plant populations as they become more and more fragmented. The smaller the population (as in populations isolated by development), the greater is the likelihood of inbreeding. Inbreeding allows harmful recessive alleles to be paired together, thereby manifesting the trait. Without the presence of the dominant allele that would mask an otherwise fatal inherited disease, the recessive allele for that disease could become predominant in the isolated population, resulting in the eventual extinction of that population. Wildlife corridors can prevent local extinctions by connecting relatively small open space preserves, thereby allowing gene flow and providing for a wide diversity of genetic traits throughout the interconnected populations.

The site does not function as a part of a regional wildlife movement because it is generally isolated away from large blocks of natural open space or native wildlife habitat. Residential and commercial developments are located north of the project site, and across Park Sorrento, with the 101 Freeway ¼ mile further. A tennis club and commercial complex are located to the east of the site's boundaries, and another commercial complex

is located to the west. Beyond the McCoy Creek to the south is a residential development that features waterfront properties around a manmade lake. The only possible connection to large blocks of open space is along McCoy Creek to the southeast. This connection is obstructed partially by several roads and animals traversing it would reach a dead-end at the project site

ENVIRONMENTAL IMPACTS

Anticipated impacts of the proposed project are presented. Thresholds of significance for the anticipated impacts are determined by interpretation of the CEQA Guidelines as presented below. Those impacts requiring mitigation are numbered to correspond with numbered mitigation measures. Mitigation measures are proposed to reduce impacts not found to be significant and/or to reduce impacts that are considered significant to levels of less than significant.

Threshold of Significance

Pursuant to Appendix G of CEQA Guidelines, a significant impact to biological resources would result if the project would:

T-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Services.

T-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Services.

T-3 Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

T-4 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

T-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

T-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Project Impacts

The primary impact of the proposed project would be the direct removal of onsite portions of a sensitive plant community and the wildlife habitat that it represents. Degradation of remaining natural areas after project implementation would constitute a secondary project impact. There is a potential for secondary impacts to the biotic resources remaining onsite after project completion. These impacts may be direct, such as removal by the new occupants, or indirect such as the poisoning of native plants with herbicides or fertilizers used in landscaping. Other secondary impacts include degradation of the remaining natural habitats by the introduction of exotic plants into the natural environment through nonnative landscaping. The native vegetation that remains within the planning areas or along the perimeter of the project might be adversely impacted by various project associated grading activities such as deposition of dust on vegetation.

Impacts to Habitat

I-1 Loss of Southern Coast Live Oak Riparian Forest - Project development would permanently impact 0.022 acres (2.8%) of southern coast live oak riparian forest habitat. Figure 4.3-3: HABITAT IMPACT MAP illustrates proposed impacts to habitat by implementation of the Village at Calabasas project. Because this habitat is increasingly rare, and because it is considered riparian, any impacts to the habitat are considered significant on a project level unless mitigation measures are implemented. Any permanent loss of this habitat is considered cumulatively significant under CEQA.

I-2 Loss of Oak Trees – Project development would result in impacts to 33 ordinance sized oak trees onsite: 5 removals (relocations should be attempted), 28

encroachments from structures. None of the Heritage oak trees onsite will be removed for the project. The loss of oaks is considered significant in the City of Calabasas and is regulated by the City's oak tree ordinance. An oak tree report has been prepared for the project and a detailed account of oak impacts is available in that report. The loss of individual oaks is considered significant unless mitigation is undertaken. Please refer to the oak tree report prepared for the project for details regarding the oak tree survey results and proposed mitigation measures.

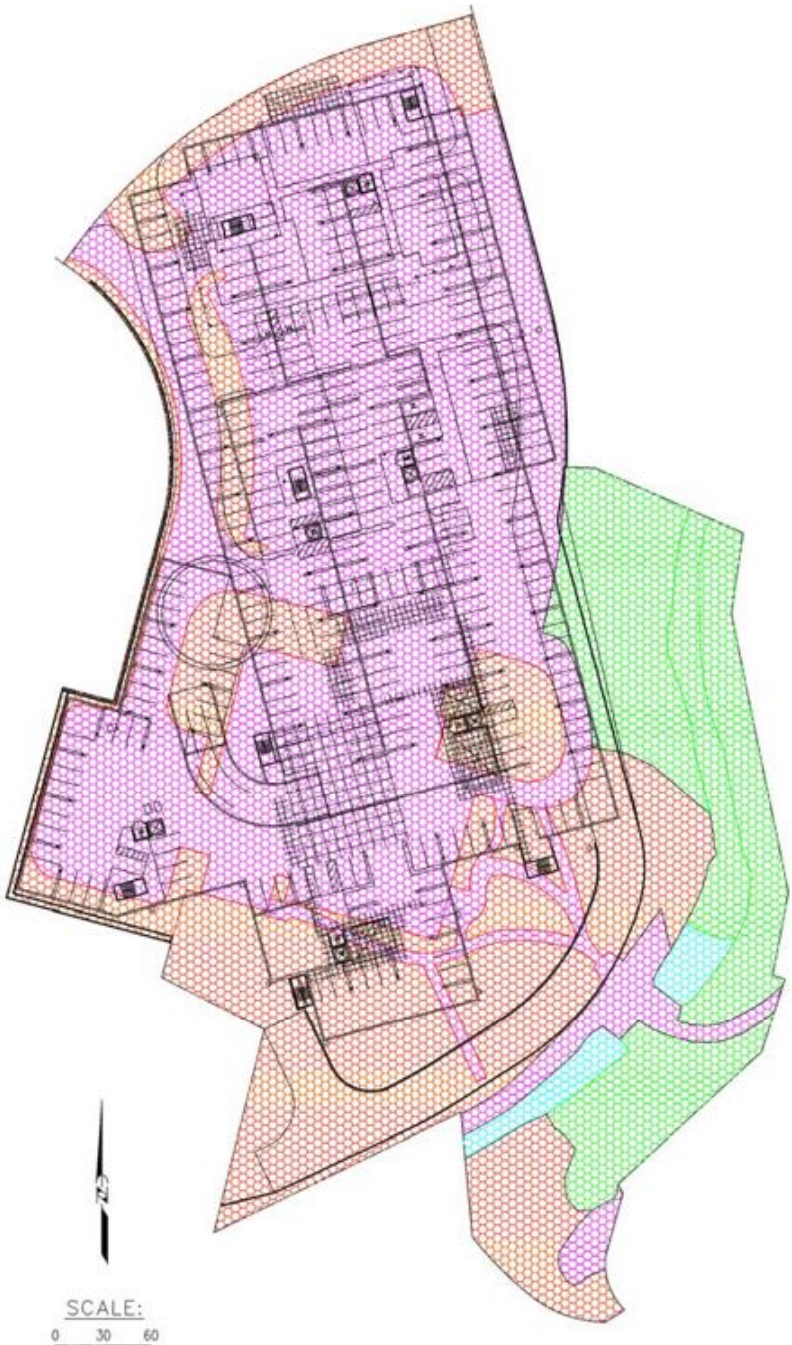
I-3 Loss of Developed Areas - The developed areas onsite do not support sensitive native flora or fauna, and do not function as a part of the natural ecosystem of the area. The redevelopment of developed area on the site is not significant.

I-4 Loss of Landscaped Habitats – Landscaped vegetation does not function as a part of the natural ecological system in the area, and the grading resulting in impacts to this habitat is not significant. It is assumed that the development will replace this loss as a normal part of suburban development and landscaping.

I-5 Loss of CDFG Jurisdictional Habitat – McCoy Creek streambed would not be altered by the project, so none of the USACE's "Waters of the US" or waters within RWQCB jurisdiction would be impacted. Portions of the understory of the riparian habitat (southern coast live oak riparian forest) encompassing the creek, falling under CDFG jurisdiction, would be impacted by the construction of a fire lane. These would result in the loss of 0.022 acres (3.7%) of CDFG jurisdictional riparian habitat. Figure 5: JURISDICTIONAL WATERS IMPACT MAP illustrates the proposed impacts to CDFG riparian habitat for the Village at Calabasas project. Any unmitigated impact to CDFG jurisdictional area is considered significant both independently and cumulatively. In order to obtain the required Section 1603 Streambed Alteration Agreement, mitigation would be required. In order to obtain this agreement all impacts to riparian habitats must be mitigated.

Figure 4

HABITAT TYPE	IMPACTED (ACRES)	PRESERVED (ACRES)	TOTAL (ACRES)
DEVELOPED	*2.74*	*0.13*	*2.87*
LANDSCAPED	*1.42*	*0.30*	*1.72*
SCLORF	*0.04*	*0.72*	*0.76*
OPEN WATER	*0*	*0.08*	*0.08*



HABITAT IMPACT MAP
VESTING TENTATIVE TRACT NO. 66208

Figure 5
LEGEND
IMPACTED CDFG JURISDICTIONAL RIPARIAN HABITAT 0.021 acres
CDFG JURISDICTIONAL RIPARIAN HABITAT (INCLUDES WATERS OF THE US)
USACE/RWQCB JURISDICTIONAL WATERS OF THE US/STATE
SCALE:
0 30 60
JURISDICTIONAL WATERS IMPACT MAP
VESTING TENTATIVE TRACT NO. 66208

Impacts to Wildlife

Construction would temporarily and permanently impact potential habitat in the development area and reduce the viability of the rest of the site as wildlife habitat. Upon project completion, and assuming the implementation of mitigation measures, wildlife species will return to the remaining natural habitat on the site. Among the native members of the Southern California fauna known for their ability to thrive near human habitation are the western fence lizard, coyote, raccoon, and several bird species.

Landscaping around the new development may provide new habitats that could attract some fauna not now present as well as increasing habitat value for some species present or expected onsite. These will principally be introduced species or highly adaptive native species that are tolerant of human disturbance. Among those nonnative species that might experience a population increase caused by the altered environment, and are often considered pests in this category, are the Norway rat (*Rattus norvegicus*), house mouse (*Mus musculus*), spotted dove (*Streptopelia chinensis*), rock pigeon (*Columba livia*), European starling, and house sparrow. Those native species that might experience a population increase caused by the altered environment include the northern mockingbird (*Mimus polyglottos*) and mourning dove (*Zenaida macroura*).

I-6 General Wildlife Mortality – The immediate impact of project implementation would be the direct mortality of species that are unable to escape impacts, specifically impacts that occur in the southern coast live oak riparian forest. Species of low mobility, particularly burrowing reptiles and mammals in the impacted areas of this habitat, might be eliminated by site preparation. This impact is not significant at the project level, but is significant when considered cumulatively without mitigation.

I-7 Loss of Nesting Birds Onsite and in Adjacent Areas – If oak trees were removed during residential and migratory bird nesting season, it is possible that direct loss of young or eggs could occur. Nests could also fail in unimpacted onsite and offsite areas if construction activities were to disrupt nesting behavior. The loss of these species while nesting would be a violation of the California Fish and

Game Code and the Migratory Bird Treaty Act. These impacts would be significant independently and cumulatively unless preventative mitigation measures are taken.

I-8 Wildlife Habitat Loss – Those species that are able avoid construction activities will be impacted by the loss of southern coast live oak riparian forest they previously occupied. Many species can be expected to move to adjacent areas of similar habitat. Wildlife that does emigrate is subject to mortality by predation and unsuccessful competition for food and territory, decreasing chances for survival. This impact is considered significant at the project level and cumulatively unless mitigation for the habitat loss is implemented.

I-9 Impacts of Litter – The completed project could potentially result in an increase in the amount of litter deposited on the site and in surrounding natural areas. Aside from being an eyesore, litter is detrimental to wildlife for a variety of reasons. Many larger animals will attempt to eat the remnants of food products often associated with litter and in the process ingest plastic and other inedible and potentially fatal products. Many smaller animals and birds will use various inorganic litter products for nesting materials with potentially fatal results to their young. The impact of litter on local wildlife is not significant on a project level. Cumulatively, the impact of litter on wildlife is significant. Additionally, if litter results in the mortality of a sensitive species, that impact would be considered independently significant.

I-10 Night Lighting – Increased night lighting may be detrimental to animals in the onsite and offsite southern coast live oak riparian forest habitat for a variety of reasons. These include disruption of circadian rhythms and avoidance due to light sensitivity in species with exceptional night vision. Some insectivorous species benefit from night lighting because it attracts and concentrates large numbers of insects for feeding purposes. However, the typical net effect of lighting is that adjacent areas are utilized by wildlife to less than their fullest extent. The impact of increased night lighting is not significant on a project level and the incremental

increase in night lighting resulting from the proposed project would not significantly contribute to the cumulative impacts on night lighting in the region. However, regionally, the cumulative impact of night lighting on wildlife is significant.

Impacts to Sensitive Biological Resources

I-11 Downstream Impacts – The location of the project site in the Los Angeles River watershed means that any aspect of project implementation that affects the stream onsite may also affect the entire downstream waters. Indirectly, downstream habitats could be affected by development construction and the resulting community, both of which could produce by-products that would eventually impact the Los Angeles River. The result of this could be a significant alteration of the biochemistry of the creek, which would hinder efforts being proposed by the City of Los Angeles to revitalize the water quality of the Los Angeles River. Construction activities and community development present several potential sources for water quality degradation in the stream including the following:

a) Construction activities, especially those involving the mixing of mortar and concrete, often result in the production of substantial quantities of sullied waste water which would seriously pollute the creek if it were to be deposited there.

b) Other construction activities that expose the earth and remove vegetation have the potential to increase erosion. Erosion may result in the degradation of downstream water quality, increased siltation, and turbidity.

c) In addition to direct impacts like those above, build-out of the project site will have a number of secondary impacts to the watershed. These include a variety of home activities which are seemingly innocuous but are ultimately harmful to the environment. The list includes the application of pesticides and fertilizers in gardening, and the disposal or spillage of household cleaning solvents, paints, and automobile fluids (oil, gasoline,

etc.) on impervious surfaces. A serious concern over the careless disposal of these household chemicals is that their deposition in the ground, or in areas which will run off the site, will lead to the further contamination of the Los Angeles River and contribute to the continued degradation of the LA and Long Beach Harbor and near shore waters. Without mitigation, the buildup of such toxic materials will be harmful to the wildlife that depends on this water source. The buildup of toxic materials may also occur from streets and other paved areas. This will not pose the same threat to the watershed if runoff is filtered prior to being deposited in the Los Angeles River watershed.

These impacts would be significant on an individual project basis and at the cumulative level unless mitigation measures are implemented.

I-12 Sensitive Wildlife Species Mortality – Two of the four sensitive wildlife species known to occur onsite (Nuttall's woodpecker and oak titmouse) are resident birds and would likely avoid direct mortality if construction did not take place during nesting bird season. If site clearing were to take place within the nesting season of resident bird species, unhatched or unfledged young could be killed or nest failure could occur. This impact would be considered both independently and cumulatively significant under CEQA.

The two-striped garter snake and San Bernardino ringneck snake may possibly occur onsite, utilizing McCoy Creek and the undergrowth of the southern coast live oak riparian forest. The loss or disturbance of these areas could result in the direct mortality of the species.

I-13 Resident Sensitive Wildlife Habitat Loss – The sensitive wildlife species known to occur as residents on the site are Nuttall's woodpecker and oak titmouse. The loss of southern coast live oak riparian forest and individual oaks could decrease the available nesting opportunities and foraging areas onsite for the species. The two-striped garter snake and San Bernardino ringneck snake may possibly occur

onsite, utilizing McCoy Creek and the undergrowth of the southern coast live oak riparian forest. The loss of either of these habitats would limit the sites potential to support individuals of either species. Any loss of habitat for sensitive wildlife species is considered independently and cumulatively significant and would require mitigation.

I-14 Transient Sensitive Wildlife Habitat Loss - The two remaining sensitive wildlife species, rufous hummingbird and white-throated swift, that were observed onsite are considered transients. These species would not suffer direct loss as a result of project implementation, but could be impacted by an incremental loss of habitat. Any loss of habitat for sensitive wildlife species is considered independently and cumulatively significant and would require mitigation.

Cumulative Impacts

Without mitigation development of the project site would contribute to the incremental loss of southern coast live oak riparian forest and the species that are dependent on the habitat. Riparian habitats are rapidly becoming a scarce commodity in the San Fernando Valley and the southern California region. Mitigation will be required in order to obtain the required permits for encroachment or branch trimming in the oak woodland. By definition, this mitigation will result in no permanent, and thus cumulative, impact to the oak woodland and riparian oak woodland resource.

The loss of habitat results in the loss of species that depend on each habitat. Some of these may be common in the habitat or elsewhere in the state. Others may be limited in distribution to the local biome and there may be few remaining habitat areas or wildlife populations in cismontane southern California. The proposed project will be required, per City ordinance and State regulations, to fully mitigate any native habitat loss. The net result will be no permanent, and thus cumulative, habitat loss.

MITIGATION MEASURES

Proposed mitigation measures include both project specific measures that are designed to eliminate or minimize the expected impacts of the project as enumerated above, and standard general mitigation measures that are intended to offset or minimize unanticipated impacts or impacts not identified as significant. In some cases project specific mitigation measures may include elements that would reduce or offset unanticipated or less than significant impacts.

M-1 To Mitigate the Loss of Individual Oaks and the Loss of Southern Coast Live Oak Riparian Forest (I-1), Loss of Oak Trees (I-2), Wildlife Habitat Loss (I-8), Resident Sensitive Wildlife Habitat Loss (1-13), and Transient Sensitive Wildlife Habitat Loss (I-14) – To eliminate potential unapproved or offsite grading incidents, earth-moving equipment shall be confined to within the approved limits of grading during construction. The limits of grading shall be fenced so that construction equipment does not impact areas outside the approved limits of grading.

Construction is planned in the vicinity of native oaks, and efforts will be exercised to avoid their damage or removal. The City of Calabasas has an oak tree ordinance that stipulates acceptable mitigation for the loss of oaks in the City. The proposed project would necessitate the removal of 5 oaks, the permanent encroachment of 28 oaks. Mitigation measures would be implemented in accordance with the City Ordinance. Please refer to the oak tree report prepared for the project for details regarding the oak tree survey results and proposed mitigation measures.

M-2 To Mitigate Potential Loss of CDFG Jurisdictional Habitat (I-5) – Any alteration of a streamcourse requires that a 1602 Agreement be reached with the California Department of Fish and Game (CDFG). In order to reach a 1602 Agreement, CDFG will require mitigation for the riparian habitat lost and the stream course area affected. This mitigation may include one or a combination of the following

measures: 1) The onsite creation of at least an equal amount of equal quality riparian habitat; 2) Enhancement of quality onsite riparian habitat, usually on a greater than 1:1 habitat lost to habitat enhanced ratio; 3) Creation of offsite riparian habitat where none currently exists. 4) Preservation of offsite riparian habitat by direct purchase of payment of an in-lieu fee to the Santa Monica Mountains Conservancy or similar organization. 5) Payment of an in-lieu fee to the CDFG or U.S. Forest Service Nonnative Invasive Plant Removal (riparian enhancement) program. All mitigation measures involving the creation of riparian habitat should be self-sustaining and utilize natural water supplies.

If the area available for onsite riparian habitat creation is inadequate, one, or a combination of, the offsite mitigation options must be used. Generally the CDFG prefer local mitigation, the closer to the impact location the better. Usually the farther the mitigation site is from the impact site, the higher the mitigation ratio.

Project plans include the removal of nonnative vegetation from the stream banks and adjacent slopes. The nonnative vegetation that is removed will be replaced with native species appropriate for stream banks and oak understory. In addition and oak branches trimmed will be mitigated in accordance with the City's oak tree ordinance as described. The nonnative removal plan and native restoration proposed for the project will be consistent with the McCoy Creek Restoration Plan for the City of Calabasas (Edaw, 2003).

If these mitigation measures are implemented, the impacts to CDFG jurisdictional areas will be reduced to a level of less than significant.

M-3 To Reduce General Wildlife Mortality (I-6) and Sensitive Wildlife Species Mortality (I-12) - Prior to the initiation of grading, biologists will attempt to capture and relocate all reptiles (including any two-striped garter snakes and San Bernardino ringneck snakes) within the impact area. Other ground dwelling wildlife, i.e. amphibians and mammals, will be relocated if the opportunity presents itself. Wildlife will be relocated to preserved areas of the site when

appropriate or to nearby (in the same watershed) permanent open space areas. It is assumed that a two-person team can adequately salvage the reptiles in one day.

If these mitigation measures are implemented, the impacts to wildlife mortality and sensitive wildlife species mortality will be reduced to a level of less than significant.

M-4 To Reduce or Eliminate Impacts to Nesting Birds Onsite and in Adjacent Areas (I-7) and Sensitive Wildlife Species Mortality (I-12) - To prevent the take of nesting native bird species (including the two sensitive bird species) all clearing and grubbing of the project site shall take place between August 15 and February 15. Winter site clearing will insure that nesting birds are not present and impacted. If construction is scheduled or ongoing near the perimeter of the grading footprint during bird nesting season (February 15 to August 15), qualified biologists will survey the area within 200 feet (or up to 300 feet depending on topography or other factors and 500 feet for raptors) of the grading activity to determine if grading is disturbing nesting birds. If nesting activity is being compromised, construction will be suspended in the vicinity of the nest until fledging is complete.

If these mitigation measures are implemented, the impacts to nesting birds onsite and in adjacent areas will be reduced to a level of less than significant.

M-5 To Reduce the Impacts of Litter (I-12) - CC&Rs will be established ensuring that maintenance crews will be responsible for the removal of litter from the site.

If these mitigation measures are implemented, the impacts of litter will be reduced to a level of less than significant.

M-6 To Reduce The Potentially Adverse Effects Of Night Lighting (I-13) – To reduce the potentially adverse effects of night lighting on surrounding natural areas, the following measures will be implemented: (1) building lighting in areas adjacent to natural areas will be directed away from native habitat areas (the stream course

and associated habitat) or shielded; (2) low-intensity lamps; (3) low elevation lighting poles; and (4) by internal silvering of the globe or external opaque reflectors directing the light away from open space areas. The degree to which these measures are utilized shall be dependant upon the distance of the light source from the natural areas. Use of private sources of illumination around homes shall be restricted to eliminate the use of arc lighting adjacent to open space areas.

If these mitigation measures are implemented, the impacts of night lighting will be reduced to a level of less than significant.

M-7 To Prevent Downstream Impacts (I-14)

a. To Prevent Contaminated Wastewater from Entering Downstream Habitats (I-13a) – Designated areas will be set aside for equipment washing and small batch mixing of concrete or other chemicals. The set aside areas will be lined with an impermeable liner and all washings or residue will be collected and properly disposed of following construction.

b. To Prevent Downstream Impacts from Runoff and Erosion (I-13b). A complete Storm Water Pollution Prevention Plan SWPPP will be prepared, approved by the County, and implemented. Monitoring of the SWPPP measures will take place monthly during the summer and weekly during the winter. SWPPP measures will also be checked after each rain event. A monitoring report will be prepared and presented to the County bi-annually or whenever measures are not being adequately implemented.

c. To Prevent Downstream Impact from Residential Runoff (I-13c). The first 0.75 inch of rainfall on the site must be captured and treated prior to release into the Los Angeles River natural watershed. The following Best Management Practices (BMPs) are included in project design and are under review at the County Land Development Division, Plan Checking Section.

These measures will limit pollution in the Los Angeles River and the potential negative impact on downstream biotic resources.

1) Lot runoff to be infiltrated from the graded pad areas through onsite pervious soils.
2) Direct rooftop runoff to the yards or vegetated areas.
3) Slope Protection – convey runoff from the tops of slopes and stabilize disturbed slopes with landscaping per County standards.
4) Vegetate slopes with native, drought tolerant vegetation to minimize erosion.
5) Provide one-foot wide by 1-foot deep gravel strip between back of driveway and sidewalk.
6) Use permeable materials for private sidewalks, driveways, and parking lots.
7) All street runoff will be collected and transported via storm drains away from the site and away from direct surface deposit in the Los Angeles River watershed. All runoff from the site must be filtered through a detention basin, bio swale, mechanical filter, or similar feature, prior to entering the Los Angeles River watershed. The preferred method should utilize a bio-filtration system that uses plants to remove the pollutants from the runoff.
8) If biofiltration detention basins are not feasible, CDS or similar devices will be installed in all storm drains at appropriate location to capture and filter the first 0.75 inch of rainfall and all regular "nuisance" runoff.
9) Runoff from streets shall be collected into catch basins with pipe drains to the proposed deflection separator unit prior to outlet into existing system.
10) All catch basins and inlets shall be stenciled with "WARNING! DRAINS TO OCEAN." Notes and symbols per NPDES BMP standards or as approved by DWP.

11) Desilting Basin – Infiltrate runoff from northern offsite lands through basin bottom.

If these mitigation measures are implemented, the impacts to downstream waters will be reduced to a level of less than significant.

Level of Significance After Mitigation

The proposed project for VTTM 66208 will consist primarily of the development of previously developed areas, with limited impacts on the onsite and offsite biological resources. If the proposed mitigation measures are implemented, then it is expected that the impacts associated with the development will be reduced to levels of less than significant.

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APPENDIX 1

SENSITIVE SPECIES EVALUATIONS

COMMON NAME	SCIENTIFIC NAME	PAGE NO.
FLORA		
Malibu Baccharis	*Baccharis malibuensis*	4
Southern Tarplant	*Centromadia parryi* ssp. *australis*	5
Santa Susana Tarplant	*Deinandra minthornii*	6
Lyon's Pentachaeta	*Pentachaeta lyonii*	7
Beach Spectaclepod	*Dithyrea maritima*	8
Coulter's Saltbush	*Atriplex coulteri*	9
Blochman's Dudleya	*Dudleya blochmaniae* ssp. *blochmaniae*	10
Agoura Hills Dudleya	*Dudleya cymosa* ssp. *agourensis*	11
Marcescent Dudleya	*Dudleya cymosa* ssp. *marcescens*	12
Santa Monica Mountain Dudleya	*Dudleya cymosa* ssp. *ovatifolia*	13
Many-stemmed Dudleya	*Dudleya multicaulis*	14
Conejo Dudleya	*Dudleya parva*	15
Braunton's Milk-vetch	*Astragalus brauntonii*	16
Ventura Marsh Milk-vetch	*Astragalus pycnostachyus* var. *lanosissimus*	17
Coastal Dunes Milk-vetch	*Astragalus tener* var. *titi*	18
Round-leaved Filaree	*Erodium macrophyllum*	19
Mud Nama	*Nama stenocarpum*	20
Salt Spring Checkerbloom	*Sidalcea neomexicana*	21
San Fernando Valley Spineflower	*Chorizanthe parryi* var. *fernandina*	22
Parry's Spineflower	*Chorizanthe parryi* var. *parryi*	23
Slender-horned Spineflower	*Dodecahema leptoceras*	24
Conejo Buckwheat	*Eriogonum crocatum*	25
Dune Larkspur	*Delpinium parryi* ssp. *blochmaniae*	26
Salt Marsh Bird's-beak	*Cordyylanthus maritimus* ssp. *maritimus*	27
Sonoran Maiden Fern	*Thelypteris puberula* var. *sonorensis*	28
Slender Mariposa Lily	*Calochortus clavatus* var. *gracilis*	29
Plummer's Mariposa Lily	*Calochortus plummerae*	30
Chaparral Nolina	*Nolina cismontane*	31
California Orcutt Grass	*Orcuttia californica*	32
FAUNA		
Invertebrates		
Riverside Fairy Shrimp	*Streptocephalus woottoni*	33
Tengellid Spider	*Socalchemmis gertschi*	34
Santa Monica Shieldback Katydid	*Neduba longipennis*	35

COMMON NAME	SCIENTIFIC NAME	PAGE NO.
Santa Monica Grasshopper	*Trimerotropis occidentaloides*	36
Sandy Beach Tiger Beetle	*Cicindela hirticollis gravida*	37
Globose Dune Beetle	*Coelus globosus*	38
Monarch Butterfly (roosting)	*Danaus plexippus*	39
Fish		
Tidewater Goby	*Eucyclogobius newberryi*	40
Arroyo Chub	*Gila orcutti*	41
Southern Steelhead	*Oncorhynchus mykiss irideus*	42
Amphibians		
Western Spadefoot	*Spea hammondii*	43
Arroyo Toad	*Bufo californicus*	44
California Red-legged Frog	*Rana aurora draytonii*	45
Reptiles		
Southwestern Pond Turtle	*Actinemys marmorata pallida*	46
Coast (San Diego) Horned Lizard	*Phrynosoma coronatum blainvillei*	47
Coastal Western Whiptail	*Aspidoscelis tigris stejnegeri*	48
San Diego Mountain Kingsnake	*Lampropeltis zonata pulchra*	49
Two-striped Garter Snake	*Thamnophis hammondii*	50
San Bernardino Ringneck Snake	*Diadophus punctatus modestus*	51
Birds		
Golden Eagle	*Aquila chrysaetos*	52
Burrowing Owl	*Athene cunicularia*	53
White-throated Swift	*Aeronautes saxatalis*	54
Rufous Hummingbird	*Selasphorus rufus*	55
Nuttall's Woodpecker	*Picoides nuttallii*	56
Least Bell's Vireo	*Vireo bellii pusillus*	57
Bank Swallow	*Riparia riparia*	58
Oak Titmouse	*Baeolophus inornatus*	59
Coastal California Gnatcatcher	*Polioptila californica californica*	60
Southern California Rufous-crowned Sparrow	*Aimophilia ruficeps canescens*	61
Tricolored Blackbird	*Agelaius tricolor*	62
Mammals		
San Diego Desert Woodrat	*Neotoma lepida intermedia*	63

Malibu Baccharis – *Baccharis malibuensis*

Presence Onsite: No. The site lacks the grassy openings in chaparral that is the typical of the four known populations that are in the Malibu Creek drainage.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 1B.1

Description: Woody shrub that grows to approximately 4 feet in height. It is distinguished by its narrow, often conduplicate and glabrate leaves, cylindric arrays, and summer flowering. According to Beauchamp and Henrickson, it appears to be closely related to and possibly derived from *B. plummerae*, from which it differs primarily in leaf size, teeth, and indument. Typically blooms in August and is found at an elevation range of 150 - 305 meters.
Communities: Chaparral, Cismontane Woodlands, Coastal Sage Scrub, Riparian Woodlands
Distribution: Four known populations totaling approximately 100 individuals in the Malibu creek watershed near Malibu Lake in the Santa Monica Mountains.
Threats: Urbanization of habitat suitable for Malibu Baccharis.
General Conservation Measures: Protection of known populations and associated habitats.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

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Southern Tarplant – *Centromadia parryi* ssp. *australis*

Presence Onsite: No. Southern tarplant was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 1B.1

Description: Southern tarplant is an annual herb with orange-yellow ray flowers and brown or black disk flowers that bloom from May to November. At maturity the densely glandular stem ranges from 4 to 30 inches in height. The leaves are generally puberulent, may be glandular, and are soft-haired or bristled. The lower leaves are deeply 1-to-2 divided and have a length between 2 and 8 inches. The upper leaves are linear with margins that are entire or few-toothed.
Communities: Marshes and Swamps, Valley and Foothill Grassland, Vernal Pools. Typically found in seasonally moist (alkaline) grasslands.
Distribution: Nearest occurrence is in Calabasas at Borchard Road. Los Angeles, Orange, Santa Barbara, San Diego, and Ventura Counties; Baja California; Found in U.S.G.S. Quads – Del Mar, San Pasqual, Ramona, San Marcos, Escondido, Canada Gobernadora, Tustin, Newport Beach, Seal Beach, Yorba Linda, Anaheim, South Gate, Long Beach, Los Alamitos, Inglewood, Venice, Torrance, Pasadena, Van Nuys, Beverly Hills, Hollywood, Newbury Park, Pitas Point, Ventura, Goleta, Dos Pueblos Canyon
Threats: Habitat loss due to urbanization, off-road vehicles, and foot traffic. Genetic isolation due to habitat fragmentation.
General Conservation Measures: Protection of existing sites and the hydrology that produces the necessary habitat.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Asteraceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. August 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Santa Susana Tarplant – *Deinandra minthornii*

Presence Onsite: No. Santa Susana tarplant was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** Rare **CNPS Status:** 1B.1

Description: Santa Susana tarplant is a leafy perennial shrub growing to a height of 3 feet and spreading out to 12 feet in diameter. It is very resinous, fragrant, and has numerous stiff, straight leafy stems arising from the base. The stem and leaves are somewhat rough and covered with short bristly hairs. The small, crowded leaves are alternate, entire margined, linear and slightly thickened. The heads are mostly solitary at the ends of long peduncles. There are generally eight yellow ray flowers and 18-23 yellow staminate disk flowers. The yellow anthers are an easy way to differentiate this species from *Deinandra fasciculata*, which has black anthers.
Communities: Chaparral and Coastal Scrub. Typically found in rocky terrain at elevations from 920 to 2500 feet.
Distribution: Los Angeles and Ventura Counties; Found in U.S.G.S. Quads – Calabasas, Malibu Beach, Thousand Oaks, Triunfo Pass, Point Dume, Santa Susana, Oat Mountain. Known from only a few locations in the Santa Susana and Santa Monica Mts.
Threats: Loss of suitable habitat due to residential development.
General Conservation Measures: Protection of known populations and suitable habitat within its known range.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Asteraceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. August 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Lyon's Pentachaeta – *Pentachaeta lyonii*

Presence Onsite: No. Lyon's pentachaeta was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** Endangered **CNPS Status:** 1B.1

Description: Lyon's pentachaeta is an herbaceous, annual plant in the sunflower family (Asteraceae). The plants are small, slender annuals with linear, entire, ciliate leaves, mostly yellow-rayed heads on long peduncles, and pappus bristles 8–12; phyllaries narrowly lanceolate, hirsuto-pilose; leaves 3–6 mm wide. Typically blooms from March to August.
Communities: Chaparral, Coastal Sage Scrub, Valley and Foothill Grassland
Distribution: Known from fewer than twenty extant occurrences in Santa Monica Mtns. and western Simi Hills. Los Angeles and Ventura Counties; Formerly Found in U.S.G.S. Quads –Long Beach, Malibu Beach, Thousand Oaks, Newbury Park, Point Dume, Simi, Santa Catalina Island East, , Santa Catalina Island South, Santa Catalina Island West
Threats: Threatened by development, alteration of fire regimes, trampling, vehicles, non-native plants, and recreational activities.
General Conservation Measures: Protection of known populations and suitable habitat within its known range. No successful translocation attempts as of 1994.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

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Beach Spectaclepod – *Dithyrea maritima*

Presence Onsite: No. Beach spectaclepod was not observed during the surveys of the site, and due to the lack of the necessary communities it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** Threatened **CNPS Status:** 1B.1

Description: Beach spectacle pod is a low growing, whitish-flowered perennial herb in the mustard family (Brassicaceae). It is found in small transverse foredunes within approximately 50-300 meters from the surf. Beach spectacle pod is usually found in areas of these fragile dunes where the sand is relatively unstable. Typically blooms from March to may at elevations from 3 – 50 meters.
Communities: Coastal Dune, Coastal Sage Scrub
Distribution: Known in CA from fewer than twenty occurrences; extirpated from half of its historical range. Santa Barbara, San Luis Obispo, and Ventura Counties; Found in U.S.G.S. Quads – Beverly Hills, Surf, Guadalupe, Point Sal, Casmalia, Pismo Beach, Oceano, Morro Bay South, Santa Catalina Island East, Santa Catalina Island North, Santa Catalina Island South, Santa Catalina Island West, San Miguel Island East, San Nicolas Island
Threats: Threatened by trampling, vehicles, and non-native plants.
General Conservation Measures: Protection of known populations and suitable habitat within its known range.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Brassicaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. August 8, 2006. http://ucjeps.berkeley.edu/interchange.html

"Beach Spectaclepod." California's Plants and Animals. 2006. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 8, 2006. http://www.dfg.ca.gov/hcpb/species/t_e_spp/tespp.shtml

Coulter's Saltbush – *Atriplex coulteri*

Presence Onsite: No. Coulter's saltbush was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 1B.2

Description: Herbs, perennial, sometimes flowering as an annual, spreading 0.7-10 dm, slightly woody at base. Stems frequently tinged with red, much branched, sparsely scurfy. Leaves many, sessile or short petiolate; blade obovate, oblong, oblanceolate, or elliptic, base cuneate, margin entire, apex acute. Staminate flowers in glomerules in distal axils and short terminal spikes. Pistillate flowers in small axillary clusters. Blooms from May to October at elevations ranging from 3 to 460 meters.
Communities: Coastal Bluff Scrub, Coastal Dune, Coastal Sage Scrub, Valley and Foothill Grassland
Distribution: San Diego, Orange, Riverside, Los Angeles, Santa Barbara, San Bernardino Counties; Santa Catalina Island, San Miguel Island, Santa Rosa Island, Santa Cruz Island, Anacapa Island, San Nicolas Island; Baja California and San Benito Island, Mexico;
Threats: Threatened by development, and probably by feral herbivores. This species may be nearing extirpation from San Diego County, as well as elsewhere in mainland California.
General Conservation Measures: All mainland populations should be protected with adequate buffers included.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

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Blochman's Dudleya – *Dudleya blochmaniae* ssp. *blochmaniae*

Presence Onsite: No. Blochman's Dudleya was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 1B.1

Description: The subspecies of *Dudleya blochmaniae* are succulent perennials that have a rosette of leaves that sprout from a corm. A member of the stonecrop family, plants produce white flowers with red or purple markings on short stalks. Blooms from April to June at elevations ranging from 5 to 450 meters.
Communities: Coastal Bluff Scrub, Chaparral, Coastal Scrub, Valley and Foothill Grassland
Distribution: Known from fewer than twenty occurrences in California, and fewer than five in Baja California. Los Angeles, Orange, Santa Barbara, San Diego, San Luis Obispo, Ventura Counties; Found in U.S.G.S. Quads – Imperial Beach, San Luis Rey, Oceanside, Las Pulgas Canyon, San Clemente, Dana Point, Calabasas, Malibu Beach, Newbury Park, Point Dume, Camarillo, Point Sal, Casmalia, Pismo Beach, San Luis Obispo, Cayucos, Morro Bay South
Threats: Seriously threatened by development.
General Conservation Measures: Protection of known populations and suitable habitat within its known range.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Crassulaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. August 8, 2006. http://ucjeps.berkeley.edu/interchange.html

"*Dudleya blochmaniae* ssp. *blochmaniae*." CPC National Plant Collection Profile. 2006. Center for Plant Conservation. August 8, 2006. http://www.centerforplantconservation.org/

Agoura Hills Dudleya – *Dudleya cymosa* ssp. *agourensis*

Presence Onsite: No. Agoura Hills Dudleya was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Threatened **State Status:** None **CNPS Status:** 1B.2

Description: A synonym of *Dudleya cymosa* ssp. *ovatifolia* in the *Jepson Manual*. A succulent perennial that has a rosette of leaves (oblong to elliptic to ovate) that sprout from a corm. The plant produces yellow flowers. Blooms from May to June at elevations ranging from 200 to 500 meters.
Communities: Chaparral, Cismontane Woodland
Distribution: Known only from the western Santa Monica Mountains. Los Angeles and Ventura Counties; Found in U.S.G.S. Quads – Calabasas, Thousand Oaks, Point Dume
Threats: Threatened by development.
General Conservation Measures: Protection of known populations and suitable habitat within its known range.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Crassulaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. August 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Marcescent Dudleya – *Dudleya cymosa* ssp. *marcescens*

Presence Onsite: No. Marcescent dudleya was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Threatened **State Status:** Rare **CNPS Status:** 1B.2

Description Marcescent dudleya is a succulent perennial in the stonecrop family (Crassulaceae) with a basal rosette of leaves. Its flowers are bright yellow and often marked with red. The plant produces yellow flowers. Blooms from April to July at elevations ranging from 150 to 520 meters.
Communities: Chaparral
Distribution: Known only from eight occurrences in the Santa Monica Mountains. Los Angeles and Ventura Counties; Found in U.S.G.S. Quads – Malibu Beach, Newbury Park, Triunfo Pass, Point Dume
Threats: Threatened by development and foot traffic.
General Conservation Measures: Protection of known populations and suitable habitat within its known range.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Crassulaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. August 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Santa Monica Mountain Dudleya – *Dudleya cymosa* ssp. *ovatifolia*

Presence Onsite: No. Santa Monica Mountain dudleya was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Threatened **State Status:** Rare **CNPS Status:** 1B.2

Description Santa Monica Mountain dudleya is a succulent perennial in the stonecrop family (Crassulaceae) with a basal rosette of leaves. Its flowers are bright yellow and often marked with red. The plant produces yellow flowers. Blooms from March to June at elevations ranging from 150 to 1675 meters.
Communities: Chaparral and Coastal Sage Scrub
Distribution: Known only from fewer than ten occurrences. Los Angeles and Orange Counties; Found in U.S.G.S. Quads – Santiago Peak, Malibu Beach, Triunfo Pass, Topanga
Threats: Threatened by development and recreation.
General Conservation Measures: Protection of known populations and suitable habitat within its known range.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Crassulaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. August 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Many-stemmed Dudleya – *Dudleya multicaulis*

Presence Onsite: No. Many-stemmed dudleya was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 1B.2

Description: The many-stemmed dudleya occurs in heavy, often clayey soils. The species is typically found on dry, stony ridgelines and north facing slopes. The species is a small perennial succulent that sprouts from a corm during late spring and early summer, and a raceme of yellow flowers on the ends of succulent stalks blooms from April to July. The rest of the year the species is dormant below ground, and the species may remain dormant during periods of drought. The species is relatively small with wide, linear leaves that reach about 3 inches in length and the tips are acute.
Communities: Chaparral, Coastal Scrub, Foothill and Valley Grassland
Distribution: Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties; Found in U.S.G.S. Quads – Vail Lake, Margarita Peak, Las Pulgas Canyon, San Clemente, San Onofre Bluff, Lake Elsinore, Alberhill, Sitton Peak, El Toro, San Juan Capistrano, Canada Gobernadora, Tustin, Newport Beach, Laguna Beach, Lake Mathews, Prado Dam, Black Star Canyon, Corona South, La Habra, Orange, Venice, Mt. Baldy, Glendora, San Dimas, Hollywood, Calabasas, Topanga. Known local populations are found in the vicinity of Santa Ana Canyon, the Temescal Valley, Estelle Mountain and Lake Mathews, Alberhill near Lake Elsinore, Oak Flats in the San Mateo Wilderness, and at Vail Lake.
Threats: Seriously threatened by development, road construction, grazing, and recreation.
General Conservation Measures: Habitat and population preservation. Populations may be undetectable during dry years, and may be suppressed by non-native species

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

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Conejo Dudleya – *Dudleya parva*

Presence Onsite: No. Conejo dudleya was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Threatened **State Status:** None **CNPS Status:** 1B.2

Description: This species occurs in a very unique habitat, and is unique even among other species in the Dudleya genus. This species has a flowering stalk that grows from 5 to 18 cm in length, tipped with pale yellow flowers that are often flecked with red on the keel. Other local Dudleya species are evergreen, while the Conejo live-forever is vernal, with its rosette of linear leaves withering by early summer. Blooms from May to June at elevations ranging from 60 to 450 meters.
Communities: Coastal Scrub, Foothill and Valley Grassland
Distribution: Known from approximately ten occurrences from the western end of Simi Hills to Conejo Grade. Sites have from 25 to a few thousand individuals, with the majority containing numbers in the hundreds. Ventura County; Found in U.S.G.S. Quads – Thousand Oaks, Newbury Park, Simi
Threats: Threatened by horticultural collecting, recreation, vehicles, and urbanization.
General Conservation Measures: Habitat and population preservation. Populations may be undetectable during dry years, and may be suppressed by non-native species

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Crassulaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. August 8, 2006. http://ucjeps.berkeley.edu/interchange.html

"*Dudleya parva*." CPC National Plant Collection Profile. 2006. Center for Plant Conservation. August 8, 2006. http://www.centerforplantconservation.org/

Braunton's Milk-vetch – *Astragalus brauntonii*

Presence Onsite: No. Braunton's milk-vetch was not observed during the surveys of the site, and due to the lack of the necessary soil conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** None **CNPS Status:** 1B.1

Description: Braunton's milk-vetch is a robust, short-lived perennial with lilac flowers in the pea family (Fabaceae). It is one of the tallest members of the genus, reaching a height of 60 inches and is covered with woolly hairs. The species is readily distinguished from the only other perennial species of *Astragalus* in the area, *Astragalus trichopodus*, by being woolly as opposed to strigose (covered with sharp, stiff-appressed hairs) or glabrous (without hairs), by having two-chambered rather than one-chambered pods, and also by having purple rather than white to greenish flowers. *Astragalus brauntonii* is apparently a limestone endemic.
Communities: Closed-cone Coniferous Forests, Chaparral, Coastal Scrub, Valley and Foothill Grasslands
Distribution: Known from only ten occurrences that are primarily on limestone outcrops. Los Angeles, Orange, and Ventura Counties; Found in U.S.G.S. Quads – Black Star Canyon, Azusa, Mount Wilson, Van Nuys, Beverly Hills, Hollywood, Calabasas, Malibu Beach, Topanga, Thousand Oaks, Oat Mountain
Threats: Threatened by development and alteration of local fire regimes.
General Conservation Measures: This species has a life span of 2 to 3 years, and depending on fire interval, a given population is visible only once in 20 to 50 years or longer. Fire is a natural requirement for the survival of this species. The natural frequency of fire in the habitat of *Astragalus brauntonii* is unknown, but estimates range between 20 years to over 100 years with an average of 70 year intervals. Increasing human populations in southern California have resulted in higher fire frequencies, mostly in the form of arson set fires. Higher frequency fires, especially when they occur in hot dry conditions, may be detrimental to Braunton's milk-vetch because the potential to eliminate viable seed in the soil is higher than in a naturally occurring fires. Prescribed burns in known Braunton's milk-vetch habitat may be beneficial to the species. Habitat protection is the only other viable conservation measure.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Fabaceae." Treatment from the Jepson Manual. 1993 ed. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Thomas, Tim. "Endangered and Threatened Wildlife and Plants: Determination of Endangered Status for Two Plants and Threatened Status for Four Plants From Southern California." Federal Register. Volume 62. Number 19. Page 4172. US Fish and Wildlife Service. 29 January 1997. http://www.gpoaccess.gov/fr/index.html

Ventura Marsh Milk-vetch – *Astragalus pycnostachyus* var. *lanosissimus*

Presence Onsite: No. Ventura marsh milk-vetch was not observed during the surveys of the site, and due to inappropriate habitat.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** Endangered **CNPS Status:** 1B.1

Description: *Astragalus pycnostachyus var. lanosissimus* is a herbaceous perennial in the pea family (Fabaceae). It has a thick taproot and multiple erect, reddish stems, 40 to 90 centimeters (cm) tall, which emerge from the root crown. The pinnately compound leaves are densely covered with silvery white hairs. The 27-39 leaflets are 5 to 20 millimeters (mm) long. The numerous greenish-white to cream colored flowers are in dense clusters and are 7 to 10 mm long. The calyx teeth are 1.2 to 1.5 mm long. The nearly sessile, single-celled pod is 8 to 11 mm long. This variety is distinguished from *A. pycnostachyus* var. *pycnostachyus* by the length of calyx tube, calyx teeth, and peduncles. It is distinguished from other local Astragalus species by its size, perennial habit, size and shape of fruit, and flowering time. Blooms from June to October at elevations ranging from 1 to 35 meters.
Communities: Coastal Dunes, Coastal Scrub, Marshes and Swamps
Distribution: Rediscovered near Oxnard in 1997; now known from only one natural occurrence composed of 30-50 reproductive plants. The population occurs on an abandoned oil-field waste site, which has been proposed for reclamation and development as a residential community. Ventura County; Found in U.S.G.S. Quad – Oxnard
Threats: Threatened by development, herbivory, cucumber mosaic virus, and non-native plants.
General Conservation Measures: Experimental reintroduction work underway as of 2003.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Fabaceae." Treatment from the Jepson Manual. 1993 ed. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

"*Astragalus pycnostachyus* var. *lanosissimus*." CPC National Plant Collection Profile. 2006. Center for Plant Conservation. August 8, 2006. http://www.centerforplantconservation.org/

"Endangered and Threatened Wildlife and Plants; Final Rule for Endangered Status for *Astragalus pycnostachyus* var. *lanosissimus* (Ventura marsh milk-vetch) " Federal Register. Volume 66. Number 98 Page 27901-27908. 21 May 2001. US Fish and Wildlife Service. Accessed on Aug 8, 2006 http://www.gpoaccess.gov/fr/index.html

Coastal Dunes Milk-vetch – *Astragalus tener* var. *titi*

Presence Onsite: No. Coastal dunes milk-vetch was not observed during the surveys of the site and due to inappropriate habitat, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** Endangered **CNPS Status:** 1B.1

Description: Coastal dunes milk-vetch is a low, dwarf annual plant in the pea family (Fabaceae). It has slender stems, leaves divided into wedge-like or oval leaflets, terminal clusters of purple flowers, and straight or curved pods. This plant grows in moist depressions on clay soils in coastal terrace grasslands and in coastal strand vegetation on sand dunes. Blooms from March to May at elevations ranging from 1 to 50 meters.
Communities: Coastal Dunes, Coastal Bluff Scrub, Coastal Prairies
Distribution: Belived to be extirpated from the South Coast. Currently known from only one occurrence on the Monterey Peninsula. San Diego County occurrences have not been documented since the 1970's, despite rediscovery attempts. Found in U.S.G.S. Quad –Monterey
Threats: Threatened by urbanization, recreational activities, and non-native plants.
General Conservation Measures: Protection of known populations and associated habitats.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Fabaceae." Treatment from the Jepson Manual. 1993 ed. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

"Coastal dunes milk-vetch." California's Plants and Animals. 2006. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 8, 2006. http://www.dfg.ca.gov/hcpb/species/t_e_spp/tespp.shtml

Round-leaved Filaree – *Erodium macrophyllum*

Presence Onsite: No. Round-leaved filaree was not observed during the surveys of the site. This widespread species could have occurred onsite prior to development.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** List 2.1

Description: A small annual herb with small white flowers tinged in red or purple, which blooms from March to May. In southern California it is primarily found on friable clay soil in grasslands. Although the range of round-leaved filaree, also known as larged-leaved filaree, is quite extensive throughout California, the number of populations in Southern California is quite low.
Communities: Cismontane Woodlands, Foothill and Valley Grasslands
Distribution: Found throughout coastal California, nut limited to suitable habitat.
Threats: Urbanization of habitat suitable for round-leaved filaree.
General Conservation Measures: The very crumbly clay soil that round-leafed filaree is found in is quite rare in southern California and should be protected from further development.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

Resier, Craig H. "Rare Plants of San Diego County." San Diego Chapter-Rare Plants. May 1994. Sierra Club. Aug 8, 2006. http://sandiego.sierraclub.org/rareplants

"Geraniaceae." Treatment from the Jepson Manual. 1993 ed. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Mud Nama – *Nama stenocarpum*

Presence Onsite: No. Mud nama was not observed during the surveys of the site, and due to the lack of appropriate habitat, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** List 2.2

Description: Plant short-soft-silky-hairy and short-glandular-hairy; some hairs stiff and swollen at base. Stem prostrate to ascending, freely branched, 8–40 cm. Leaf 5–30 mm, oblanceolate, oblong, or spoon-shaped, margins wavy, generally slightly rolled under; base generally slightly clasping stem; petiole 0–3 mm. Inflorescence: pedicels < or = 5 mm. Flower: sepals 3–6 mm, oblanceolate to spoon-shaped, generally bristly; corolla 4–6 mm, ± funnel-shaped, white to cream, limb 3–5 mm diam, lobes 1–2 mm, 2–3 mm wide; stamens 2–4 mm, attached 0.5–1.5 mm above corolla base, filament generally toothed at attachment point; ovary partly inferior, styles 1–2 mm, generally fused at base. Blooms from January to July at elevations ranging from 5 to 500 meters.
Communities: Marshes and Swamps
Distribution: Found in U.S.G.S. Quad – Jamul Mountains, National City, El Toro, Tustin, Newport Beach, Laguna Beach, Seal Beach, El Casco, Lakeview, Los Alamitos, San Clemente Island North
Threats: Urbanization of habitat suitable for mud nama.
General Conservation Measures: Protection of known populations and associated habitats.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Hydrophyllaceae." Treatment from the Jepson Manual. 1993 ed. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Salt Spring Checkerbloom – *Sidalcea neomexicana*

Presence Onsite: No. Salt spring checkerbloom was not observed during the surveys of the site, and due to inappropriate habitat, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** List 2.2

Description: Perennial from clustered, fleshy roots; Stem 2–9 dm, glabrous to sparsely hairy; Leaf: blade fleshy; Inflorescence slender, loosely many-flowered, glabrous to stellate; Flower: calyx generally 5–8 mm, with few small stellate and longer hairs on swollen pads, lobes acuminate, veins generally prominent; petals 6–18 mm, rose; Fruit: segment ± 2 mm, smooth to very lightly net-veined on sides, nearly glabrous. Blooms from March to June at elevations ranging from 15 to 1530 meters.
Communities: Chaparral, Coastal Scrub, Lower Montane Coniferous Forest, Mojavean Desert Scrub, Playa
Distribution: Kern, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, and Ventura Counties; Found in U.S.G.S. Quad – Borrego Mountain, Julian, Canada Gobernadora, Lakeview, Prado Dam, Anaheim, Twentynine Palms, San Bernardino South, Beverly Hills, Lucerne Valley, Matilija, Lockwood Valley, Reyes Peak, Sawmill Mountain
Threats: Urbanization of habitat suitable for salt spring checkerbloom.
General Conservation Measures: Protection of known populations and associated habitats.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Malvaceae." Treatment from the Jepson Manual. 1993 ed. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

San Fernando Valley Spineflower – *Chorizanthe parryi* var. *fernandina*

Presence Onsite: No. San Fernando Valley spineflower was not observed during the surveys of the site, and due to inappropriate habitat, it is unlikely to occur onsite.
Onsite Conservation Measures: None required

Federal Status: Candidate **State Status:** Endangered **CNPS Status:** 1B.1

Description: A small (1-12 inches) annual herb with prostrate to ascending strigose (covered with sharp, stiff-appressed hairs) stems. The leaves are 1/8 to 1 ¾ inches long and are oblanceolate to oblong. The inflorescence is an involucral tube that is urn-shaped with 6 bracts and straight awns. Small, white, sparsely hairy flowers with equal lobes blossom from April to July in heads. Involucral awns are straight.
Communities: Coastal Scrub. Typically found in sandy soils.
Distribution: Currently known from only three occurrences in the Newhall, Val Verde, and Calabasas quads. Most historical populations have been extirpated. Los Angeles, Orange, and Ventura Counties; Found in U.S.G.S. Quads – Orange, Venice, Mount Wilson, Burbank, Van Nuys, Calabasas, San Fernando, Sunland, Newhall, Val Verde, Oat Mountain, Lake Hughes.
Threats: Loss of populations and suitable habitat due to urbanization and increased competition from non-native plants.
General Conservation Measures: The remaining populations must be protected from further development.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Polygonaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Parry's Spineflower – *Chorizanthe parryi* var. *parryi*

Presence Onsite: Unlikely. This species is within range and there is suitable habitat however, none were observed during surveys.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 3

Description: Parry's spineflower has white flowers and blooms from April through June. The brown achenes are 2.5 to 3 mm long (Reveal and Hardham 1989). Involucral awns uncinate (hooked at tip), versus San Fernando spineflower which are straight.
Communities: Sandy soil on flats and foothills in mixed grassland and chaparral communities, Coastal scrub, sandy or rocky openings
Distribution: This species is known from the flats and foothills of the San Gabriel, San Bernardino and San Jacinto Mountains within Los Angeles, San Bernardino and Riverside Counties of southern California (Reveal and Hardham 1989). Parry's spineflower is possibly extirpated from Los Angeles County (Skinner and Pavlik 1994). Chorizanthe parryi var. parryi is known today only from scattered populations in the foothills of the San Gabriel, San Bernardino and San Jacinto mountains of Los Angeles, San Bernardino and Riverside counties, California.
Threats: Parry's spineflower is threatened by habitat loss as a result of urbanization (Reveal and Hardham 1989; Skinner and Pavlik 1994), mining, flood control practices (U.S. Fish and Wildlife Service, unpublished data).
General Conservation Measures: Protection of known populations and associated habitats.

Information sources: California Native Plant Society (CNPS). 2004. Inventory of Rare and Endangered Plants (online edition, v6-04c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

Treatment from the Jepson Manual. 1993 ed. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Scott, Dr. Thomas. Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 8, 2006. http://ecoregion.ucr.edu

Slender-horned Spineflower – *Dodecahema leptoceras*

Presence Onsite: No. Slender-horned spineflower was not observed during the surveys of the site, and due to inappropriate habitat, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** Endangered **CNPS Status:** 1B.1

Description: Slender-horned spineflower is a small annual (2 to 4 inches) with a rosette of leaves and spreading stems. Flowers occur in bunches, up to five, from 12-awned involucres, and are white with a pink stripe. The blooming period is between April and June. The species is typically found in alluvial fan sage scrub sub-communities on silty deposits that are at least 100 years old.
Communities: Chaparral, Cismontane Woodland, Coastal Scrub
Distribution: Los Angeles, Riverside, and San Bernardino Counties; Found in U.S.G.S. Quads – Vail Lake, Pechanga, Blackburn Canyon, Hemet, Lake Elsinore, Alberhill, El Toro, San Jacinto, Catclaw Flat, Redlands, Yucaipa, San Bernardino North, Devore, San Bernardino South, Mt. Wilson, Cajon, Agua Dulce, Mint Canyon, San Fernando, Sunland, Newhall.
Threats: Flood control measures can have an impact on the preferred habitat of slender-horned spineflower by either inundating populations or interfering in the deposition of sediment along flood channels. Urbanization, sand and gravel mining, and recreational activities have also led to the loss of habitat for this species.
General Conservation Measures: Sufficient alluvial scrub habitat and active fluvial processes must be maintained in order to protect existing habitat.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Slender-horned Spineflower." California's Plants and Animals. 2003. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 8, 2006. http://www.dfg.ca.gov/hcpb/species/t_e_spp/tespp.shtml

Scott, Dr. Thomas. "Slender-horned Spineflower." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 8, 2006. http://ecoregion.ucr.edu/

Conejo Buckwheat – *Eriogonum crocatum*

Presence Onsite: No. Conejo buckwheat was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** Rare **CNPS Status:** 1B.2

Description: The Conejo Buckwheat is a perennial shrub less than 0.5 m high by 0.5-1 m wide. Its foliage is a striking silvery green, with woolly leaves. The flowers are clusters of tiny bright, sulfur yellow flowers. It has no dormancy period. Blooms from April to July at elevations ranging from 50 to 580 meters.
Communities: Chaparral, Coastal Sage Scrub. Primarily occurs on rocky slopes composed of Conejo volcanics.
Distribution: Known from fewer than twenty occurrences. Los Angeles, Riverside, and San Bernardino Counties; Found in U.S.G.S. Quads – Thousand Oaks, Newbury Park, Triunfo Pass, Camarillo
Threats: Potentially threatened by development.
General Conservation Measures: Protection of known populations and associated habitats.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Polygonaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Dune Larkspur – *Delpinium parryi* ssp. *blochmaniae*

Presence Onsite: No. Dune larkspur was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 1B.2

Description: Stem 15–110 (generally < 80) cm, generally curled-puberulent, especially below; Leaves: basal generally 0 in flower; lobes of cauline 5–15; Inflorescence: flowers 3–60; pedicels 5–68 mm, 8–50 mm apart, ± ascending, generally puberulent; Flower: sepals generally reflexed, lateral 16–25 mm, spur 11–16 mm; lower petal blades 7–10 mm, paler than sepals. Blooms from April to May at elevations ranging from 0 to 200 meters.
Communities: Chaparral, Coastal Dunes
Distribution: Known from fewer than twenty occurrences. Los Angeles, Riverside, and San Bernardino Counties; Found in U.S.G.S. Quads – Thousand Oaks, Camarillo, Los Alamos, Lompoc, Surf, Santa Maria, Orcutt, Point Sal, Casmalia, Oceano, Santa Margarita, Lopez Mountain, Pebblestone Shut-in
Threats: Threatened by development.
General Conservation Measures: Protection of known populations and associated habitats.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Ranunculaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Salt Marsh Bird's-beak – *Cordyylanthus maritimus* ssp. *maritimus*

Presence Onsite: No. Salt marsh bird's-beak was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** Endangered **CNPS Status:** 1B.2

Description: Salt marsh bird's-beak is a diffusely branched annual herb with grayish-green, tinged purple hairy leaves. This member of the figwort family (Scrophulariaceae) has spikes of bee pollinated flowers with two-lipped petals. Upper petals are beak-like with yellowish tips, and lower petals have a purplish pouch. The plants are hemiparasitic, sometimes obtaining moisture and nutrients from the roots of their host plants, which are usually perennials. Salt marsh bird's-beak grows in the higher reaches of coastal salt marshes to intertidal and brackish areas influenced by freshwater input. Some plants occur in non-tidal areas or in areas of perched water tables; there may be different ecotypes. Blooms from May to October at elevations ranging from 0 to 30 meters.
Communities: Coastal Dunes, Marshes and Swamps
Distribution: Known from fewer than twenty occurrences. Los Angeles, Orange, Ventura, Santa Barbara, and San Luis Obispo Counties; Found in U.S.G.S. Quads – National City, Point Loma, Imperial Beach, Newport Beach, Seal Beach, Long Beach, Oxnard, Point Mugu, White Ledge Peak, Carpinteria, Morro Bay South
Threats: Threatened by vehicles, road construction, foot traffic, non-native plants, and loss of salt marsh habitat.
General Conservation Measures: Salt marsh bird's-beak is highly vulnerable to loss of genetic variation, and future reintroduction attempts should strive to create contiguous patches of plants or to periodically reseed existing patches. Maintenance of nearby upland habitat supporting native pollinators is important to the species' survival.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Scrophulariaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

"Salt marsh bird's-beak." California's Plants and Animals. 2006. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 8, 2006. http://www.dfg.ca.gov/hcpb/species/t_e_spp/tespp.shtml

Sonoran Maiden Fern – *Cordyylanthus maritimus* ssp. *maritimus*

Presence Onsite: No. Sonoran maiden fern was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 2.2

Description: Stems creeping, 4--8 mm diam. Leaves monomorphic, evergreen; Petiole straw-colored, at base sparsely set with brownish, lanceolate, hairy scales; Blade broadest at or near base, gradually to somewhat abruptly tapered to pinnatifid apex. Blooms from January to September at elevations ranging from 50 to 610 meters.
Communities: Meadows and Seeps
Distribution: Known from fewer than twenty occurrences. Los Angeles, Santa Barbara, Riverside, and San Bernardino Counties; Found in U.S.G.S. Quads – Beauty Mountain Aguanga, Martinez Mountain, Palm Springs, Harrison Mountain, Azusa, Mount Wilson, Triunfo Pass, Point Dume, Carpinteria, Santa Barbara, Goleta, Tajiguas, Gaviota, Manzanita Mountain
Threats: Threatened by vehicles, road construction, foot traffic, non-native plants, and loss of appropriate habitat.
General Conservation Measures: Salt marsh bird's-beak is highly vulnerable to loss of genetic variation, and future reintroduction attempts should strive to create contiguous patches of plants or to periodically reseed existing patches. Maintenance of nearby upland habitat supporting native pollinators is important to the species' survival.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Thelypteridaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

A. R. Smith, Univ. Calif. Publ. Bot. 59: 91. 1971. *Flora of North America*. eFloras.org. Accessed on Aug 8, 2006 from http://www.efloras.org

Slender Mariposa Lily – *Calochortus clavatus* var. *gracilis*

Presence Onsite: No. Slender mariposa lily was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 1B.2

Description: A bulbiferous herb with basal leaves that have a length between 4 and 8 inches and a slender stem that reaches a height between 8 and 12 inches. The flower blooms from March to May, and its hairy petals are yellow with a red-brown base. There is also a thin red-brown line above the small nectaries
Communities: Chaparral and Coastal Scrub. Typically found in shaded foothill canyons between 1200 and 3300 feet in elevation.
Distribution: Common where it occurs, but the species is highly localized. Los Angeles County; Found in U.S.G.S. Quads – Mount Baldy, Glendora, Azusa, Crystal Lake, Agua Dulce, Mint Canyon, Newhall, Oat Mountain, Green Valley.
Threats: Threatened by development.
General Conservation Measures: Protection of suitable habitat. Further studies within the slender Mariposa lily's range are needed, especially after substantial winter and spring rains, to determine actual population numbers.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Liliaceae." Treatment from the Jepson Manual. 1993 ed. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

Plummer's Mariposa Lily – *Calochortus plumerae*

Presence Onsite: No. Plummer's mariposa lily was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 1B.2

Descriptions: A perennial bulbiferous herb that is 1 to 2 feet in height. Basal leaves appear withering and measure 4 to 8 inches in length. The cauline leaves are 1 to 17 inches long with the upper most leaves in-rolled. The inflorescence consists of 2 to 6 flowers that have leaf-like bracts. The flower is bell-shaped with pale-pink to rose colored petals that turn purple with age. A central band of long, yellow hairs is prominent on the inside of the flower.
Communities: Chaparral, Cismontane Woodland, Coastal Scrub, Lower Montane Coniferous Forest, Foothill and Valley Grassland. Plummer's Mariposa lily is typically found on arid, rocky slopes, areas of brush, and openings in chaparral.
Distribution: Widespread but local in coastal southern California. Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties; Found in U.S.G.S. Quads – Mt. Wilson, Pasadena, Los Angeles, Van Nuys, Hollywood, Calabasas, Malibu Beach, Topanga, Sunland, Newhall, Santa Susana, Oat Mountain, Moorpark, and Simi
Threats: Habitat loss due to urbanization.
General Conservation Measures: Fire suppression in areas with a dominant cover of non-native annuals may limit sexual reproduction; prescribed fires could increase numbers.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

Carter, Michael L. "Plummer's Mariposa Lily." Southern California Wildflowers and Other Plants. 2004. California Plant Names: Latin Name Meanings and Derivations and Southern California Wildflowers. Aug 8, 2006. http://www.calflora.net/

Scott, Dr. Thomas. "Plummer's Mariposa Lily." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 8, 2006. http://ecoregion.ucr.edu

Chaparral Nolina –*Nolina cismontane*

Presence Onsite: No. Chaparral nolina was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None **CNPS Status:** 1B.2

Description: Chaparral nolina is a large yucca-like perennial evergreen shrub that grows in xeric conditions. Long, wiry, upright or lax, leaves (19-55 inches x .5-1 inch) numbering between 30 and 90 form from a rosette. Woody stems are typically 1 foot in height, but may reach up to 5 feet. Inflorescences compound paniculate with minute white flowers and reddish-brown seeds. Flowering early to mid spring on rocky hillsides in dry chaparral of coastal mountains at elevations from 650 to 4300 feet.
Communities: Coastal Scrub, Chaparral
Distribution: Los Angeles, Orange, San Diego, and Ventura Counties; Found in U.S.G.S. Quads – Viejas Mountain, Pechanga, Bonsall, Pala, Sitton Peak, Santiago Peak, El Toro, San Juan Capistrano, Canada Gobernadora, Black Star Canyon, Calabasas, Thousand Oaks, Matilija, White Ledge Peak.
Threats: Residential development and agricultural expansion has led to the loss of populations and potential habitat.
General Conservation Measure: All substantial populations are recommended for protection; significant portions of smaller populations should be placed into biological open spaces.

Information Sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

Resier, Craig H. "Rare Plants of San Diego County." San Diego Chapter-Rare Plants. May 1994. Sierra Club. Aug 8, 2006. http://sandiego.sierraclub.org/rareplants

California Orcutt Grass – *Orcuttia californica*

Presence Onsite: No. California Orcutt grass was not observed during the surveys of the site, and due to the lack of the necessary habitat and conditions, it is unlikely to occur onsite.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** Endangered **CNPS Status:** 1B.1

Description: A bright green, fragrant annual herb that has stems (2 to 6 inches in length) that are generally prostrate and may form mats. The sticky leaves measure $^{1}/_{3}$ to ¾ of an inch long and are very thin. The inflorescences are in spikelets crowded at the tip of the stem.
Communities: Vernal Pools
Distribution: Extirpated from much of its historical range. Known from highly localized vernal pool habitats widely spread through southern California. Los Angeles, Riverside, San Diego, and Ventura Counties; Baja California; Found in U.S.G.S. Quads – Barrett Lake, Jamul Mountains, Otay Mesa, Imperial Beach, La Jolla, La Mesa, Winchester, Romoland, Murrieta, Bachelor Mountain, Wildomar, Whittier, South Gate, Los Alamitos, Inglewood, Mint Canyon, Simi
Threats: Loss of populations and suitable habitat due to urbanization, agricultural practices, alteration of hydrology that eliminates vernal conditions, competition from non-native plants, grazing, and off-road vehicles.
General Conservation Measures: Protection of existing populations from threats and protection of the hydrological processes that produce vernal pools.

Information sources: California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. Accessed on Aug 8, 2006 from http://www.cnps.org/inventory

"Poaceae." Treatment from the Jepson Manual. 1993. University of California-Berkeley. Aug 8, 2006. http://ucjeps.berkeley.edu/interchange.html

"California Orcutt Grass." California's Plants and Animals. 2003. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 8, 2006. http://www.dfg.ca.gov/hcpb/species/t_e_spp/tespp.shtml

Gertsch's Socalchemmis Spider - *Socalchemmis gertschi*

Federal Status: None **State Status:** None
NatureServe Rank: G1/S1

Presence Onsite: Unknown.
Onsite Conservation Measures: Unknown.

Descriptions: Medium to large spiders, total length of males 7.1–13.2 mm, of females 7.5–15.2 mm. Carapace oval, widest at rear of coxae II, abruptly narrowed at level of palpi to less than half of maximum width; thoracic groove long, longitudinal, very deep; surface coated with short recumbent and fewer, longer, erect dark setae, erect setae most numerous in ocular area; eight eyes in two rows; from above, both eye rows slightly recurved; from front, anterior row recurved, posterior row slightly procurved; Sternum round.
Communities: No information found.
Distribution: Known only from Los Angeles County, California.
Food Sources: No information found.
Threats: No information found.
General Conservation Measures: No information found.

Information Sources: Platnick, N.I. and Ubick, D. "A revision of the North American spiders of the new genus Socalchemmis (Araneae, Tengellidae)." American Museum novitates ; no. 3339. 2001. New York, NY: American Museum of Natural History.

Riverside Fairy Shrimp – *Streptocephalus woottonii*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** None

NatureServe Rank: G1/S1

Description: Small translucent-bodied crustacean.
Habitats: Seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds.
Distribution: Riverside fairy shrimp is limited to southwestern California and northwestern Baja California. It occurs from Los Angeles County south through Orange and western Riverside Counties to coastal San Diego County and the vicinity of Baja Mar north of Ensenada in Baja California.
Food Sources: Non-selective feeder of detritus, bacteria, algal cells, and other microscopic items.
Threats: Urban, agricultural development, modified hydrology due to adjacent road construction, and illegal trash dumping. Unpredictable natural events such as drought or fire may extirpate the Riverside fairy shrimp due to its fragmented and restricted range.
General Conservation Measures: Immediate protection of vernal pools and the hydrology that is associated with them.

Information Sources: Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 8, 2006. http://ecoregion.ucr.edu

Santa Monica Shieldback Katydid – *Neduba longipennis*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required

Federal Status: None **State Status:** None
NatureServe Rank: G1G2S1S2

Description: No information found.
Habitats: Inhabits chaparral and canyon stream bottom vegetation
Distribution: Los Angeles County
Food Sources: No information found.
Threats: Urbanization of associated chaparral habitat.
General Conservation Measures: Protection of the species' associated habitat.

Information Sources: Dempsey, C. "Sensitive Species Database." 1999. Resource Conservation District of the Santa Monica Mountains, Topanga, California. Access: September 6, 2006. http://www.topangaonline.com/nature/sensitive/main.htm

Santa Monica Grasshopper – *Trimerotropis occidentaloides*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None
NatureServe Rank: G1G2S1S2.

Description: No information found.
Habitats: This species has been found on bare hillsides and along dirt trails in chaparral (Rentz and Weissman 1981).
Distribution: The Santa Monica Mountains grasshopper is known only from the western Santa Monica Mountains in Los Angeles and Ventura Counties.
Food Sources: No information found.
Threats: Two locations inhabited by this species have been destroyed by development.
General Conservation Measures: Protection of the species' associated habitat.

Information Sources: Nagano, C and K. Miller "Endangered and Threatened Wildlife and Plants; 90-Day and 12- Month Findings for Eleven Petitions to List Three Blind Harvestmen, Three Micro-blind Harvestmen, One Spider, Two Butterflies, One Moth, Two Crickets, Three Katydids, and Five Grasshoppers." Federal Register: November 22, 1994. Department of the Interior –Fish and Wildlife Services.

Sandy Beach Tiger Beetle – *Cicindela hirticollis gravida*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: Species of Concern **State Status:** None

NatureServe Rank: G5T2S1

Description: The species has a brown and white abdomen highlighted by iridescent patches.
Habitats: Areas adjacent to non-brackish water along the coast.
Distribution: Historically this was probably widespread along the immediate coast from north of San Francisco south slightly into Mexico, This subspecies is extirpated from by far most of the sites where it previously occurred, as would be expected for a taxon found in seashore habitats. Knisley (2004) was able to document extant populations in Marin, San Luis Obispo, Ventura, Santa Barbara and San Diego Counties, which is most of the length of the range. There is probably only one known population or metapopulation in each.
Food Sources: The species consumes insects.
Threats: Coastal development, alteration of natural sand deposition systems, have eliminated or reduced suitable habitat. As would be expected for a California seashore taxon, presumed former occurrences have been drastically reduced and most that were actually documented no longer have populations.
General Conservation Measures: While Knisley (2004) could document only five extant metapopulations or populations and a number of people have looked, given the extent of the range a few more probably exist. Also some of the known sites are significantly protected. Tiger beetles have been considered as good indicator species and have been used in ecological studies on biodiversity.

Information Sources: Freitag, R. P. 1999. Catalogue of the tiger beetles of Canada and the United States. National Research Council Research Press, Ottawa, Canada. 195 pp.

NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 5.0. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: September 6, 2006).

Globose Dune Beetle – *Coelus globosus*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required. The site lacks the appropriate habitat for the species.

Federal Status: None **State Status:** Species of Special Concern
NatureServe Rank: G1S1

Description: A flightless Tenebrionid beetle. The species has the 'clypeus' (a part of the head above the mouth) deeply cut-out. The dune beetles leave a distinct track on the beach that resembles a labyrinth. Their footprints cannot be seen on the track because the beetle walks below the sand, leaving a collapsed tunnel behind.
Habitats: Fore dunes, sand hummocks, sometimes back dunes along immediate coast. Larvae and pupae spend most of the time in the sand. The larvae can also be found under vegetation or accumulated debris. Adults spend the hotter summer months aggregating under vegetation or debris. Adults come to the surface at night and on cool, foggy days.
Distribution: Los Angeles, Monterey, San Diego, Santa Barbara, Santa Cruz, and Ventura Counties. Original range central California into Mexico (Baja). Southward it may range up to 300 meters inland, northward no more than 30 meters.
Food Sources: Detritivore. Larvae and adults feed on dead vegetable matter that accumulates on the sand.
Threats: Coastal development, alteration of natural sand deposition systems, have eliminated or reduced suitable habitat. As would be expected for a California seashore taxon, presumed former occurrences have been drastically reduced and most that were actually documented no longer have populations.
General Conservation Measures: Protection of the species' associated habitat.

Information Sources: NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 5.0. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: September 6, 2006).

"A Guide to the Insects of Coal Point Reserve." 2005. Santa Barbara Museum of Natural History. Accessed: September 6, 2006.
http://www.sbnature.org/collections/invert/entom/COP/COPbeetles-tenebs.php

Monarch Butterfly – *Danaus plexippus*

Presence Onsite: No. Monarch butterflies were not observed during the surveys of the site, and the site lacks the appropriate vegetation for overwintering. It is possible that a transient monarch butterfly may pass through during migration.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None
NatureServe Rank:

Description: The female of the species lays an individual pale-green egg on the underside of the leaves of a milkweed plant. After about 4 days the ribbed and pitted egg hatches. The larva that emerges will grow up to 2 inches in length. The caterpillar is off-white with black and yellow stripes, and a pair of fine black filaments that run from front to rear. During the pupa stage the monarch suspends itself from a silken mat on the underside of an object (leaf, branch, stem, etc.). It then transforms into a chrysalis that is pale jade-green with golden spots. The adult phase begins with the shedding of the pupa skin. The adult monarch has a wingspan between 3 ½ and 4 inches. The wings are primarily a reddish-orange with black margins that are dotted with white spots. The undersides of the wings are a paler orange. The female is darker than the male with the black veins smudged. Monarchs are known from their long migrations where individuals may fly south thousands of miles to their winter roosting locations. The next generation, or generations, travels north to reproduce. Winter roosting locations are considered sensitive habitat and most are legally protected.
Habitats: Various habitats (especially meadows, weedy fields, and watercourses) that contain milkweeds (*Asclepias* spp.) and dogbanes (*Apocynum* spp.) are utilized during breeding, egg laying, larval, and pupa stages. During migration the habitats vary. The species overwinters in coastal Monterey pine, Monterey cypress, and eucalyptus groves in California, and fir forests in the mountains of Mexico.
Range: Nearly all of North America from south of Hudson Bay through South America; absent from Alaska and Pacific Northwest Coast. The California population overwinters along the coast and migrates to the Sierra Nevada Mountains. Migrant monarchs may pass through many different regions.
Seasonality: During April to June the migration north occurs. The species remains a resident in the north until August, and then returns south during September and October to the wintering site.
Food Sources: The larva feed on milkweeds and dogbanes, and the adults consume the nectar of various flowers.
Threats: The loss of suitable overwintering habitat due to development.
General Conservation Measures: Habitats used for overwintering need to be protected from development and from disturbances during the time the monarchs occupy the area.

Information Sources: Monarch Watch. 2004. University of Kansas- Entomology Program. Aug 9, 2006. http://monarchwatch.org/index.html

"Monarch Butterfly." Enature.com 2004. National Wildlife Federation. Aug 9, 2006. http://www.enature.com/

Tidewater Goby – *Eucyclogobius newberryi*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required onsite. Though the species is not present on the project site, onsite activities could affect the aquatic species downstream in the watershed or in the open ocean environement. To reduce the potential of negative downstream impacts, a comprehensive pollution management plan must be developed prior to project approval. The plan must include at least a storm water pollution prevention plan (S.W.P.P.) for construction activities, and a long-term runoff and pollution control plan for the established community.

Federal Status: Endangered **State Status:** Species of Special Concern
NatureServe Rank: G2/S2S3

Description: This is a relatively small goby that rarely exceeds 50 mm SL. Its body shape is typical of species in the family Gobiidae, being elongate and somewhat dorso-ventrally flattened, especially anteriorly. The head is blunt and the mouth terminal, oblique, and large, with the maxillary extending to the posterior margin of the eye. Eyes are near-dorsal in location. Scales are small and cycloid and are absent on the head; the chest, belly and nape are usually naked. Scales are often lacking on the anterior 20-25% of the body, even mid-laterally
Habitats: The tidewater goby is a benthic species that inhabits shallow lagoons and the lower reaches of coastal streams, and "is almost unique among fishes along the U.S. Pacific coast in its restriction to low-salinity waters in California's coastal wetlands." It differs from other species of gobies in California in that it is able to complete its entire life cycle in fresh or brackish water.
Distribution: The tidewater goby is endemic to California and is distributed in brackish-water habitats along the California coast, from the Agua Hedionda Lagoon, San Diego County, in the south to the mouth of the Smith River (Tillas Slough), Del Norte County, in the north.
Food Sources: The diet consists mostly of small crustaceans (i.e., mysid shrimp, ostracods, amphipods), aquatic insects (i.e., chironomid larvae, diptera larvae), and mollusks.
Threats: The loss or degradation of coastal saltmarsh/lagoon habitat due to coastal development projects is currently the major factor affecting tidewater goby populations.
General Conservation Measures: Coastal lagoons should be surveyed at least once every five years to determine the status of each population, and steps should be taken to protect declining populations. Because coastal lagoons are considered to be threatened habitats in general, especially in southern California, a major effort needs to be made to protect the integrity of the remaining lagoons and to restore those that have been severely degraded.

Information Sources: "Tidewater Goby." California's Plants and Animals. 2006. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 9, 2006. http://www.dfg.ca.gov/hcpb/species/t_e_spp/tespp.shtml

Arroyo Chub – *Gila orcutti*

Presence Onsite: No. There no current records of the species occurring in McCoy Canyon Creek or Arroyo Calabasas.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** Species of Special Concern
NatureServe Rank: G2/S2

Description: Small fish that can reach lengths of nearly 4.75 inches, but typical adult lengths range from 2.75 – 4 inches. Both sexes have chunky bodies, fairly large eyes, and small mouths. Body color is silver or gray to olive-green dorsally, white ventrally, and there usually is a dull gray lateral band. Males can be distinguished from females by their larger fins, and when breeding, by the prominent patch of tubercles on the upper surface of the pectoral fins.
Habitats: The arroyo chub is adapted to survive in the warm fluctuating streams of the Los Angeles Plain. They prefer slow moving or backwater sections of warm to cool streams with substrates of sand or mud. The depth of the stream is typically greater than 15 inches.
Distribution: The species is now absent from much of its historical native range and is now only abundant in the upper Santa Margarita River and its tributary De Luz Creek, Trabuco Creek below O'Neill Park and San Juan Creek (San Juan Creek drainage), Malibu Creek, and the West Fork of the upper San Gabriel River below Cogswell Reservoir as of 1991. They also occur, but are scarce, in: Big Tujunga Canyon, Pacoima Creek above Pacoima Reservoir, and in the Sepulveda Flood Control Basin, Los Angeles River drainage; and middle Santa Ana River tributaries between Riverside and the Orange County line, and in the Santa Clara River. Though not naturally occurring in the Santa Clara River, this population may be one of the few viable and genetically pure populations left.
Food Sources: The arroyo chub is omnivorous, feeding primarily on algae, but also consuming other plants, aquatic insects and their larvae, small crustaceans, and feeding extensively on the roots of floating water ferns infested with nematodes.
Threats: The species is threatened by impacts to rivers and streams, including channelization, water diversion, groundwater over drafting, sand and gravel mining, changes in the watershed that result in erosion and debris torrents, pollution, the establishment of introduced or non-native fishes, and flood control activities.
General Conservation Measures: Management considerations should include preservation and management of key stream sections, as well as the elimination of introduced predatory fishes such as the green sunfish and largemouth bass. The preservation of refuges for this and other endemic species is a required step toward curbing present trends, which may lead to extinction. Native fish hatcheries may be a potential source for re-establishing fish populations.

Information Sources: Scott, Dr. Thomas. "Arroyo Chub." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

"Arroyo Chub." California's Plants and Animals. 2003. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 9, 2006. http://www.dfg.ca.gov/hcpb/species/t_e_spp/tespp.shtml

Southern Steelhead – *Oncorhynchus mykiss irideus*

Presence Onsite: No. The species is believed to be extirpated in the Los Angeles River watershed, which includes McCoy Canyon Creek.
Onsite Conservation Measures: None required to preserve species onsite. Though the species is not present on the project site, onsite activities could affect the aquatic species downstream in the watershed or in the open ocean environment. To reduce the potential of negative downstream impacts, a comprehensive pollution management plan must be developed prior to project approval. The plan must include at least a storm water pollution prevention plan (S.W.P.P.) for construction activities, and a long-term runoff and pollution control plan for the established community.

Federal Status: Endangered **State Status:** Species of Special Concern
NatureServe: G5/T2/Q

Description: Southern steelhead is a sea-run rainbow trout that has a large mouth with well-developed teeth on both upper and lower jaws. Gill rakers number 16-22 and branchiostegal rays, 9-13. There are 10-12 dorsal fin rays, 8-12 anal fin rays, 9-10 pelvic fin rays, and 11-17 pectoral fin rays. The caudal fin is forked. Scales are small, with 18-35 rows above the lateral line and 14-29 below. The 100-160 lateral line scales are pored.
Habitats: The southern steelhead is an anadromous fish that spawns in freshwater streams and rivers on the coast. The offspring then return to the ocean to mature before returning to its birthplace to spawn.
Distribution: Virtually every coastal stream in Monterey, San Luis Obispo and Santa Barbara counties north of Point Conception within the last ten years. Southern steelhead evidently once utilized most of the major coastal streams in southern California as well. They still occur in Malibu Creek, Ventura River, Santa Clara River, and Santa Ynez River, although in greatly reduced numbers.
Food sources: Omnivorous.
Threats: Habitat loss, including loss of water flows, and the failure to protect the runs due to inadequate regulatory measures have been the major, or at least the most conspicuous, causes of the decline of southern California steelhead.
General Conservation Measures: Preservation of southern steelhead will require immediate protection and rebuilding of existing spawning runs, and reestablishment of runs in streams and rivers that historically were highly productive.

Information Sources: "Southern Steelhead." California's Plants and Animals. 2003. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 9, 2006. http://www.dfg.ca.gov/hcpb/species/species.shtml

Western Spadefoot – *Spea hammondii*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: Species of Concern **State Status:** Species of Special Concern
NatureServe Rank: G3/S3

Description: Relatively smooth-skinned toad with a green or gray dorsum, orange-tipped skin tubercle, and venters that are whitish colored. The eyes are pale gold with vertical pupil. The species name is derived from the wedge-shaped black spade on both hind feet. The species typically spends eight to ten months of the year underground, emerging during winter when warm temperatures and rainfall occurs.
Habitats: During most of the year the western spadefoot can primarily be found in grasslands, coastal sage scrub, and chaparral habitats, but may also occur in oak woodlands. Breeding occurs in primarily in rain pools (although observations of breeding in riparian habitats have been made) that persist for at least three weeks and have water temperatures between 50 and 90 degrees Fahrenheit.
Distribution: North-central California south through the Central Valley and foothills into northern Baja California. Since 1990, there have been reports from Alameda, Butte, Calaveras, Fresno, Kern, Kings, Los Angeles, Madera, Merced, Monterey, Orange, Placer, Riverside, Sacramento, San Benito, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Stanislaus, Tulare, Ventura and Yolo counties. Apparently extinct throughout much of lowland southern California but the species still persists in coastal Los Angeles County, Orange County to western Riverside County, and cismontane San Diego County.
Food Sources: Adult western spadefoot toads will forage on a variety of insects, worms, and other invertebrates (including grasshoppers, true bugs, moths, ground beetles, predaceous diving beetles, ladybird beetles, click beetles, flies, ants and earthworms).
Threats: Habitat destruction due to off-road vehicles, grazing, development, grazing, and projects that impact fluvial processes. Also the introduction of mosquito fish and bullfrogs to pools used for breeding pools threatens some populations.
General Conservation Measures: Habitat protection is the primary strategy for conserving the western spadefoot toad. To complete its life cycle, the species needs appropriate aquatic habitats as well as adjacent upland habitats.
Information Sources: Stebbins, Robert C. Western Reptiles and Amphibians. New York: Houghton Mifflin Company. 2003.

"Western Spadefoot Toad." Sacramento Fish and Wildlife Species Account. 2004. U.S. Fish and Wildlife Service. Aug 9, 2006. http://sacramento.fws.gov/es/spp_info.htm

Scott, Dr. Thomas. "Western Spadefoot." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

Arroyo Toad – *Bufo californicus*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** Species of Special Concern
NatureServe Rank: G2G3/S2S3

Description: A moderate-sized (2¼ -3 inch) light olive-green, gray or tannish-brown toad with warty skin. A light-colored "v" shaped stripe is present between the eyelids. Underside is creamy to dirty white without dark markings. With less than 25 remaining small (30-100 adults) populations and having disappeared from 76% of its historic range, this species may be the most vulnerable in California.
Habitats: Restricted to rivers that have shallow, gravelly pools adjacent to sandy terraces. Between late March and mid-June eggs are deposited and larvae develop in shallow pools with minimal currents, little or no emergent vegetation, and with sand or pea gravel substrate that is overlaid with flocculent silt. After metamorphosis juvenile toads remain on the bordering gravel bars until the pool no longer persists. Adult toads live in upland areas as much a mile from the breeding areas. There they can be under the leaf litter and in rodent burrows in the understory of coastal sage scrub and chaparral.
Distribution: Historically extended from the upper Salinas River system, San Luis Obispo County, California southward to the Rio Santo Domingo system in Baja California, Mexico. Found mostly in coastal slope drainages, several desert slope populations have been recorded.
Food Sources: Larvae feeds on loose organic material such as interstitial algae, bacteria, and diatoms. Juvenile toads rely almost exclusively on ants. Adult toads probably consume a wide variety of insects and arthropods that includes ants, beetles, spiders, larvae, and caterpillars.
Threats: Development and alteration of streamside flats (particularly by changing the natural hydrologic regime) may have been the crucial factors contributing to the extirpation of historic populations. Campgrounds, urban development, placer mining, off-road vehicles, nonnative predators, and cattle grazing threaten all known remaining populations.
General Conservation Measures: Protection of the hydrology that contributes to the suitable habitat for the species needs, the removal of non-native species, and preservation of breeding habitat.

Information Sources: Brown, Cathy R. "Determination of Endangered Status for the Arroyo Southwestern Toad." Federal Register: 50 CFR 17, 16 December 1994. US Fish and Wildlife Service. http://www.gpoaccess.gov/fr/index.html

Scott, Dr. Thomas. "Arroyo Toad." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

California Red-legged Frog – *Rana aurora draytoni*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: Threatened **State Status:** Species of Special Concern
NatureServe Rank: G4T2T3/S2S3

Description: This species is the largest native frog in the western United States, ranging from 1 ½ to 5 inches in length. The undersides of the abdomen and hind legs of adults are mostly red. The back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Tadpoles range from ½ to 6 inches in length and are dark brown and yellow with dark spots.
Habitats: Characterized by deep (>2 feet), still or slow moving water and associated dense, shrubby riparian vegetation such as arroyo willow, cattails and bulrushes. The species probably cannot be maintained in streams in which the surface water disappears. Juvenile frogs favor open, shallow aquatic habitats with dense submerged vegetation.
Range: The historical ranges was along the coast from Mendocino County in northern California south to northern Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada mountains, south to Tulare county, and possibly Kern county. The present distribution ranges from Sonoma and Butte Counties in the north to Riverside County in the south, primarily in the western counties. They are known to occur in about 238 streams or drainages in 23 counties.
Food Sources: Tadpoles primarily eat algae and other vegetation. Adults eat insects, smaller frogs, fish, and mice.
Threats: Initial decline was due to the harvesting of the species for the consumption of frog legs in the late 19th and early 20th century. The introduction of the bullfrog, which preys on the red-legged frog, has probably eliminated the species from the southern Sierra Nevada Mountains. Habitat destruction is currently the most serious threat to the species with most of its critical habitat eliminated since the early part of this century. The ongoing drought in California combined with the limited available habitat will probably cause the extirpation of the species in many localities in the near future.
General Conservation Measures: Protecting existing populations by reducing threats; restoring and creating habitat that will be protected and managed in perpetuity; surveying and monitoring populations and conducting research on the biology and threats of the species; and re-establishing populations of the species within the historic range.

Information Sources: "*Rana aurora draytoni*-California Red-legged Frog." California Herps. 2004. California Reptile and Amphibians. Aug 9, 2006. http://www.californiaherps.com/index.html

Scott, Dr. Thomas. "Red-legged Frog." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

"California Red-legged Frog." California's Plants and Animals. 2003. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 9, 2006. http://www.dfg.ca.gov/hcpb/species/ssc/ssc.shtml

Southwestern Pond Turtle – *Actinemys marmorata pallida*

Presence Onsite: No.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** Species of Special Concern
NatureServe Rank: G4T2T3/S2S3

Description: A medium-sized (4 ¾ - 8 ¼ inch) turtle with a plain brown or khaki coloration. The species lacks prominent markings on its carapace. Males can be distinguished from females at maturity by a light unmarked throat and lower facial area. The plastron of the species varies from dark and light markings to a solid dark or light color. The iris of the turtle is golden-colored with a brown eyestripe.
Habitats: The southwestern pond turtle inhabits slow moving, permanent or intermittent streams, small ponds, small lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and sewage treatment lagoons.
Distribution: Currently, it ranges south of San Francisco Bay to northern Baja California, Mexico. There are 10 known viable populations within Los Angeles County.
Food Sources: The species is an omnivorous feeder that typically scavenges, but is also an opportunistic predator. Adults ingest plants as part of their diet, which provides nutrients when live prey is unobtainable, but tend to prefer live or dead animal food instead of plant material.
Threats: Loss and alteration of aquatic habitat is the greatest threat to the southwestern pond turtle. Over 90% of wetland habitat within its historic California range has been eliminated by agricultural development, flood control, water diversion projects, and urbanization. Additional threats include predation on young by introduced aquatic species, collection for pets, urban-related predation pressures, and competition with non-native turtles.
General Conservation Measures: Conservation management of aquatic turtles should include not only protection of aquatic habitat, but also preservation and restoration of dispersal corridors and adjacent terrestrial habitat (potentially 1800 feet or more from the wetland boundary) for nesting, hibernation, and aestivation.

Information Sources: Stebbins, Robert C. Western Reptiles and Amphibians. New York: Houghton Mifflin Company. 2003.

Scott, Dr. Thomas. "Southwestern Pond Turtle." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

"Southwestern Pond Turtle." California's Plants and Animals. 2003. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 9, 2006. http://www.dfg.ca.gov/hcpb/species/ssc/ssc.shtml

Coast (San Diego) Horned Lizard – *Phrynosoma coronatum blainvillei*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required

Federal Status: None **State Status:** Species of Special Concern
NatureServe Rank: G4G5/S3S4

Description: A flat-bodied lizard with a large crown of spines on head; the two center spines are longest. Large dark spots are found on the sides of the neck. Two rows of pointed scales fringe trunk. The back is reddish- brown, yellow, or gray with dark blotches. The belly scales are smooth. The species undergoes two periods of hibernation that are influenced by elevation. The winter hibernation begins between August and October and ends in March. Adults are active aboveground in April through July, after which most adults begin summer hibernation. The adults then become active again for a short period before returning to their over-wintering sites.
Habitats: The preferred habitat of the coast horned lizard is open sandy areas within coastal sage or chaparral communities as well as in dry washes and along roads.
Distribution: In California the species ranges from the Transverse Ranges south to the Mexican border west of the deserts; with the exception of scattered sites along the extreme western desert slope of the Peninsular Ranges. The known elevation range of this species is from 30 feet at the El Segundo dunes (Los Angeles County) to approximately 7000 feet at Tahquitz Meadow, on San Jacinto Mountain, in Riverside County. The species is found throughout the local area in suitable habitats.
Food Sources: Up to 90% of the diet of the species consists of native harvester ants (*Pogonomyrmex* spp.), but does not appear to eat non-native Argentine ants that have replaced native ants in much of southern California. Other slow moving insects, such as beetles, flies, and caterpillars are consumed opportunistically when encountered.
Threats: Commercial collecting, and habitat loss due to agricultural practices and urbanization are the main reasons cited for the decline of this species. However, one of the growing threats to the species is the continued elimination of its food base by exotic ants.
General Conservation Measures: Protection of suitable habitat and food sources.

Information Sources: Stebbins, Robert C. Western Reptiles and Amphibians. New York: Houghton Mifflin Company. 2003.

Scott, Dr. Thomas. "San Diego Coast Horned Lizard." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

"San Diego Horned Lizard." California's Plants and Animals. 2003. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 9, 2006. http://www.dfg.ca.gov/hcpb/species/ssc/ssc.shtml

Coastal Western Whiptail – *Aspidoscelis tigris stejnegeri*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** Species of Special Concern
NatureServe Rank: G5T3T4/S2S3

Description: Coastal western whiptails have a wide variation within the species. They can reach a size of 8 to 12 inches and have 8 ill-defined stripes. The stripes on the sides are less defined than those of the California whiptail, and tends to have frequent large dark spots on the throat.
Habitats: Open and often rocky areas with little vegetation or sunny microhabitats within shrub or grassland associations.
Distribution: The western whiptail ranges through the semiarid and arid desert lowlands of southern California, southern Arizona, adjacent areas of Mexico and western Baja California, Mexico.
Food Sources: Prey items of the western whiptail include termites, scorpions, cockroaches, various insect eggs, larvae, and pupae.
Threats: Habitat loss due to development, widespread use of insecticides, off-road vehicle use, and genetic isolation.
General Conservation Measures: Habitat preservation.

Information Sources: Stebbins, Robert C. Western Reptiles and Amphibians. New York: Houghton Mifflin Company. 2003.

Scott, Dr. Thomas. "Coastal Western Whiptail." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

San Bernardino Mountain Kingsnake – *Lampropeltis zonata parvirubra*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: Species of Special Concern **State Status:** None
NatureServe Rank: G4/S4

Description: A colorful species with black, white and red crossbands encircling body and tail; smooth, glistening scales; snout and eyes generally black; southern populations often with red spotting on top of head; usually 37 or fewer sets of bands (triads), and most red bands connect across the dorsum.
Habitats: Moist open coniferous forests, oak woodlands, chaparral, openly wooded areas along rocky streams where there are rotting logs. Under rocks or logs or underground when inactive.
Distribution: The San Jacinto, Santa Rosa, San Bernardino, and San Gabriel Mountains of Southern California. Snakes in the Tehachapi Mountains may be intergrades of the San Bernardino mountain kingsnake (*L.z.parvirubra*) and Sierra Mountain kingsnake (*L.z.multicincta*).
Food Sources: Eats lizards, squamate eggs, mammals, and birds; juveniles feed on lizards, especially spiny lizards (*Sceloporus*) and skinks (*Eumeces*) (Greene and Rodriguez-Robles (2003).
Threats: Over-collecting, destruction of habitat by collectors, firewood harvesting, logging, and development (Newton and Smith 1975; McGurty 1988; Zeiner et al. 1988; Jennings and Hayes 1994; Holland and Goodman 1998).
General Conservation Measures: Protection of suitable habitat with strict control over poachers and protection of known locations is necessary.

Information Sources: Scott, Dr. Thomas. Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. January 2006. http://ecoregion.ucr.edu

Paul Lynum. San Bernadino Mountain Kingsnake. 1997 kingsnake.com**.** http://www.kingsnake.com/king/zonata/parvirubra.html

A Field Guide to the Reptiles and Amphibians of Coastal Southern California. USGS, Western Ecological Research Center, San Diego Field Station. http://www.werc.usgs.gov/fieldguide/lazo.htm

California Natural Diversity Database. 2005. RareFind Version 3.0.5 Sacramento, CA: California Department of Fish and Game.

Two-striped Garter Snake – *Thamnophis hammondii*

Presence Onsite: Possible. The site has appropriate habitat and food sources for the species.
Onsite Conservation Measures: The establishment of a Storm Water Pollution Prevention Plan SWPPP and the preservation of McCoy Canyon Creek and its associated habitat.

Federal Status: None **State Status:** Species of Special Concern
NatureServe Rank: G3/S2

Description: Garter snake with no back stripe, but it may have a faint spot on back of neck. The middle of the back is plain olive, brown, or grayish, with yellowish side stripes usually present and bordered with dark spots. The side stripe occupies 2nd and 3rd scale rows.
Habitats: This species is considered one of the most aquatic of the garter snakes. It is closely associated with streams that have rocky beds and that are bordered by willows; also ponds, lakes, wetlands and vernal pools. It also occurs in mixed oak, oak woodlands and chaparral on coastal slopes of mountains and foothills to sea level, but it is rarely found far from water.
Distribution: From Monterey, California to Baja California.
Food Sources: Adults prey upon tadpoles, frogs, toads, small fish, fish eggs, and earthworms.
Threats: Loss of habitat due to urbanization, disturbances due to recreational activities, alteration of hydrology of habitat, and genetic isolation due to habitat fragmentation of range.
General Conservation Measures: Protection of suitable habitat and its associated hydrology.

Information Sources: Stebbins, Robert C. Western Reptiles and Amphibians. New York: Houghton Mifflin Company. 2003.

Scott, Dr. Thomas. "Two-striped Garter Snake." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

"Two-striped Garter Snake." California's Plants and Animals. 2003. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 9, 2006. http://www.dfg.ca.gov/hcpb/species/ssc/ssc.shtml

San Bernardino Ringneck Snake – *Diadophis punctatus modestus*

Presence Onsite: Possible. The site has appropriate habitat and food sources for the species.
Onsite Conservation Measures: Preservation of the southern coast live oak riparian forest.

Federal Status: None **State Status:** None
NatureServe Rank: G5T2T3/S2

Description: A small, thin snake with smooth scales. Gray, blue-gray, blackish, or dark olive dorsal coloring, with a bright orange to reddish underside, speckled with black markings. The underside of the tail is a bright reddish orange. A narrow orange band around the neck, 1.5 - 2 scale rows wide. 8 - 34 inches long (20 - 87cm.)
Habitats: Prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, woodlands.
Distribution: Found along the southern California coast from the Santa Barbara area south along the coast to San Diego County, and inland into the San Bernardino mountains.
Food Sources: Eats slender salamanders and other small salamanders, tadpoles, small frogs, small snakes, lizards, worms, slugs, and insects. The mild venom may help to incapacitate prey.
Threats: The loss of associated habitat.
General Conservation Measures: Protection of suitable habitat.

Information Sources: Stebbins, Robert C. Western Reptiles and Amphibians. New York: Houghton Mifflin Company. 2003.

Golden Eagle – *Aquila chrysaetos*

Presence Onsite: No. The site lacks the appropriate habitat for the species and the species typically avoids areas of high human habitation or activity.
Onsite Conservation Measures: None required.

Federal Status: None
State Status: Species of Special Concern
NatureServe Rank: G5/S3
Partners in Flight Status: None

Description: Large (30-41 inches), all-dark eagle with a pale golden nape. The bill is smaller and darker than that of bald eagle. In young birds, tail white at base, black at tip; white patches on undersides of wings.
Habitats: Grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Uses rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops. Nesting is primarily restricted to rugged, mountainous country.
Distribution: The golden eagle breeds from Alaska east across northern Canada south to Mexico, Canadian prairie provinces, and Labrador. Winters in southern part of breeding range and in much of the United States, except the Southeast. Also in Eurasia. Found in appropriate habitat throughout its range.
Seasonality: Primarily a year-round resident of southern California with elevation changes depending upon the season. Some fall and spring migrants, as well as winter residents have been observed.
Food Sources: The golden eagle eats primarily rabbits and rodents, but it may prey upon other small mammals, birds, reptiles, and occasionally carrion.
Threats: Loss of suitable hunting habitat due to development, human disturbance of nest areas, poaching, and electrocution from high-tension wires.
General Conservation Measures: The species requires a large expanse for foraging and suitable nest sites in the form of cliffs or large trees.

Information Sources: Scott, Dr. Thomas. "Golden Eagle." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

"Golden Eagle." Enature.com 2005. National Wildlife Federation. Aug 9, 2006. http://www.enature.com

Burrowing Owl – *Athene cunicularia hypugaea*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: Species of Concern **State Status:** Species of Special Concern
NatureServe Rank: G4/S2 **Partners in Flight Status:** None

Description: Robin-sized (9 inches) terrestrial owl with a short tail and long legs. When close to its burrow the species tends to run for safety when startled instead of flying. The eyes are bright yellow and are set in a brown face that is bordered in white. Nests in long underground burrows lined with grasses, roots, and dung. Burrows tend to be abandoned ground squirrel burrows, but may be from other species as well. The owl will modify an adopted burrow.
Habitats: Shortgrass prairies, grasslands, lowland scrub, agricultural lands, coastal dunes, desert floors, and other open areas.
Distribution: In California, burrowing owls are restricted to low lying areas including the Central Valley extending from Redding south to the Grapevine, east through the Mojave Desert and west to San Jose, the San Francisco Bay area, the outer coastal foothills area which extend from Monterey south to San Diego, and the Sonoran desert. The largest population is found in agricultural areas in the vicinity of El Centro. Found in appropriate habitat throughout southern California.
Seasonality: Year-round resident $^{and}/_{or}$ migratory.
Food Sources: Diet includes invertebrates and small vertebrates that are hunted by using short flights, running along the ground, hovering, or by using an elevated perch from where prey is spotted.
Threats: The loss and alteration of habitat due to agricultural practices or urbanization, predation by native and non-native species, collisions with vehicles, and pesticides/poisoning of ground squirrels.
General Conservation Measures: The necessary habitat of the burrowing owl and their primary food sources need to be protected. Nesting areas need to be protected from human disturbances during breeding season.

Information Sources: Scott, Dr. Thomas. "Burrowing Owl." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu/

"Burrowing Owl." Enature.com 2004. National Wildlife Federation. Aug 9, 2006. http://www.enature.com

White-throated Swift – *Aeronautes saxalis*.

Presence Onsite: Occurs. White-throated swifts were observed overhead during surveys of the site.
Onsite Conservation Measures: None required. There are no reasonable conservation measures to reduce the loss of potential foraging area on the site.

Federal Status: None
State Status: None
NatureServe Rank: G5/S4
Partners in Flight Status: Threatened and Declining

Description: The only swift in North America with a black-and-white pattern. Plumage is brown to black with white chin, breast and flanks. The species is the size of a barn swallow, but with the typical stiff, fast wing-beats of a swift.
Habitats: Nests and roosts in the cracks and crevices of near vertical rock faces and occasionally in buildings with suitable small spaces. The nest is made of feathers glued together and to the rock wall by the means of saliva. The same individuals use the nest and roosting sites over a long time period. The species forages over various habitats. Post-breeding flocks may number up to 200 birds that roost together in the crevices of rock faces
Distribution: Widespread but localized over much of western North America. Found throughout range in appropriate habitat.
Seasonality: Resident over much of its range. Northern and high elevation populations migrate south during winter.
Food Sources: Feeds primarily on flying insects.
Threats: Decreases in aerial insect abundance from habitat loss and use of pesticides. Birds may also be ingesting pesticides directly and bioaccumulation occurs within their tissues. This may cause a decrease in reproductive output and an increase in adult mortality. Increasing numbers of recreational rock-climbers in some areas may disturb birds at nesting/roosting locations.
General Conservation Measures: Preservation of large habitat areas; reduced general pesticide use; seasonal closures to rock climbing at roost locations.

Information Sources: Chantler, P. Swifts: A Guide to the Swifts and Treeswifts of the World. New Haven: Yale University Press. 1995.

Kaufman, K. Lives of North American Birds. Boston: Houghton Mifflin Company. 1996.

Ryan, T. P. and C. T. Collins. "White-Throated Swift (*Aeronautes saxalis*)." The Birds of North America, No. 526 (A. Poole and F. Gill, eds.). Ithaca: Cornell Laboratory of Ornithology; Philadelphia: The Academy of Natural Sciences; Washington, DC: The American Ornithologists' Union. 2000.

"The White-throated Swift." The 2002 Audubon Watchlist. 2002. National Audubon Society, Inc. Aug, 9, 2006. http://audubon2.org/webapp/watchlist/viewWatchlist.jsp

Rufous Hummingbird – *Selasphorus rufus*

Presence Onsite: Occurs as a Transient. Rufous hummingbirds were observed during surveys of the site. Onsite habitats are not typical nesting habitats for the species, so the observed individuals were likely transients.
Onsite Conservation Measures: None required. There are no reasonable conservation measures to reduce the loss of potential foraging area on the site.

Federal Status: None **State Status:** None
NatureServe Ranking: G5/S1S2 **Partners in Flight Status:** Threatened and Declining
Description: Mature rufous hummingbirds range in height from 3 ½ to 4 inches. The male is primarily a bright rufous, rarely with green on the back, with a white breast, a black-tipped tail, and an iridescent orange-red gorget. Females and juveniles of the species have a green iridescent back, less red on their underparts when compared to the adult male, and white throats that may be spotted and streaked by red and green. The call of the species is a high-pitched "zeee" with various squealing notes. The wing-beats of the male produce a metallic whine when in flight.
Habitats: Breeding occurs in the openings of forests, and brushy habitats in areas undergoing secondary succession or in mature forests. During migration the rufous hummingbird frequents montane meadows, disturbed areas, and other areas where flowers are abundant. The wintering grounds of the species include oak forests (with pines and junipers), scrub habitats, and any areas with an abundance of flowers.
Distribution: The species has the northern most range of any hummingbird. Breeds from southeastern Alaska, British Columbia, southwestern Alberta, and western Montana south to Washington, Oregon, Idaho, and northern California. The species winters primarily in Mexico, with some populations in extreme coastal southern California. In southern California the rufous hummingbird is transient with the exception of a few extreme coastal southern populations.
Seasonality: Typically a transient in southern California during spring and fall migrations.
Food Sources: The primary food source for the species is nectar from flowers. Insect may also be consumed in mid-flight or by foraging.
Threats: Includes habitat loss, increased use of pesticides, and replacement of native plants by invasive plants.
General Conservation Measures: Protection of suitable foraging habitat and the native plants upon which the species feeds.

Information Sources: "Rufous Hummingbird." The 2002 Audubon Watchlist. 2002. National Audubon Society, Inc. Aug 9, 2006. http://audubon2.org/webapp/watchlist/viewWatchlist.jsp

"Rufous Hummingbird." Enature.com 2004. National Wildlife Federation. Aug 9, 2006. http://www.enature.com

Nuttall's Woodpecker - *Picoides nuttallii*

Presence Onsite: Occurs. Nuttall's woodpeckers were observed during the surveys of the site, and the necessary habitat for the species occurs onsite.
Onsite Conservation Measures: Preservation of the necessary oak habitat is planned in the conservation measures for the project site.

Federal Status: None **State Status:** None
NatureServe Ranking: G5/SNR **Partners in Flight Status:** Range Restricted

Description: The back and wings are barred black-and-white, and the outer tail is spotted rather than barred. The undersides are white with spotting on the flanks. The red on the male Nuttall's head extends only to mid-crown. The female is similar to the male, but lacks the red on the crown. Typical drumming is steady, medium speed, and relatively long; noticeably longer and faster than Downy Woodpecker. The contact call is a sharp, rising, two- or three- note "pitik" and occasionally a single-note "pik"; the quality is much like the Hairy Woodpecker. A rattle call is a level and steady "pitikikik."
Habitats: Frequents a mix of deciduous riparian and adjacent oak habitats, occurring in oak woodlands, live oak forests, and chaparral. Also found in canyons with sycamores, alders, cottonwoods, and bay trees growing along streams lined with live oaks. Snags and dead limbs are required for nest excavation.
Distribution: Nuttall's Woodpecker has a range limited to west of the southern Cascade Mountains and the Sierra Nevada, extending from northern California to Mexico's Baja California.
Seasonality: Year-round resident
Food Sources: It forages by gleaning the bark, sometimes tapping and drilling, and occasionally hawking for insects.
Threats: Habitat loss from development and Sudden Oak Death fungal disease (which has killed tens of thousands of oaks in California; efforts to prevent the spread of the oak pathogen often include removing all dead and infected trees).
General Conservation Measures: Habitat preservation to ensure nesting and foraging for the species.

Information Sources: "Species Account: Nuttall's Woodpecker (*Picoides nuttalli*)." Birds in Forested Landscapes." 2004. Cornell Lab of Ornithology. Aug 9, 2006. http://birds.cornell.edu/bfl/speciesaccts/nutwoo.html

Zack, S. "The oak woodland bird conservation plan: a strategy for protecting and managing oak woodland habitats and associated birds in California." California Partners in Flight. 2002. Version 1.1. Port Reyes Bird Observatory, Stinson Beach, CA.

Kaufman, K. Lives of North American Birds. Boston: Houghton Mifflin Company. 1996.

Lowther, P.E. "Nuttall's Woodpecker (*Picoides nuttalli*)." The Birds of North America, No. 555 (A. Poole and F. Gill, eds.). Philadelphia: The Birds of North America, Inc. 2000.

"Nuttall's Woodpecker." The 2002 Audubon Watchlist. 2002. National Audubon Society, Inc. Aug 9, 2006. http://audubon2.org/webapp/watchlist/viewWatchlist.jsp

Least Bell's Vireo – *Vireo bellii pusillus*

Presence Onsite: No. The riparian habitat onsite is degraded and lacks the extensive dense willow scrub due to the close proximity of developed areas making unlikely for the species to use the site for nesting.
Onsite Conservation Measures: None required.

Federal Status: Endangered **State Status:** Endangered
NatureServe Rank: G5T2/S2 **Partners in Flight:** Threatened and Declining

Description: A small bird (4.75 – 5 inches) that is a dull olive-gray above and whitish below. Eye ring is a faint white and wing bars are a less visible white. Prefers dense covered riparian habitat.
Habitats: Southern Willow Scrub, Cottonwood Forest, Mule Fat scrub, Sycamore Alluvial Woodland, Coast Live Oak Riparian Forest, Arroyo Willow Riparian Forest
Distribution: Restricted to southern California south of the Tehachapi Mountains and north of northwestern Baja California. Found locally in suitable habitat throughout its range
Seasonality: Rare local summer resident
Food sources: Forages most of the year in stands of willows and other riparian vegetation. Later in the breeding season it may expand its territory into chaparral and oak woodlands
Threats: The decline of the species is related to the widespread removal suitable habitat in southern California. In addition, the brown-headed cowbird has been a major contributor to this decline due to brood paratism.
General Conservation Measures: Riparian habitat conservation and cowbird trapping are the most important conservation measures for this species. The jurisdictional waters permitting process administered by the CDFG. and USACE usually drive both of these measures.

Information Sources: Scott, Dr. Thomas. "Least Bell's Vireo." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 9, 2006. http://ecoregion.ucr.edu

"Least Bell's Vireo." Enature.com 2004. National Wildlife Federation. Aug 9, 2006. http://www.enature.com/

"Least Bell's Vireo." California's Plants and Animals. 2003. California Department of Fish and Game-Habitat Conservation Planning Branch. Aug 9, 2006. . http://www.dfg.ca.gov/hcpb/species/t_e_spp/tespp.shtml

Gaines, D. "B413- Least Bell's Vireo." California Wildlife Habitat Relationship System. California Department of Fish and Game-California Interagency Wildlife Task Group. Aug 9, 2006. http://www.dfg.ca.gov/whdab/html/B413.html

Bank Swallow – *Riparia riparia*

Presence Onsite: The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** None
NatureServe Rank: G5/S2S3 **Partners in Flight:** None

Descriptions: Small slender songbird; white underneath and brown on top; dark band across chest, extending down middle of chest; small bill; long wings. Size: 12-14 cm (5-6 in); Wingspan: 25-29 cm (10-11 in); Weight: 10-19 g (0.35-0.67 ounces)
Habitats: Open and partly open situations, frequently near flowing water. Nests in steep sand, dirt, or gravel banks, in a burrow dug near the top of the bank, along the edge of inland water or along the coast, or in gravel pits, road embankments, etc. Both sexes construct the nest burrow. Usually digs a new burrow each year, but sometimes uses old bank swallow burrows or abandoned cavities of the belted kingfisher. Tends to return to same nesting area in successive years, though may move several kilometers away, especially if nesting was unsuccessful the previous year; yearlings often return to the natal area or nearby
Distribution: Breeding: in North America from western and central Alaska east to Newfoundland, south to central California, western Nevada, Utah, northern New Mexico, Kansas, northeastern Oklahoma, Tennessee, northern Alabama, central West Virginia, eastern Virginia, casually to south-central South Carolina; Non-breeding: in the Americas mainly from eastern Panama southward, east of the Andes, to northern Argentina, Paraguay, and northern Chile, casually north to southern California.
Food Sources: Feeds primarily on flying insects (e.g., beetles, mosquitoes, winged ants, flies, moths). Catches insects in the air over fields, wetlands, water, etc. If necessary, may forage up to several kilometers from nesting area, but usually closer.
Threats: Decline in California has been due to human disturbance and channelization and stream bank modifications for flood control and bank stabilization. Riprapping of natural stream banks is the most serious threat to long-term survival in California
General Conservation Measures: In California, improvements of natural habitat and construction of artificial banks have been undertaken to mitigate for habitat loss to riprapping; however, it is doubtful that these techniques will provide a long-term solution. Quarry managers should be encouraged to create seasonally sand piles from April until July.

Information Sources: NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 5.0. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: August 10, 2006).

Oak Titmouse – *Baeolophus inornatus*

Presence Onsite: Occurs. Oak titmouse were observed during the surveys of the site, and the necessary habitat for the species occurs onsite.
Onsite Conservation Measures: None required.

Federal Status: None
State Status: None
NatureServe Rank: G5/S5
Partners in Flight Status: Threatened and Declining

Description: Mature birds range in length from 5 to 5 ¾ inches. The coloration is a dull gray that is tinged brown with the underparts being slightly paler. The face is plain and capped by a short crest. Differs from juniper titmouse by range and call. The oak titmouse call is a repeated series of 3 to 7 syllables that are each comprised of one low and one high note.
Habitats: The oak titmouse seems to prefer oak woodlands, oak-pine woodlands, streamside cottonwoods and oak-juniper woodlands. May also adapt to areas that are warm and dry but lacking the typical oak woodland. Nests in tree cavities, fence post holes, or in crevices in buildings. The nest is made up of grasses, moss, shredded fur, and feathers.
Distribution: The oak titmouse can be found from southwest Oregon through California to northwestern Baja California, Mexico. It typically breeds in low to middle elevations along the Pacific slope. The species has been observed in many nearby oak woodlands.
Seasonality: Year-round resident throughout its range.
Food Sources: Consumes the catkins of oaks and the seeds of other trees, as well as insects that it spots from an elevated perch. May frequent gardens within its vicinity.
Threats: Habitat loss to development and Sudden Oak Death fungal disease (which has killed tens of thousands of oaks in California; efforts to prevent the spread of the oak pathogen often include removing all dead and infected trees).
General Conservation Measures: Preservation of oak woodlands and the snags and dying trees that found within them. Canopy cover should be maintained at 40% - 70%.

Information Sources: "Oak Titmouse." The 2002 Audubon Watchlist. 2002. National Audubon Society, Inc. Aug 9, 2006.
http://audubon2.org/webapp/watchlist/viewWatchlist.jsp

"Oak Titmouse." Enature.com 2004. National Wildlife Federation. Aug 9, 2006.
http://www.enature.com/

Coastal California Gnatcatcher – *Polioptila californica californica*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: Threatened
State Status: Species of Special Concern
NatureServe Rank: G3T2/S2
Partners in Flight Status: Range Restricted

Description: A small bird (4.5-5 inches) with dark blue-gray above and grayish-white below. Its long tail is primarily black on top and below. Its eye-ring is a distinctive white and the males have a black cap in all seasons but winter. Vocalizations of this species include a call consisting of a rising and falling series of three, kitten-like, mew notes.
Habitats: Venturan Coastal Sage Scrub, Diegan Coastal Sage Scrub, Maritime Succulent Scrub, Riversidean Sage Scrub, Riversidean Alluvial Fan Sage Scrub, Southern Coastal Bluff Scrub, and Coastal Sage-chaparral Scrub.
Distribution: Occurs on coastal slopes of southern California, ranging from southern Ventura southward through Palos Verde Peninsula in Los Angeles County through Orange, Riverside, San Bernardino and San Diego Counties into Baja California to El Rosario, Mexico. Found throughout the region in highly localized areas of appropriate habitat.
Seasonality: Year-round resident in southwestern California.
Food Sources: The diet consists primarily of leaf and plant hoppers and spiders. Also consumed are true bugs, wasps, bees, and ants.
Threats: Destruction, fragmentation and adverse modification of necessary habitat.
General Conservation Measures: Preservation of suitable nesting habitat, and its protection from any human disturbance during breeding periods, is necessary to ensure the survival of this species.

Information Sources: Salata, Larry. "Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Coastal California Gnatcatcher." Division of Endangered Species. 1993. U.S. Fish and Wildlife Service. Aug 10, 2006. http://endangered.fws.gov/r/fr93496.html

Scott, Dr. Thomas. "Coastal California Gnatcatcher." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. 28 May 2004. http://ecoregion.ucr.edu/

"California Gnatcatcher." The 2002 Audubon Watchlist. 2002. National Audubon Society, Inc. Aug 10, 2006.
http://audubon2.org/webapp/watchlist/viewWatchlist.jsp

Southern California Rufous-crowned Sparrow – *Aimophilia ruficeps canescens*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: Species of Concern **State Status:** Species of Special Concern
NatureServe Rank: G5T2T4/S2S3 **Partners in Flight Status:** None

Description: A small bird (5-6 inches) with a rufous colored crown and eye stripe on a gray head. Whisker marks on cheeks are obvious and the gray mantle is streaked with rufous stripes. Underparts are primarily unstreaked gray.
Habitats: Coastal Sage Scrub and Chaparral
Distribution: Limited to a narrow belt of semiarid coastal sage scrub and sparse chaparral from Santa Barbara south to the northwestern corner of Baja California.
Seasonality: Year-round resident of southern California.
Food Sources: Gleans from the ground and low foliage of shrubs, and occasionally from the leaves of oaks. During the breeding season insects dominate the diet, while seeds, grasses, and forb shoots are consumed the remainder of the year.
Threats: The loss of coastal sage scrub for agriculture and urban development has reduced the available habitat.
General Conservation Measures: Southern California rufous-crowned sparrows would benefit from steep slope preservation and maintenance, by the use of prescribed burns, of open edge conditions of coastal sage scrub that perpetuate herbaceous elements for foraging.

Information Sources: Scott, Dr. Thomas. "Southern California Rufus-crowned Sparrow." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 10, 2006. http://ecoregion.ucr.edu

"Southern California Rufus-crowned Sparrow." Enature.com 2004. National Wildlife Federation. Aug 10, 2006. http://www.enature.com

Tricolored Blackbird - *Agelaius tricolor*

Presence Onsite: No. The site lacks the appropriate habitat for the species.
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** Species of Special Status
NatureServe Rank: G2G3/S2 **Partners in Flight Status:** Range Restricted

Description: This species closely resembles red-winged blackbirds, with subtle differences in coloration, bill shape, and overall morphology. Adult male bird is black, showing glossy bluish tint in sunlight. Epaulets are red (lesser wing coverts) and white or buffy white (median coverts). The red-winged blackbird median coverts, which range from buffy white to yellow, are never pure white. The immature male resembles adult, but with duller black and gray plumage. The adult female is black, streaked with gray, with small reddish epaulets. Chin and throat are whitish. The wings and bill of tricolored blackbird are longer and narrower than Red-winged Blackbird's.
Habitats: The tricolored blackbird breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs and forages in grassland and cropland habitats. The species seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs.
Distribution: The tricolored blackbird has a relatively restricted range, breeding from southern Oregon and the Modoc Plateau of northeastern California, south through the lowlands of California west of the Sierra Nevada to northwestern Baja California. The tricolored blackbird is mostly a resident in California. It is common locally throughout the Central Valley and in coastal districts from Sonoma County south. It breeds locally west of the Cascade Range, Sierrra Nevada, and southeastern deserts from Humboldt and Shasta counties south to extreme southwest San Bernardino County, western Riverside County and western and southern San Diego County. In Central California, its breeding extends east into the foothills of the Sierra Nevada
Seasonality: It is a summer resident in northeastern California, occurring regularly only at Tule Lake, but has bred some years as far south as Honey Lake and in the marshes of the Klamath Basin in Siskiyou and Modoc counties. In the southern deserts, it is found regularly only at Antelope Valley, Los Angeles County. In winter, it becomes more widespread along central coast and San Francisco Bay area.
Food Sources: In California, animal matter, mostly insects and spiders, made up 86-91% of the nestling and fledgling diet, and 28-96% of the adult diet in spring and summer.
Threats: A principal factor implicated in the population decline and the loss of individual colonies is elimination of wetland habitat, which has drastically reduced available nesting and foraging habitat
General Conservation Measures: Management objectives include maintaining a viable, self-sustaining population throughout the current geographic range, avoiding the losses of the colonies and their associated habitats, increasing the breeding population on suitable public and private lands managed for this species, and enhancing the public awareness and support for protection of habitat and active colonies.

Information Sources: Scott, Dr. Thomas. "Tricolored Blackbird." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 10, 2006. http://ecoregion.ucr.edu

"California Gnatcatcher." The 2002 Audubon Watchlist. 2002. National Audubon Society, Inc. Aug 10, 2006. http://audubon2.org/webapp/watchlist/viewWatchlist.jsp

San Diego Desert Woodrat – *Neotoma lepida intermedia*

Presence Onsite: No. San Diego desert woodrat nests were not observed during the surveys of the site and the appropriate habitat does not occur onsite
Onsite Conservation Measures: None required.

Federal Status: None **State Status:** Species of Special Concern
NatureServe Rank: G5T3?/S3?

Description: Wood rats are pale buff, gray or reddish brown, usually with white undersides and feet. They have relatively large ears and, normally, hairy tails. They range in length from 8 to 20 inches, including their 3- to 9-inch tail.
Habitats: Riversidean and Coastal Sage Scrub and Chaparral. Usually found in areas with rock outcrops or boulder fields, or areas with cactus patches, where the species can take refuge.
Distribution: The San Diego desert woodrat occurs in coastal California from San Luis Obispo south through the Transverse and Peninsular Ranges into Baja California. Historic locations of the species on and adjacent to National Forest System lands have been recorded from San Luis Obispo near Los Padres National Forest, San Fernando near Angeles National Forest, Redlands and the San Bernardino Mountains on and near the San Bernardino National Forest, and Julian near the Cleveland National Forest. Found throughout its range in suitable habitat.
Food sources: Desert woodrats primarily are herbivorous, and their diet may include leaves, seeds, berries, parts of flowers, and yucca shoots. Woodrat foraging behavior entails venturing from a sheltered area or den to a plant, usually within 3 meters of the den, clipping the vegetation, and then returning to the sheltered area or den to consume the food morsel
Threats: General loss of coastal sage scrub habitat to agricultural and urban development. Also, disking of vacant land for farming and weed abatement and cattle and sheep grazing may destroy or degrade woodrat habitat. A potential long-term threat to the species is isolation and fragmentation of habitat.
General Conservation Measures: Preservation of suitable habitat and corridors between existing populations to promote genetic exchange.

Information Sources: Scott, Dr. Thomas. "San Diego Desert Woodrat." Understanding the Plants and Animals of Riverside County Multiple Species Habitat Conservation Plan. 2001. University of California-Riverside. Aug 10, 2006. http://ecoregion.ucr.edu/

"San Diego Desert Woodrat." Enature.com 2004. National Wildlife Federation. Aug 10, 2006. http://www.enature.com/

APPENDIX 2

FLORA AND FAUNA COMPENDIUM

SCIENTIFIC NAME	COMMON NAME	HABITAT[1]	ABUNDANCE[2]
GYMNOSPERMS			
Cupressaceae – Cypress Family			
Cupressus sempervirens[*]	Italian cypress	L	Scarce
Pinaceae – Pine Family			
Pinus pinea[*]	Italianstone Pine	L	Scarce
Podocarpaceae – Yellow-wood Family			
Podocarpus sp.[*]	Podocarpus	L	Scarce
ANGIOSPERMS – FLOWERING PLANTS			
Dicotelydones - Dicots			
Aizoaceae – Fig-marigold Family			
Carpobrotus edulis[*]	Ice Plant	L	Common
Apocynaceae – Dogbane Family			
Nerium oleander[*]	Oleander	L	Scarce
Araliaceae – Ginseng Family			
Hedera helix[*]	English Ivy	L	Common
Anacardiaceae – Sumac Family			
Schinus molle[*]	Peruvian Pepper Tree	RF	Scarce
Toxicodendron diversilobum	Poison Oak	RF	Common
Asteraceae – Sunflower Family			
Ambrosia psilostachya	Western Ragweed	RF	Common
Artemisia californica	Coastal Sagebrush	RF	Uncommon
Artemisia douglasiana	California Mugwort	RF	Common
Cirsium occidentale var. *californicum*	California Thistle	RF	Scarce
Picris echioides[*]	Bristly Ox-tongue	RF	Uncommon
Sonchus asper[*]	Prickly Sow-thistle	RF	Uncommon
Taraxacum officinale[*]	Dandelion	L	Uncommon
Brassicaceae – Mustard Family			
Lobularia maritime[*]	Sweet Alyssum	RF	Common
Nasturtium officinale[*]	Water-Cress	RF	Common
Fagaceae – Oak Family			
Quercus agrifolia	Coast Live Oak	L, RF	Common
Quercus lobata	Valley Oak	L, RF	Uncommon
Hamamelidaceae – Witch- hazel Family			
Liquidambar styraciflua[*]	Liquidambar	L	Scarce
Juglandaceae – Walnut Family			
Juglans californica var. californica	Southern California Black Walnut	RF	Scarce
Moraceae – Mulberry Family			
Ficus carica[*]	Common Fig	RF	Common
Myrtaceae – Myrtle Family			
Eucalyptus globulus[*]	Blue Gum	L	Uncommon

SCIENTIFIC NAME	COMMON NAME	HABITAT[1]	ABUNDANCE[2]
Eucalyptus sp.*	--	L	Uncommon
Oleaceae – Olive Family			
*Olea europea**	Olive	L	Scarce
Pittosporaceae – Pittosporum Family			
*Pittosporum tobira**	Japanese Cheesewood	L	Scarce
Platanaceae – Plane-tree Family			
Platanus x *acerifolia**	London Plane	L, RF	Uncommon
Primulaceae – Primose Family			
*Anagallis arvensis**	Scarlet Pimpernel	RF	Common
Rosaceae – Rose Family			
Rosa spp.*	Rose Cultivar	L	Common
Rosa californica	California wild rose	RF	Uncommon
Rubus ursinus	California Blackberry	RF	Common
Rutaceae – Citrus Fruit Family			
Citrus x *limon**	Lemon	L	Scarce
Salicaceae – Willow Family			
Populus fremontii	Fremont Cottonwood	RF	Scarce
Salix exigua	Narrow-leaved Willow	RF	Uncommon
Salix lasiolepis	Arroyo Willow	RF	Common
Solanaceae – Nightshade Family			
*Nicotiana glauca**	Tree Tobacco	RF	Scarce
*Datura wrightii**	Western Jimsonweed	RF	Scarce
Ulmaceae – Elm Family			
*Ulmus parvifolia**	Chinese Elm	L	Scarce
Violaceae – Violet Family			
Viola spp.*	Pansy Cultivar	L	Common
Monocotyledones - Monocots			
Agavaceae – Agave Family			
*Agave attenuata**	Century Plant	RF	Scarce
*Yucca gloriosa**	Spanish Dagger	RF	Scarce
Arecacea – Palm Family			
*Washingtonia robusta**	Mexican Fan Palm	RF	Uncommon
Cyperaceae – Sedge Family			
*Cyperus involucratus**	Umbrella-plant	RF	Uncommon
Typhaceae – Cattail Family			
Typha angustifolia	Narrow-leaved Cattail	RF	Uncommon

[1] Habitat Definitions: L = landscaped; RF = (southern coast live oak) riparian forest

[2] Abundance Definitions: Scarce = <10 individuals; Uncommon = 10-20 individuals; Common = >20 individuals

* Introduced/Nonnative species

SCIENTIFIC NAME	COMMON NAME	OBSERVATION[3]	ABUNDANCE[4]
AMPHIBIA - AMPHIBIANS			
Plethodontidae – Lungless Salamanders			
Batrachoseps nigriventris	Black-bellied Slender Salamander	Expected	Scarce
Bufonidae – True Toads			
Bufo boreas	Western Toad	Expected	Scarce
Hylidae – Tree Frogs			
Pseudacris cadaverina	Pacific Treefrog	Observed	Common
Ranidae – True Frogs			
*Rana catesbiana**	Bullfrog	Observed	Scarce
REPTILIA - REPTILES			
Testudines - Turtles			
*Trachemys scripta**	Pond Slider	Observed	Scarce
Phrynosomatidae – North Amrican Spiny Lizards			
Uta stansburiana	Common Side-blotched Lizard	Expected	Scarce
Sceloperus occidentalis	Western Fence Lizard	Observed	Common
Anguidae – Alligator Lizards			
Elgartia multicarinata	Southern Alligator Lizard	Expected	Scarce
Colubridae – Egg-Laying Snakes			
Pituophis catenifer	Gopher Snake	Expected	Scarce
AVES - BIRDS			
Ardeidae – Herons and Bitterns			
Ardea alba	Great Egret	Expected	Scarce
Anatidae – Swans, Geese, and Ducks			
Anas platyrhynchos	Mallard	Observed	Uncommon
Accipitridae – Hawks, Old World Vultures, and Harriers			
Buteo lineatus	Red-shouldered Hawk	Observed	Scarce
Buteo jamaicensis	Red-tailed Hawk	Expected	Scarce
Laridae – Skua, Gulls, Terns, and Skimmers			
Larus delawarensis	Ring-billed Gull	Observed	Scarce
Columbidae – Pigeons and Doves			
Zenaida macroura	Mourning Dove	Expected	Common
*Columba livia**	Rock Dove	Expected	Common
Apodidae - Swifts			
Aeronautes saxatalis	White-throated Swift	Observed	Uncommon
Trochilidae – Hummingbirds			
Selasphorus rufus	Rufous Hummingbird	Observed	Scarce
Calypte anna	Anna's Hummingbird	Observed	Common

SCIENTIFIC NAME	COMMON NAME	OBSERVATION[3]	ABUNDANCE[4]
Picidae – Woodpeckers and Wrynecks			
Picoides nuttallii	Nuttall's Woodpecker	Observed	Scarce
Melanerpes formicivorus	Acorn Woodpecker	Observed	Scarce
Tyrannidae – Tyrant Flycatchers			
Sayornis nigricans	Black Phoebe	Observed	Scarce
Vireonidae – Typical Vireos			
Vireo huttoni	Hutton's Vireo	Expected	Scarce
Corvidae – Jays, Magpies, and Crows			
Aphelocoma californica	Western Scrub-Jay	Expected	Scarce
Corvus brachyrhynchos	American Crow	Observed	Uncommon
Paridae – Titmice			
Baeolophus inornatus	Oak Titmouse	Observed	Common
Aegithalidae – Bushtit			
Psaltriparus minimus	Bushtit	Expected	Common
Troglodytidae – Wrens			
Troglodytes aedon	House Wren	Observed	Scarce
Thryomanes bewickii	Bewick's Wren	Observed	Scarce
Turdidae – Thrushes			
Sialia mexicana	Western Bluebird	Expected	Uncommon
Catharus ustulatus	Swainson's Thrush	Observed	Scarce
Mimidae – Mockbirds and Thrashers			
Mimus polyglottos	Northern Mockingbird	Observed	Common
*Sturmus vulgaris**	European Starling	Expected	Common
Parulidae – Wood Warblers			
Wilsonia pusilla	Wilson's Warbler	Observed	Scarce
Emberizidae – Emberizines			
Melospiza melodia	Song Sparrow	Observed	Scarce
Passerculus sandwichensis	Savannah Sparrow	Observed	Scarce
Fringillidae – Finches			
Carduelis psaltria	Lesser Goldfinch	Expected	Common
Carpodacus mexicanus	House Finch	Observed	Common
Passeridae – Old World Sparrows			
*Passer domesticus**	House Sparrow	Expected	Common
MAMMALIA - MAMMALS			
Didelphidae – Opossums			
*Didelpis virginiana**	Virginia Opossum	Expected	Scarce
Vespertilionidae – Evening Bats			
Myotis volans	Long-legged Myotis	Expected	Uncommon
Myotis californicus	California Myotis	Expected	Uncommon
Pipistrellus hesperus	Western Pipistrelle	Expected	Uncommon
Eptesicus fuscus	Big Brown Bat	Expected	Uncommon

SCIENTIFIC NAME	COMMON NAME	OBSERVATION[3]	ABUNDANCE[4]
Myotis evotis	Long-eared Myotis	Expected	Uncommon
Myotis thysanodes	Fringed Myotis	Expected	Uncommon
Molossidae – Free-tailed Bats			
Tadarida brasiliensis	Brazilian Free-tailed Bat	Expected	Uncommon
Leporidae – Rabbits and Hares			
Sylvilagus audubonii	Desert Cottontail	Expected	Scarce
Sciuridae- Squirrels, Chipmunks, and Marmots			
*Sciurus niger**	Eastern Fox Squirrel	Observed	Uncommon
Geomyidae – Pocket Gophers			
Thomoys bottae	Botta's Pocket Gopher	Expected	Scarce
Muridae – Mice, Rats, and Voles			
*Mus musculus**	House Mouse	Expected	Common
*Rattus rattus**	Black Rat	Expected	Common
Peromyscus maniculatus	Deer Mouse	Expected	Common
Peromyscus californicus	California Mouse	Expected	Uncommon
Neotoma fuscipes	Dusky-footed Woodrat	Observed	Scarce
Procyonidae – Raccoons			
Procyon lotor	Raccoon	Expected	Scarce
Mustelidae – Weasels, Badgers, and Relatives			
Mephitis mephitis	Striped Skunk	Expected	Scarce
Felidae – Cats			
*Felis catus**	Domestic Cat	Expected	Uncommon

[3] Observations: Observed animals were either seen directly or by diagnostic signs (scat, nests, tracks, etc); Expected animals were not observed, but based on habitat it is expected to occur.

[4] Abundance: Scarce = <10 individuals; Uncommon = 10-20 individuals; Common = >20 individuals

* Introduced/Nonnative species

Appendix C2:

Oak Tree Impact Analysis

Carlberg ASSOCIATES
Horticulturists and
Registered Consulting
ARBORISTS

OAK TREE REPORT
FOR THE
'VILLAGE AT CALABASAS' PROJECT
23500 PARK SORRENTO, CALABASAS, CALIFORNIA

SUBMITTED TO

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Oak Tree Location Map (24" x 36") Back Pocket

Oak Tree Location and Impact Map (24" x 36") Back Pocket

APPENDICES

Appendix I – Individual Oak Tree Worksheets

Appendix II – Encroachment Trees' Cross-sections

Appendix III – Oak Tree Value Assessments

Appendix IV – Oak Tree Photo Exhibit

Appendix V – City of Calabasas Oak Tree Preservation & Protection Guidelines

Appendix VI – Resume of Undersigned Arborist

INTRODUCTION

The following report describes the updated condition of the oak trees existing on or within 200 feet of the proposed Village at Calabasas project site, Tentative Tract Map No. 66208, in the City of Calabasas, California. The tree survey information gathered and represented herein was produced in accordance with the City of Calabasas Oak Tree Preservation and Protection Guidelines, Section 17.26.070 of the Calabasas Municipal Code, and direction from the city planner assigned to the case. This report represents a comprehensive update from the previously approved Oak Tree Report (dated February 5, 2007) as prepared by the undersigned arborist while employed by Land Design Consultants, Inc.

The 5.43-acre property is located south of Park Sorrento and east of Parkway Calabasas in the City of Calabasas. A total of 218 oak trees were found to fall within the above-referenced parameters when the site was surveyed. Surveys were conducted by Carlberg Associates' staff over several dates between October 15 - 30, 2012. Most of the surveyed oaks are in good to average health and 25 meet the minimum size requirement for Heritage Tree designation. The enclosed Oak Tree Location Map illustrates the locations of on- and off-site oak trees noted during the field surveys.

SURVEY METHOD AND DEFINITIONS

The following discussion expands on the information summarized in the oak tree survey worksheets attached in Appendix I.

The location of each tree is mapped on a 100-scale (1" = 100') Oak Tree Location Map that illustrates the proposed project improvements. The base topographic map was provided by David R. Gray, Inc., and included surveyed locations of the majority of the oak tree trunks and some of the canopies. The remaining oak tree locations and canopies were visually field surveyed by Carlberg Associates' staff. A illustrative copy of the Oak Tree Location map is included on page 3 and a full-size, 24 x 36 inches bond copy of that map is attached in the back pocket.

The trees were numbered and tagged with a circular metal tag that was placed on the north side of the trunk. The assigned number of each tree was embossed or otherwise marked on the tag. All of the recorded trees have a diameter breast height (DBH; 4.5 feet above the natural grade surrounding the tree) of two (2) inches or greater, and therefore, are protected by the City of Calabasas Oak Tree

Preservation and Protection Guidelines and Section 17.26.070 of the Calabasas Municipal Code. At the direction of City Planner Glenn Michitsch, oaks with a DBH of less than two inches but more than one inch were located and mapped on the Oak Tree Location Map. However, these trees were not surveyed for health and condition evaluations and did not receive tags. Of the 218 inventoried oak trees, 51 of them had diameters between one and two inches.

Heritage Trees are those trees with a DBH of 24 inches or greater. For trees with multiple trunks, the cumulative DBH must total 24 inches or greater to be considered a Heritage Tree. However, the City of Calabasas Planning Commission and/or the City Council may classify trees that do not meet these criteria as Heritage Trees. In order to be classified in this manner, the tree must be determined to have "exceptional historic, aesthetic and/or environmental qualities of major significance or prominence to the community" (City of Calabasas Oak Tree Preservation and Protection Guidelines). The protected zone of a non-Heritage oak tree includes the dripline and extends out to a point at least five feet outside the dripline, or 15 feet from the trunk of a tree, whichever distance is greater. The protected zone of an oak tree may be greater for Heritage Trees than for trees with a diameter of less than 24 inches. Heritage oak trees shall have a protected zone of no less than 50 feet from the trunk of the tree.

Each tree was assigned three letter grades, one health and one aesthetic rating as required by the City, and an overall grade that incorporates ecological value in addition to health and aesthetic values. The health and aesthetic rating of the trees are based on the guidelines established in the City of Calabasas Oak Tree Preservation and Protection Guidelines. The overall grade of each tree was determined through a subjective evaluation of its health, aesthetic value, and ecological value.
The health of the tree depends on the level of damage caused by infestation of various pests including termites, wood boring beetles, cambium eating beetles, fungus of various types, and parasitic plants (i.e., mistletoe). Climbing plants which use the oak for support are also included as infestations.
Other factors affecting tree health are discussed later in this report.

While the aesthetic value of a tree is subjective, a tree is usually considered highly aesthetic if it has generally dense foliage, a relatively uniform or spectacular irregular shape, and large size.
Ecological value is based on many factors, not all of which have a positive correlation with the health and aesthetic value of the tree. Most important is the likelihood that the tree will continue to survive (this factor is positively correlated to tree health).

The following criteria are used to establish each overall grade:

"A" = Outstanding: A healthy and vigorous tree characteristic of its species and reasonably free of any visible signs of stress, disease or pest infestation.

"B" = Above Average: A healthy and vigorous tree with less than 25% of the tree affected by visible signs of stress, disease and/or pest infestation.

"C" = Average: Although healthy in overall appearance, 25% - 75% of the tree shows evidence of stress, disease and/or pest infestation.

"D" = Below Average/Poor: Greater than 75% of this tree shows evidence of stress, disease and/or pest infestation and appears to be in a state of rapid decline. The degree of decline may vary greatly.

"F" = Dead: This tree exhibits no signs of life at all.

A multi-trunked tree has more than one trunk originating from a single root system or basal burl. In some cases the trunks may not appear to be joined, but their direction of growth and orientation to adjacent trunks indicates the presence of a subsurface connection. This can occur when a large tree declines and the main trunk is removed or decays. The basal burl or root crown will often produce new shoots around the perimeter of the former trunk, resulting in a large basal cavity surrounded by smaller trunks. These trunks may, or may not, be obviously connected. It is not always clear whether a tree is multi-trunked or just has several main branches that diverge near ground level. In these cases the tree is considered multi-trunked if the diverging stems do not exit the ground perpendicularly, but at an angle away from the center of the tree.

Trunk diameter is measured at breast height, approximately 4½ feet (54") above the natural grade. This measurement system was developed primarily for forestry applications and is most appropriate for trees with vertical growth forms. Oak trees often have large lateral branches diverging from the trunk at or near breast height. Measuring a tree of this type at exactly 4½' above natural grade would often result in an inaccurate impression of tree size. For trees that exhibit lateral branching at breast height, the trunk diameter measurement is made at the nearest point where the measurement can be accomplished without being impeded by the branches. For multi-trunked trees, the number of trunks and the diameter of each trunk is recorded.

Evaluation of canopy characteristics includes two sets of measurements; the dripline radius and the height of the branch from the natural grade at the dripline. The dripline radius is measured along a line extending from the center of the trunk outward in four to eight magnetic compass directions. The measurement is made from the outer edge of the trunk to the outermost living part of the tree. In some cases, where a tree has several trunks growing in a ring, the dripline radius is measured from the center of the ring. Use of this measurement is noted under comments and notes when used. In order to determine branch height, a measurement is taken from the lowest living leaf on a branch to the natural grade for each compass direction. Leaves on small sucker stems growing directly from the trunk are not used for branch height measurements. The canopy spread measurement is the maximum canopy diameter of the tree in question.

The health rating of the tree is based on the rules established City of Calabasas Oak Tree Preservation and Protection Guidelines. The following discussion summarizes some of the most common threats to the health of oak trees.

The most important threat to the health of a tree is physical or mechanical damage of a non-biotic origin. This damage may be the result of human activities such as improper pruning, activities resulting in soil compaction, or carelessness and vandalism. However, it is not uncommon for trees growing along watercourses to be undercut by erosion and become unstable.

The most common source of natural mechanical damage is fire. Often, fire will burn through an oak woodland or savanna, eliminating the undergrowth and defoliating the trees, but doing little permanent damage. Oak trees often quickly recover from defoliation from fire. A hotter fire will often char the outer bark of the tree but not damage the living cambium tissue beneath the bark. Frequently, the outer bark is so damaged that it sloughs off in a process known as checking. Occasionally, the cambium is killed: usually this is on the lee side of the tree where the fire tends to linger and on the bottom sides of lower branches where the fire is hottest. When this happens, the dead portion stops growing. However, the remainder of the tree will continue to grow and will often cover the wound with new callous tissue.

Tree injuries leave the tree vulnerable to many potential sources of damage and disease. Insect pests will take advantage of an injury to invade exposed wood and cambium. Some fungi which break down wood will also take advantage of a wound to enter the tree. These fungi will result in the softening of the wood called heart rot. Heart rot, in combination with the activities of insects, animals and/or fire, will eventually produce cavities in the trunk or major branches of the tree.

Structural stability also affects the potential survival of a tree. Trees that are structurally unstable are assumed to have a shorter potential life span than structurally stable trees. Oaks frequently grow in loose soil on steep slopes; this soil is prone to down slope movement, resulting in trees that have been undermined and lean precariously downhill. The action of streams, as described above, also results in unstable trees. Young oaks are highly phototrophic (growing toward light). In woodland environment this trait often causes young trees to grow toward an opening in the canopy that may be far from directly overhead, resulting in a poorly balanced tree. Another common cause of structural instability is severe cavitation or mechanical damage as described above.

The most common health problem affecting oak trees is some form of biological infestation. Almost all oak trees have subcritical infestations of one type or another. Only when the tree has been significantly injured are the infesting organisms able to invade the tree and become a severe problem. Termites are one of the most common pests to utilize oak trees as a food source. Termites eat only dead wood and must enter the tree through an opening in the bark or root. Most oaks have a limited

(and usually harmless) number of termites in the smaller terminal twigs and branches that have died. Wood boring beetles are similar to termites in their requirements and have a similar effect on the tree. Only when the infestation becomes severe do wood eating insects pose a threat to the tree. However, beetles that eat cambium can be a serious threat to a tree even in small numbers. Cambium eaters can easily kill a small branch or trunk by girdling the structure and curtailing the flow of nutrients through the cambium.

There are a host of other insects and arthropods which utilize oaks in a variety of ways. In natural situations these potential threats are kept in check by abundant natural enemies and the oak's natural protective features. Climbing plants, though not technically an infestation, are also included in this category. Two of the most common climbing plants in the southern California oak woodland are the honeysuckle (*Lonicera subspicata*) and poison oak (*Toxicodendron diversilobum*). These species, which utilize oaks (and other trees) for support, can create such a burden and block out enough sunlight as to become a threat to the well-being of a tree.

SURVEY RESULTS

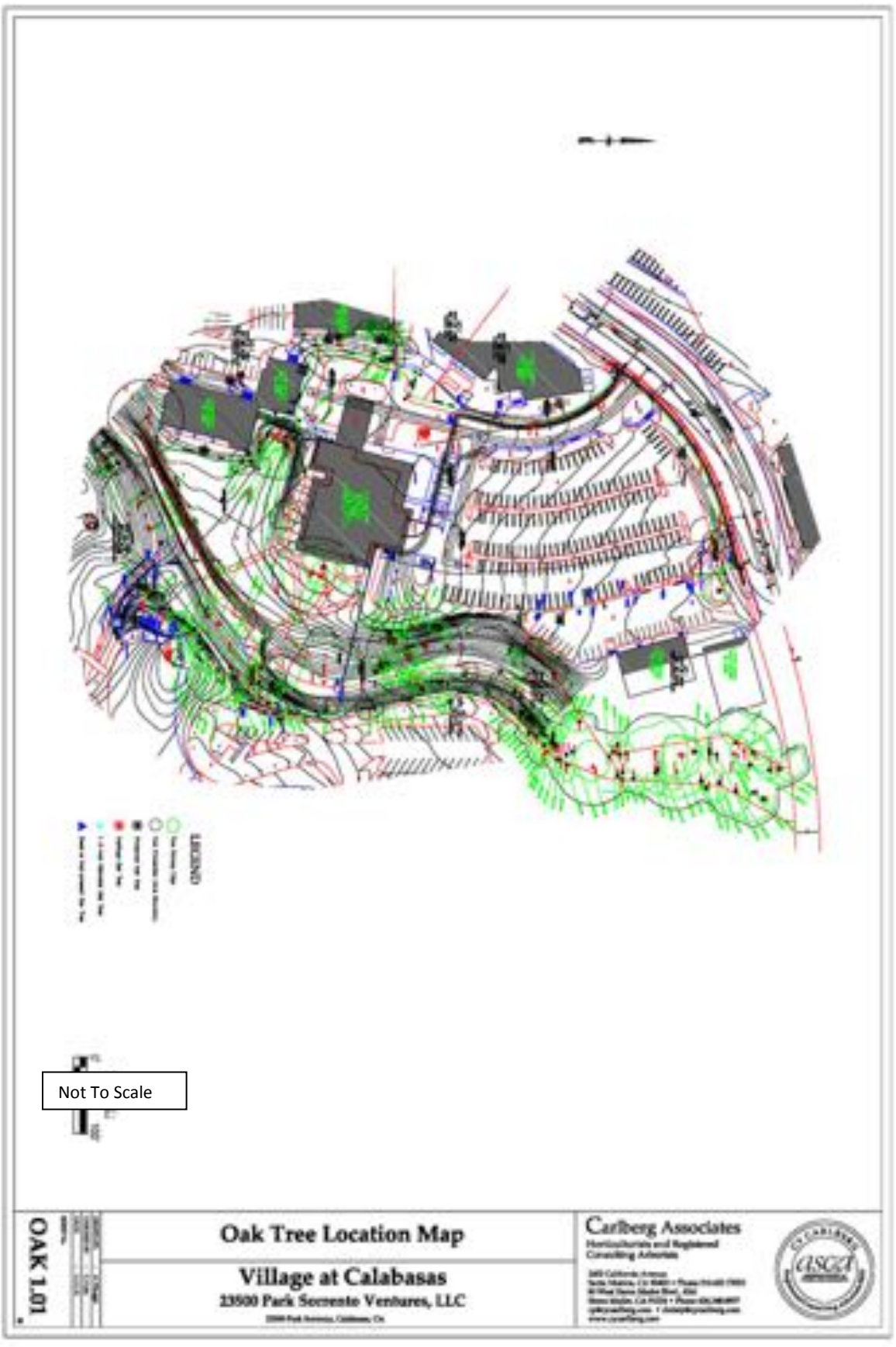
There are 204 coast live oaks (*Quercus agrifolia*) and 14 valley oaks (*Quercus lobata*) found on the project site and within 200 feet of the proposed grading. Some oaks within the McCoy Creek drainage are farther than 200 feet from the grading envelope, but are also included since they were part of the previously approved, 2007 Oak Tree Report. All of the valley oaks surveyed and 153 of the coast live oaks have a DBH of two inches or greater and are protected under the City of Calabasas Oak Tree Preservation and Protection Guidelines and Section 17.26.070 of the Calabasas Municipal Code. The 51 remaining coast live oaks with a DBH of less than two inches but more than one inch were located and mapped on the Oak Tree Location Map. At the direction of the City Planner, these trees were not surveyed for health and condition evaluations and did not receive tags, but were mapped for reference.

The following 21 oak trees qualify as Heritage Trees based on their trunk diameters: #4, #6, #12, #13, #24, #31, #74, #79, #80, #81, #91, #92, #95, #96, #103, #104, #105, #106, #107, #116, #121, #122, #127, #138, and #148. Four of these, #92, #107, #138, and #148, have grown to Heritage status since 2007.

Three previously inventoried, off-site trees were not located during our updated field work. They were trees #37, 41, and 130. All of these trees were located in the off-site McCoy Creek drainage to the northeast of the project site. Tree #37 was noted as dead in 2007 and trees #41 and #130 were in severe decline at that time.

Two previously inventoried on-site oak trees were found to be dead during our updated inventory. These were trees #102 and#131. Tree #102, a 12-inch diameter tree, was killed by an infestation of boring beetles. Tree #131, a sapling, was in severe decline at the time of the 2007 report and is now fallen dead into the leaf litter.

The full-sized Oak Tree Location Map (back pocket) illustrates the location of the oak trees in and around the proposed development area. A reduced , illustrative, copy of the Oak Tree Location Map is presented on the next page. Appendix I and Appendix IV contain updated field data worksheets and photographs for each inventoried tree, respectively.


Not To Scale
OAK 1.01
Oak Tree Location Map
Village at Calabasas
23500 Park Sorrento Ventures, LLC
Carlberg Associates

IMPACT ANALYSIS

With implementation of the current grading plan for Tentative Tract No. 66208 (dated 01.21.13), 129 of the ordinance-sized oaks would remain unaffected by the proposed project, 28 would sustain permanent encroachment by structures or hardscape, and five (5) would be removed. Two of the five removal trees, #94 and #137, are good candidates for relocation. The two standing dead trees, #102 and #131, should be removed for aesthetic purposes and are not considered removals for the project. The three off-site trees that are no longer present are included in the table for comparison to the 2007 Oak Tree Report, but no action is recommended and they do not figure into the disposition counts for the project. The 51, one-two-inch diameter sapling oak trees would remain unaffected by the proposed project. Table I below summarizes the impacts to the surveyed ordinance-sized oaks.

TABLE I – OAK TREE SURVEY & IMPACT SUMMARY

Tree #	Botanical Name (*Q. = Quercus*)	Common Name	Overall Grade	Impact Status	Reason for Impact
1	*Q. agrifolia*	Coast live oak	B-	Remain	none
2	*Q. agrifolia*	Coast live oak	B	Remain	none
3	*Q. agrifolia*	Coast live oak	C	Remain	none
4(H)	*Q. agrifolia*	Coast live oak	B+	Remain	none
5	*Q. agrifolia*	Coast live oak	B	Remain	none
6(H)	*Q. agrifolia*	Coast live oak	B+	Remain	none
7	*Q. agrifolia*	Coast live oak	C-	Remain	none
8	*Q. agrifolia*	Coast live oak	D	Remain	none
9	*Q. agrifolia*	Coast live oak	C-	Remain	none
10	*Q. agrifolia*	Coast live oak	B	Remain	none
11	*Q. agrifolia*	Coast live oak	C	Remain	none
12(H)	*Q. lobata*	Valley oak	B-	Remain	none
13(H)	*Q. lobata*	Valley oak	B	Remain	none
14	*Q. agrifolia*	Coast live oak	B	Remain	none
15	*Q. agrifolia*	Coast live oak	C-	Remain	none
16	*Q. agrifolia*	Coast live oak	B	Remain	none
17	*Q. agrifolia*	Coast live oak	C+	Remain	none
18	*Q. agrifolia*	Coast live oak	B	Remain	none
19	*Q. agrifolia*	Coast live oak	B-	Remain	none
20	*Q. lobata*	Valley oak	C+	Remain	none
21	*Q. lobata*	Valley oak	C	Remain	none
22	*Q. lobata*	Valley oak	C	Remain	none
23	*Q. lobata*	Valley oak	C	Remain	none
24(H)	*Q. lobata*	Valley oak	B-	Remain	none
25	*Q. lobata*	Valley oak	C-	Remain	none
26	*Q. lobata*	Valley oak	D	Remain	none
27	*Q. agrifolia*	Coast live oak	B-	Remain	none
28	*Q. agrifolia*	Coast live oak	C+	Remain	none

Tree #	Botanical Name (*Q. = Quercus*)	Common Name	Overall Grade	Impact Status	Reason for Impact
29	*Q. agrifolia*	Coast live oak	B-	Remain	none
30	*Q. lobata*	Valley oak	B	Remain	none
31(H)	*Q. lobata*	Valley oak	B-	Remain	none
32	*Q. agrifolia*	Coast live oak	C	Remain	none
33	*Q. agrifolia*	Coast live oak	B-	Remain	none
34	*Q. agrifolia*	Coast live oak	B	Remain	none
35	*Q. agrifolia*	Coast live oak	C	Remain	none
36	*Q. agrifolia*	Coast live oak	B-	Remain	none
37	*Q. lobata*	Valley oak	gone	n/a	none
38	*Q. agrifolia*	Coast live oak	C-	Remain	none
39	*Q. agrifolia*	Coast live oak	C-	Remain	none
40	*Q. agrifolia*	Coast live oak	C-	Remain	none
41	*Q. agrifolia*	Coast live oak	gone	n/a	none
42	*Q. agrifolia*	Coast live oak	C	Remain	none
43	*Q. agrifolia*	Coast live oak	D+	Remain	none
44	*Q. agrifolia*	Coast live oak	C-	Remain	none
45	*Q. agrifolia*	Coast live oak	B-	Remain	none
46	*Q. agrifolia*	Coast live oak	C	Remain	none
47	*Q. agrifolia*	Coast live oak	C+	Remain	none
48	*Q. agrifolia*	Coast live oak	D+	Remain	none
49	*Q. agrifolia*	Coast live oak	B-	Remain	none
50	*Q. agrifolia*	Coast live oak	C-	Remain	none
51	*Q. agrifolia*	Coast live oak	D	Remain	none
52	*Q. agrifolia*	Coast live oak	D	Remain	none
53	*Q. agrifolia*	Coast live oak	C	Remain	none
54	*Q. agrifolia*	Coast live oak	C	Remain	none
55	*Q. agrifolia*	Coast live oak	C	Remain	none
56	*Q. agrifolia*	Coast live oak	C	Remain	none
57	*Q. agrifolia*	Coast live oak	B	Remain	none
58	*Q. agrifolia*	Coast live oak	C+	Remain	none
59	*Q. agrifolia*	Coast live oak	B-	Remain	none
60	*Q. agrifolia*	Coast live oak	C	Remain	none
61	*Q. agrifolia*	Coast live oak	B	Remain	none
62	*Q. agrifolia*	Coast live oak	B	Remain	none
63	*Q. agrifolia*	Coast live oak	D	Remain	none
64	*Q. agrifolia*	Coast live oak	D	Remain	none
65	*Q. agrifolia*	Coast live oak	B	Remain	none
66	*Q. agrifolia*	Coast live oak	C	Remain	none
67	*Q. agrifolia*	Coast live oak	C+	Remain	none
68	*Q. agrifolia*	Coast live oak	B	Remain	none
69	*Q. agrifolia*	Coast live oak	B	Remain	none
70	*Q. agrifolia*	Coast live oak	D+	Remain	none
71	*Q. agrifolia*	Coast live oak	C-	Remain	none
72	*Q. agrifolia*	Coast live oak	C+	Remain	none
73	*Q. agrifolia*	Coast live oak	D	Remain	none

Tree #	Botanical Name (*Q. = Quercus*)	Common Name	Overall Grade	Impact Status	Reason for Impact
74(H)	*Q. agrifolia*	Coast live oak	B-	Encroachment	Grading, Building #3, walkway, and fencing
75	*Q. agrifolia*	Coast live oak	B-	Remain	none
76	*Q. agrifolia*	Coast live oak	B-	Remain	none
77	*Q. agrifolia*	Coast live oak	B	Remain	none
78	*Q. agrifolia*	Coast live oak	B-	Remain	none
79(H)	*Q. agrifolia*	Coast live oak	B	Encroachment	Grading, walkway and fencing for Building #3
80(H)	*Q. agrifolia*	Coast live oak	C	Remain	none
81(H)	*Q. agrifolia*	Coast live oak	C+	Encroachment	Grading, walkway and fencing for Building #3
82	*Q. agrifolia*	Coast live oak	B	Remain	none
83	*Q. agrifolia*	Coast live oak	B	Encroachment	Grading, walkway and fencing for Building #3
84	*Q. agrifolia*	Coast live oak	B-	Encroachment	Grading, walkway and fencing for Building #3
85	*Q. agrifolia*	Coast live oak	B	Encroachment	Grading, walkway and fencing for Building #3
86	*Q. agrifolia*	Coast live oak	C	Encroachment	Grading, walkway and fencing for Building #3
87	*Q. agrifolia*	Coast live oak	B+	**Removal**	Grading for Building no. 3
88	*Q. agrifolia*	Coast live oak	B	Encroachment	Grading, walkway and fencing for Building #3
89	*Q. agrifolia*	Coast live oak	B+	**Removal**	Grading for Building #3
90	*Q. agrifolia*	Coast live oak	B	Encroachment	Grading for Building #3, Walkway and Fence
91(H)	*Q. agrifolia*	Coast live oak	B+	Encroachment	Drive/Fire Lane and Building #3
92(H)	*Q. agrifolia*	Coast live oak	B+	Encroachment	Drive/Fire Lane and Building #3
93	*Q. lobata*	Valley oak	A-	Encroachment	Drive/Fire Lane and Building #3
94	*Q. agrifolia*	Coast live oak	A-	**Removal (relocate)**	Grading and Building #4
95(H)	*Q. agrifolia*	Coast live oak	C+	Encroachment	Property line fencing, grading, walkway, and Building #4
96(H)	*Q. agrifolia*	Coast live oak	C	Remain	none
97	*Q. agrifolia*	Coast live oak	B	Encroachment	Retaining wall, walkway, slope and Building #4
98	*Q. lobata*	Valley oak	C	Encroachment	Retaining wall, walkway, slope and Building #4
99	*Q. agrifolia*	Coast live oak	B	Encroachment	Retaining wall, walkway, slope and Building #4
100	*Q. agrifolia*	Coast live oak	B	Encroachment	Retaining wall, walkway, slope and Building #4
101	*Q. agrifolia*	Coast live oak	B-	**Removal**	Grading for retaining wall, walkway and Building #4
102	*Q. agrifolia*	Coast live oak	F	Dead	n/a
103(H)	*Q. agrifolia*	Coast live oak	B+	Remain	none

Tree #	Botanical Name (*Q. = Quercus*)	Common Name	Overall Grade	Impact Status	Reason for Impact
104(H)	*Q. agrifolia*	Coast live oak	B+	Remain	none
105(H)	*Q. agrifolia*	Coast live oak	B-	Remain	none
106(H)	*Q. agrifolia*	Coast live oak	B	Remain	none
107(H)	*Q. agrifolia*	Coast live oak	C+	Remain	none
108	*Q. agrifolia*	Coast live oak	B-	Remain	none
109	*Q. agrifolia*	Coast live oak	C	Remain	none
110	*Q. agrifolia*	Coast live oak	B+	Remain	none
111	*Q. agrifolia*	Coast live oak	C+	Remain	none
112	*Q. agrifolia*	Coast live oak	C-	Remain	none
113	*Q. agrifolia*	Coast live oak	B	Remain	none
114	*Q. agrifolia*	Coast live oak	C	Remain	none
115	*Q. agrifolia*	Coast live oak	C+	Remain	none
116(H)	*Q. agrifolia*	Coast live oak	B+	Remain	none
117	*Q. agrifolia*	Coast live oak	B	Remain	none
118	*Q. agrifolia*	Coast live oak	B	Remain	none
119	*Q. agrifolia*	Coast live oak	A-	Remain	none
120	*Q. agrifolia*	Coast live oak	B+	Remain	none
121(H)	*Q. agrifolia*	Coast live oak	A-	Remain	none
122(H)	*Q. agrifolia*	Coast live oak	B+	Remain	none
123	*Q. agrifolia*	Coast live oak	B	Remain	none
124	*Q. agrifolia*	Coast live oak	C	Remain	none
125	*Q. agrifolia*	Coast live oak	B	Remain	none
126	*Q. agrifolia*	Coast live oak	B+	Remain	none
127(H)	*Q. agrifolia*	Coast live oak	B	Remain	none
128	*Q. agrifolia*	Coast live oak	B+	Remain	none
129	*Q. agrifolia*	Coast live oak	B+	Remain	none
130	*Q. agrifolia*	Coast live oak	gone	n/a	n/a
131	*Q. agrifolia*	Coast live oak	F	Dead	n/a
132	*Q. agrifolia*	Coast live oak	C	Remain	none
133	*Q. agrifolia*	Coast live oak	D	Remain	none
134	*Q. agrifolia*	Coast live oak	B	Encroachment	New driveway
135	*Q. agrifolia*	Coast live oak	B	Remain	none
136	*Q. agrifolia*	Coast live oak	B	Remain	none
137	*Q. agrifolia*	Coast live oak	B	**Removal (relocate)**	Building no. 8
138(H)	*Q. agrifolia*	Coast live oak	B	Remain	none
139	*Q. agrifolia*	Coast live oak	B+	Remain	none
140	*Q. agrifolia*	Coast live oak	A	Remain	none
141	*Q. agrifolia*	Coast live oak	B+	Remain	none
142	*Q. agrifolia*	Coast live oak	C	Remain	none
143	*Q. agrifolia*	Coast live oak	B	Encroachment	Slope
144	*Q. agrifolia*	Coast live oak	B	Encroachment	Slope
145	*Q. agrifolia*	Coast live oak	B	Encroachment	Fencing
146	*Q. agrifolia*	Coast live oak	A	Encroachment	Fencing
147	*Q. agrifolia*	Coast live oak	B	Remain	none

Tree #	Botanical Name (*Q. = Quercus*)	Common Name	Overall Grade	Impact Status	Reason for Impact
148(H)	*Q. agrifolia*	Coast live oak	B	Encroachment	Retaining wall
149	*Q. agrifolia*	Coast live oak	A	Encroachment	Retaining wall
150	*Q. agrifolia*	Coast live oak	A	Encroachment	Retaining wall
151	*Q. agrifolia*	Coast live oak	A	Encroachment	Retaining wall
152	*Q. agrifolia*	Coast live oak	C-	Encroachment	Retaining wall
153	*Q. agrifolia*	Coast live oak	C	Remain	none
154	*Q. agrifolia*	Coast live oak	B	Remain	none
155	*Q. agrifolia*	Coast live oak	C	Remain	none
156	*Q. agrifolia*	Coast live oak	C	Remain	none
157	*Q. agrifolia*	Coast live oak	B	Remain	none
158	*Q. agrifolia*	Coast live oak	B	Remain	none
159	*Q. agrifolia*	Coast live oak	B	Remain	none
160	*Q. agrifolia*	Coast live oak	B	Remain	none
161	*Q. agrifolia*	Coast live oak	B	Remain	none
162	*Q. agrifolia*	Coast live oak	B	Remain	none
163	*Q. agrifolia*	Coast live oak	B	Remain	none
164	*Q. agrifolia*	Coast live oak	B	Remain	none
165	*Q. agrifolia*	Coast live oak	C	Remain	none
166	*Q. agrifolia*	Coast live oak	B	Remain	none
167	*Q. agrifolia*	Coast live oak	B	Encroachment	Retaining wall

A full-sized copy of the Oak Tree Location and Impact Map is enclosed in a back pocket of this report. Cross-sections for the proposed encroachment trees closest to the development envelope are illustrated in Appendix II. Value assessments using the City-required PRC method for each ordinance-sized tree are included in Appendix III. Encroachments to Heritage trees and some of the other prominent oak trees are discussed in more detail below.

Removals

Implementation of the revised project will result in the removal of five (5) protected oak trees; Trees #87, #89, #94, #101, and #137. None of the proposed removals are Heritage trees and all have DBHs of 15- inches or less. The combined canopy area of these trees is approximately 2,131 square feet.

Proposed Encroachment and Treatment for Oak Tree #74

Tree #74 – Existing

Oak Tree #74 is classified as a Heritage tree with two trunks measuring 27.5 and 36 inches in diameter. Under existing conditions, the protected zone is encroached upon by a 12-inch storm drain line, outlet and a concrete spillway, as well as the northern end of the concrete lined portion of the McCoy Creek crossing and embankment. This tree has been cabled and braced in the past, and several of the cables are in disrepair or have failed altogether.

Tree #74 – Proposed

Proposed Building #3, a four-story residential building with at-grade parking and a concrete perimeter walkway with tubular steel fencing will be located approximately 50 feet to the west of Tree 74's trunk. At its farthest point, the canopy of this tree extends about 67 feet to the west. The storm drain, outlet and spillway are proposed to remain in the same configuration with updated materials. Proposed grades and the building footprint have been designed to minimize impacts to this tree. However, some grading will occur within the westerly protected zone and clearance and weight-reduction pruning on the westerly lateral limbs will be necessary for the development. Given its prominence in the landscape, weight-reduction and deadwood pruning is recommended throughout this tree. The need for replacement cabling and a second brace should be investigated further after the weight-reduction pruning has occurred.

Existing vs. Proposed Encroachments for Oak Tree #81

Tree #81 – Existing

This 64-inch DBH Heritage oak is located approximately 20 feet downslope from the existing easterly service driveway for the Calabasas Inn. Under existing conditions, the farthest portion of the canopy extends 36 feet to the west and is not encroached upon by the driveway. However, the driveway encroaches approximately 10-12 feet into the protected zone on the west side of the tree.

Tree #81 - Proposed

Building #3 and the associated walkway and fencing will be located approximately 28 feet (horizontally) to the west of this tree. Several feet of cut will be required for construction of the building and hardscape. Root pruning is not anticipated due to the grade differential, but minor outer-canopy pruning will be required for the walkway. With implementation of the proposed project, approximately 24-feet of encroachment into the protected zone and about 10 feet into the canopy area will occur.

Existing vs. Proposed Encroachments for Oak Trees #91, 92 & 93

A system of concrete walkways provide access around the grounds on the east side of the existing building. The walkways vary in width from eight to twelve feet and converge around these three oaks. Irrigated ornamental landscaping and turf occupy the areas not currently covered with paved walkways and building.

Tree #91 – Existing

This oak is classified as a Heritage tree by virtue of its two trunks that cumulatively equal more than 24 inches in diameter at breast height. Under existing conditions, the protected zone is encroached upon by the Calabasas Inn building to the west and multiple concrete walkways on the east side of the building that surround this tree. The existing building is located approximately 25 feet west of the trunk. The canopy does not physically overhang the existing building.

Tree #91 - Proposed

Building #3 will be located approximately 20 feet to the north of this tree. Building #4 will be located approximately 60 feet south of this tree. Concrete walk ways, parking areas and fire lanes are proposed within the protected zone on all four sides of this tree. A bocce ball court is proposed immediately to east of this tree. Root pruning and canopy pruning will be required. With implementation of the proposed project, the overall hardscape encroachment area in the root zone and actual canopy area will be increased.

Tree #92 – Existing

This is a newly designated Heritage tree with a DBH of 24 inches. Under existing conditions, the physical canopy of this oak is encroached upon by the Calabasas Inn building and the concrete walkways on the east side of the building. The existing building physically encroaches approximately five feet into the dripline on the west side of the tree. Approximately 100 square feet of canopy area extends above the existing building. The existing building is located approximately 30 feet west of the tree trunk.

Tree #92 - Proposed

Building #3 will be located approximately 30 feet to the north of this tree. Building #4 will be located approximately 55 feet south of this tree. Concrete walk ways, parking areas and fire lanes are proposed within the protected zone on all four sides of this tree. A bocce ball court is proposed immediately to east of this tree. Root pruning and canopy pruning will be required. With implementation of the proposed project, the overall hardscape encroachment area in the root zone and actual canopy area will be increased.

Tree #93 – Existing

Under existing conditions, the physical canopy of this oak is encroached upon by the Calabasas Inn building and the concrete walkways on the east side of the building. The existing building physically encroaches approximately 10 feet into the dripline on the west side of the tree. Approximately 150 square feet of canopy area extends above the existing building. The trunk is located approximately 12 feet from the existing building.

Tree #93 - Proposed

Building #3 will be located approximately 38 feet to the north of this tree. Building #4 will be located approximately 60 feet south of this tree. Concrete walk ways, parking areas and fire lanes are proposed within the protected zone on all four sides of this tree. A bocce ball court is proposed immediately to east of this tree. Root pruning and canopy pruning will be required. With implementation of the proposed project, the overall encroachment area to the root zone and actual canopy area will be increased.

Existing vs. Proposed Encroachments for Oak Trees #95 through #100

Trees #95 – #100 – Existing

Trees #95 and #96 are Heritage trees. Tree #98 has a trunk DBH of 19 inches and Trees #97, #99 and #100 have DBH's of 5-inches or less. Tree #95 has a trunk diameter of 60 inches and Tree #96 has two trunks, 13 and 15-inches in diameter. They are located in the southwestern portion of the site, immediately adjacent to an existing 2-story office building and the existing Calabasas Inn. These trees sit at the bottom of a u-shaped slope that was created when the office building and the Calabasas Inn were originally developed. The Heritage trees' protected zones extend over the landscaped slopes of the office building and the embankment that ascends to the Calabasas Inn.

Trees #95 – 100 - Proposed

Implementation of the proposed project will result in encroachments to the protected zones of these trees through the construction of Building #4, the eastern portion of a retaining wall, a small fill slope, a concrete walkway, and a steel-tube property line fence. The base of the retaining wall will be located upslope and to the north, northeast of the trees. Fill is proposed north of the retaining wall to build the pad for Building #4. The walkway will run east-west along the top of the retaining wall and steel tube fencing will line to top of the wall. Due to the orientation and height of the canopies of these trees, it is anticipated that only minor, if any, canopy pruning will be required for clearance. Root pruning may be required for the retaining wall and steel tubing fences, but it is expected to be minor due to the grade differentials and the small stature of the trees closest to the physical encroachments.

Existing vs. Proposed Encroachments for Oak Tree #148

Tree #148 – Existing

Tree #148 is a 24-inch diameter Heritage coast live oak that was moved to its current location in the off-site landscape planter at the southwest corner of the Calabasas Inn property when the adjacent office buildings were developed. It has thrived in this location. It sits immediately east of an office building and is surrounded by landscape material. The landscape planter runs along the southwestern boundary of the Calabasas Inn property and slope gently up from the existing driveway curb to the office building. This tree sits approximately 1.5 – 2 feet above the existing Calabasas Inn Driveway.

Tree #148 – Proposed

A parking lot and Building #5 are proposed east of this tree. The retaining wall that will form the western boundary of the parking lot will be located approximately nine feet east of Tree #148. Building #5 is proposed farther to the east and outside of the 50-foot protected zone for this tree. Due to the proximity of the trunk, the need for root pruning is anticipated. However, given the distance and grade differential, significant impacts to structural roots are not anticipated. Given that this tree has a high canopy on the east and northeast sides, and the distance to the proposed building, no canopy pruning is anticipated.

MITIGATION RECOMMENDATIONS

General mitigation recommendations for the loss of five (5) oak trees onsite are outlined below under the subtitle "Removal Trees." Recommendations for management of the preserved oak trees during construction are outlined under the subtitle "Preservation Trees." Mitigation recommendations were developed through the application of conditions in the City's ordinance. General maintenance guidelines for preserved and mitigation trees follows under the heading "Oak Tree Management & Preservation Guidelines."

If feasible, the proposed removal trees should be boxed and transplanted to an appropriate open space onsite. All of the removal trees (87, 89, 94, 101, 137) have a DBH of 15 inches or less, are in good conditions, and should be considered for relocation.

The preserved oaks that line the stream course onsite will benefit from minor enhancements including the removal of trash, a large ornamental palm, and other nonnative vegetation. The removal of natural plant detritus (e.g. fallen branches, dead tree trunks, leaf litter) is not necessary or recommended because it contributes to the habitat value of the riparian ecosystem.

Removal Trees

In order to offset the loss of five oak trees, it is recommended that the applicant be responsible for the mitigation measures listed below which are in accordance with the Calabasas Oak Tree Preservation and Protection Guidelines and Section 17.26.070 of the Calabasas Municipal Code (attached).

1. Plant replacement oak trees onsite to replace each inch of tree, limb, or root removed at a 1:1 ratio. The diameters of the eleven removal trees total 64 inches. The diameter in inches of the limbs and roots that will be removed for encroachments cannot be estimated at this time, but they shall be measured prior to removal and included in the total inches in diameter required for the replacement trees. The mitigation requirements include but are not limited to the following:
    a. Replacement trees shall consist of Coast Live Oak *(Q. agrifolia)* trees and Valley Oak (*Q. lobata*) trees that have been raised at a nursery which harvests acorns from local oak trees.
    b. The size and quality of the replacement trees shall be consistent with the specifications outlined in Section VIII.7.A-C of the Oak Tree Preservation and Protection Guidelines. Small (5 gallon) oak trees shall be utilized whenever possible. Every attempt shall be made to acquire trees grown from local acorns.
    c. Inch for inch replacement shall correspond to the species that was impacted. For example, if ten inches in total diameter of branch and root were cut from a valley oak, then at least ten inches of valley oak saplings (cumulative diameter) shall be planted as replacement.

d. Replacement trees shall be planted in accordance with the procedures established in Section VIII.7.D of the Oak Tree Preservation and Protection Guidelines.

2. Every attempt will be made to complete the mitigation for loss of oaks onsite. However, if it is not feasible to replace trees at a 1:1 replacement ratio for each inch of trunk, root, or limb to be removed either on or offsite, then the total replacement cost of the mitigation trees shall equal the cost of the replacement value associated with the removal tree as determined by Production Replacement Cost (PRC) Method devised by arborist Alden Kelley. The PRC values for the surveyed oak trees are included as Appendix III of this report.

3. Replacement trees shall be planted onsite in the areas proposed for open space and/or in the restoration areas of the project that exhibit conditions favorable for oak growth. If this is not feasible, then the oaks shall be planted on a city-approved offsite property.

4. Oak trees which are approved for relocation will be considered removals by the City and require appropriate replacement mitigation (Section VIII.9.A, Oak Tree Preservation and Protection Guidelines) in addition to their relocation.

5. The applicant shall be responsible for the monitoring and maintenance of the replacement and relocated trees for a minimum of five years. If any replacement or relocated tree(s) die during the five-year period, the applicant shall plant new replacement trees and the five-year monitoring period shall begin again from the date of planting for the replacement oak.

6. Monitoring of both replacement trees and relocation trees will be conducted during all grading and construction activities. Following construction, monitoring will be conducted at least at quarterly intervals for the first three years, and will continue bi-annually for the next two years, or more if warranted.

7. Monitoring of relocated trees will commence at least three months prior to any encroachment or grading activities so as to provide important baseline information used to assess the changes in the tree following transplantation.

8. Success criteria for replacement and relocation trees will be based on the success standards set forth in Section VIII.10 of the Oak Tree Preservation and Protection Guidelines.

9. Unless waived by the City, a refundable security deposit, in an equal amount to the PRC value of the trees plus the cost of planting and possible replacement, shall be deposited in trust with the City of Calabasas (prior to the issuance of the oak tree permit) to guarantee the implementation of successful replacement. The deposit shall be refunded upon satisfactory completion of the

mitigation requirements at the conclusion of the 5-year monitoring period (refer to Section VIII.9.B).

10. A mitigation planting and relocation plan shall be prepared and submitted for approval City prior to project commencement (i.e., grading permit). The plan shall include a relocation feasibility report prepared by an oak relocation specialist.

Preservation Trees

Special care must be taken during grading and construction to protect the preserved trees onsite and their immediate environment. Implementation of the following measures will ensure that the preserved trees will not be adversely affected by project development.

11. The bocce ball court that is currently proposed within the protected zones of Trees #91, #92, and #93 should be relocated outside of the protected zone of any oak tree to remain.

12. The applicant shall be responsible for notifying the City's Oak Tree Specialist and the project's consulting Arborist of any changes in the scope of the work and shall insure that all work is performed in accordance with applicable ordinances, permits and procedures. Work performed within the protected zones of the trees shall be preceded by not less than 48-hours' notice of same to the City's Oak Tree Specialist and the project's oak tree monitor (certified arborist).

13. Grading or trenching work in the protected zone of the trees approved for encroachment must be done using hand implements only; the use of mechanized tools is prohibited except where absolutely necessary (see #3 below). All work conducted within the protected zone of the oak trees shall be performed in the presence of a certified arborist. The protected zone shall commence from a point five (5) feet outside of the dripline and extend inwards to the trunk of the tree. In no case shall the protected zone be less than fifteen (15) feet from the trunk of an oak tree. For trees with a DBH of 24 inches or greater, in no case shall the protected zone be less than fifty (50) feet from the trunk of the oak tree. Monitoring of the work by a consulting arborist is subject to inspection and approval by the City's Oak Tree Specialist and shall not relieve the Contractor of the obligation to fulfill all of these conditions.

14. Where absolutely necessary **and as approved by the City's Oak Tree Specialist**, limited mechanized equipment may be used as follows: a rubber-tired excavator or larger mechanized equipment may be set up outside of the PZ of the trees and can reach in under the canopies to avoid damage to the overhanging limbs. All roots pruned shall consist of clean, 90º-angle cuts and shall not be sealed unless directed by the monitoring Arborist or the City's Oak Tree Specialist. Major roots (2" or greater in diameter) that must be removed should be cut back to the

nearest lateral root where feasible. All work conducted within the protected zone of the oak trees shall be performed in the presence of a certified arborist or other City-approved oak tree monitor.

15. Removal of the natural leaf mulch within the protected zone of the project oak trees is prohibited except where absolutely necessary for encroachment.

16. Upon completion of the work associated with this permit, a four to six-inch layer of certified mulch shall be placed around the protected zone of the encroachment trees. Where feasible, the native leaf litter should be retained and used as the mulching material.

17. Any canopy pruning for structural or clearance purposes, including dead-wooding, shall be performed by or under the direction of a certified arborist in compliance with the latest ANSI pruning standards. Smaller limbs should be tied back out of the way to avoid unnecessary pruning for equipment clearance.

18. Equipment, materials, and vehicles shall not be stored, parked or operated within the protected zone of an oak tree, except on the already improved road base for work that is being performed at the time in the immediate vicinity or as outlined in #13 above.

19. Prior to commencement of grading operations, the applicant or his representative shall provide the City with a copy of the fencing plan for the oak trees to be preserved onsite.

20. A minimum five (5) foot high chain link fence in concrete footings with posts installed every eight (8) feet and two (2) feet deep into the natural grade will be required to be installed at the outermost edge of the protected zone of each oak tree or group of trees. Exceptions to this policy may occur in cases where oak trees are located on slopes that will not be grubbed or graded, or are located in areas where there is no activity planned or no currently approved grading plan.

21. All work conducted within the protected zone of the oak trees shall verified by the City's oak tree consultant at the conclusion of the project. A certification letter is required for all work conducted upon oak trees and shall be submitted within 10 working days after completion of work certifying that all of the work was conducted in accordance with the appropriate permits and the requirements of the Calabasas oak tree protection guidelines.

22. If the fence is required, signs (minimum 2'x2') must be installed on the fence in four equidistant locations around the tree and must contain the following statement:

WARNING - THIS FENCE IS FOR THE PROTECTION OF THIS TREE AND SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF CALABASAS.

23. The fence shall remain in place throughout the entire construction period and may not be removed without obtaining written authorization from the City.

24. Trees that have had their roots or limbs pruned for grading purposes will be monitored at least at quarterly intervals for the first three years following construction, and will continue bi-annually for the next two years, or more if warranted. If an encroached oak tree should fail as a result of the proposed project during the five-year monitoring period, then the tree shall be replaced according to the standards described in this report.
25. Any existing concrete walkways shall be removed where no new development is proposed to reduce the effects of existing encroachments into the protected zones of oaks. The exposed areas within the protected zones will be replaced with natural leaf litter and mulch as directed in measure #19 of this section.

OAK TREE MANAGEMENT & PRESERVATION GUIDELINES

An important component of oak tree management and preservation relates to the management of the preserved and newly-planted mitigation trees during construction and after the development is in place. Oak trees are sensitive to changes in their environment and improper irrigation, soil compaction and/or disturbances to the roots can result in the decline in health and eventual loss of the tree. The following guidelines are recommended to successfully maintain preserved and mitigation trees during and after project implementation.

- Irrigation - Established oaks are adapted to xeric (dry) conditions and do not need summer water at all. However, turf areas associated with landscaping do require frequent irrigation. Excessive dry season irrigation within the drip line of existing trees will promote the growth of Oak Root Fungus (*Armillaria mellea*). This fungus occurs naturally and grows more rapidly under wet conditions, such as during the winter months. Under normal conditions, the subsequent dry season keeps the fungus under control. Moisture around the base of the tree in the warm summer season not only allows the fungus to survive, but the combination of warmth and extra moisture fosters fungus growth. Prolonged fungus attack promotes oak tree decline and eventual death. Supplemental irrigation should only be considered during periods of prolonged drought. Therefore, turf areas and associated irrigation systems should be planned so as not to encroach within the dripline of an existing oak tree. Water should

never be allowed to spray onto the trunk of an oak tree. Oak leaf litter should be allowed to accumulate in the area directly under a protected tree.

- Establishment irrigation - Young oak trees often need initial irrigation to establish successfully after planting. Irrigation for replacement trees shall follow the schedule described in Section VIII.7.D of the Oak Tree Preservation and Protection Guidelines unless otherwise approved by the City's oak tree specialist.
- Fencing - As previously indicated, the area surrounding the dripline of established trees shall be fenced for the duration of construction. Fencing shall be no closer than 5 feet to the outer drip line boundary or 15 feet to the trunk of any protected tree.
- Drainage - Natural drainage courses and natural grades around existing oak trees should not be altered. Surface runoff from adjacent areas shall be directed away from preservation areas and shall not increase runoff to those areas. Water shall not be allowed to pond or accumulate within the drip line of any oak tree.
- Pruning - Existing oak trees shall not be pruned, except as necessary for public health and safety. Pruning of live tissue over two inches (2") in diameter requires an Oak Tree Permit. Removal of dead wood is exempt from the requirement to obtain a permit.
- Fuel Modification - All fuel modification requirements such as selective clearing, pruning, and wet zones shall be limited within the drip line of any individual oak tree.
- Weed Control - Use of soil sterilizers shall be prohibited under and around existing oak trees. Sterilizers may leach into the root system and kill the tree. Use of pre-emergent weed killers shall be prohibited within 100 feet of any individual oak tree or within a natural drainage that seasonally irrigates oak trees.
- Revegetation Near Existing Oaks - All cut and fill slopes adjacent to the existing oak trees shall be vegetated with native species that require little water to become established and little or no irrigation once established.
- Other Considerations - Dust that accumulates on the foliage of the preserved oak tree due to nearby construction should be periodically hosed off as recommended by the project's consulting arborist.

CERTIFICATE OF PERFORMANCE

I, Christine Cuba, certify:

- That I have personally inspected the tree(s) and/or the property referred to in this report, and have stated my findings accurately. The extent of the evaluation and appraisal is stated in the attached report;
- That I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions, and conclusions stated herein are my own;
- That my analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices;
- That no one provided significant professional assistance to the consultant, except as indicated within the report;
- That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party.

I further certify that I am a member of the American Society of Consulting Arborists, and that I acknowledge, accept, and adhere to the ASCA Standards of Professional Practice. I am an International Society of Arboriculture Certified Arborist and Tree Risk Assessor and have been involved in the practice of arboriculture and the study of trees for over twenty years.

Signed:

Date: January 25, 2013

ARBORIST DISCLOSURE STATEMENT

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Trees can be managed, but they cannot be controlled with absolute predictability, despite even extraordinarily prudent efforts.

No arborist can guarantee that trees will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Trees contribute greatly to our enjoyment and appreciation of life. Nonetheless, they are subject to the laws of gravity and physiological decline. Therefore, neither arborists nor tree owners can be reasonably expected to warrant unfailing predictability or elimination of risk.

APPENDIX I

INDIVIDUAL OAK TREE WORKSHEETS

APPENDIX II

ENCROACHMENT TREES' CROSS-SECTIONS

APPENDIX III

OAK TREE PRC VALUE ASSESSMENTS

APPENDIX IV

OAK TREE PHOTO EXHIBIT

APPENDIX V

CITY OF CALABASAS
OAK TREE PRESERVATION &
PROTECTION GUIDELINES

APPENDIX VI

RESUME OF THE CONSULTING ARBORIST

OAK TREE LOCATION MAP

(FULL SIZE BOND COPY – POCKET)

OAK TREE LOCATION AND IMPACT MAP

(FULL SIZE BOND COPY – POCKET)

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 1

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[1]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11, 5.5			**Crown Class**[2]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[3]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B - ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	13	23	**Foliage Density:**	☒ Normal ☐ Sparse
NE	12	25	**Weak crotches:**	☒ No ☐ Yes
E	15	25	**Oak Pit Scale:**	☐ No ☐ Yes
SE	15	30	**Mainstem dieback:**	☒ No ☐ Yes
S	8	30	**Exposed Roots:**	☒ No ☐ Yes
SW	10	32	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	18	30	**Shading Out:**	☐ No ☒ Yes
NW	17	32	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 21x32			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Growth cracks, Photo 3428, Replace tag

[1] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[2] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[3] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 2

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[1]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 50			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 19.5			**Crown Class**[2]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[3]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☒ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	35	15	**Foliage Density:**	☒ Normal ☐ Sparse
NE	20	20	**Weak crotches:**	☒ No ☐ Yes
E	20	40	**Oak Pit Scale:**	☐ No ☐ Yes
SE	20	40	**Mainstem dieback:**	☒ No ☐ Yes
S	9	35	**Exposed Roots:**	☒ No ☐ Yes
SW	6	17	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	6	15	**Shading Out:**	☐ No ☒ Yes
NW	38	15	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 44x26			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Replace tag, Photo 3429, Hangs over Park Sorento

[1] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[2] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[3] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 3

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[4]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 32			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7.5			**Crown Class**[5]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 35			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[6]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	18	32	**Foliage Density:**	☐ Normal ☒ Sparse
NE	10	33	**Weak crotches:**	☒ No ☐ Yes
E	5	35	**Oak Pit Scale:**	☐ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	4	15	**Exposed Roots:**	☒ No ☐ Yes
SW	5	25	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	8	10	**Shading Out:**	☐ No ☒ Yes
NW	14	20	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 22x13			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Photo 3430, Major shading out

[4] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[5] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[6] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 4

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[7]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 60			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 26			**Crown Class**[8]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[9]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	37	25	**Foliage Density:**	☒ Normal ☐ Sparse
NE	40	23	**Weak crotches:**	☒ No ☐ Yes
E	18	13	**Oak Pit Scale:**	☐ No ☐ Yes
SE	19	40	**Mainstem dieback:**	☒ No ☐ Yes
S	17	42	**Exposed Roots:**	☒ No ☐ Yes
SW	17	20	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	29	30	**Shading Out:**	☒ No ☐ Yes
NW	29	40	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 54x47			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[7] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[8] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[9] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 5

GENERAL CHARACTERISTICS			**Condition Rating:** 60	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[10]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 45			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 21			**Crown Class**[11]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[12]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	22	20	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☐ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	6	5	**Exposed Roots:**	☒ No ☐ Yes
SW	15	35	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	42	35	**Shading Out:**	☐ No ☒ Yes
NW	36	15	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 28x42			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Retag

[10] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[11] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[12] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 6

GENERAL CHARACTERISTICS			**Condition Rating:** 80%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[13]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 65			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 29			**Crown Class**[14]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[15]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	21	20	**Foliage Density:**	☒ Normal ☐ Sparse
NE	22	23	**Weak crotches:**	☒ No ☐ Yes
E	25	20	**Oak Pit Scale:**	☐ No ☐ Yes
SE	33	15	**Mainstem dieback:**	☒ No ☐ Yes
S	42	20	**Exposed Roots:**	☒ No ☐ Yes
SW	43	25	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	24	30	**Shading Out:**	☐ No ☒ Yes
NW	23	18	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 63x49			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Retag

[13] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[14] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[15] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 7

GENERAL CHARACTERISTICS			**Condition Rating:** 25%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[16]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7			**Crown Class**[17]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[18]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	6	15	**Foliage Density:**	☒ Normal ☐ Sparse
NE	6	24	**Weak crotches:**	☒ No ☐ Yes
E	10	24	**Oak Pit Scale:**	☐ No ☐ Yes
SE	10	20	**Mainstem dieback:**	☒ No ☐ Yes
S	10	20	**Exposed Roots:**	☐ No ☒ Yes
SW	4	15	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	4	16	**Shading Out:**	☐ No ☒ Yes
NW	6	16	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 16x14			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Replace tag, 3434 photo

[16] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[17] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[18] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 8

GENERAL CHARACTERISTICS			**Condition Rating:** 25%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[19]**:** ☐ A ☐ B ☐ C ☒ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 15			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3			**Crown Class**[20]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 25			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[21]**:** ☐ A ☐ B ☐ C ☒ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	3	18	**Foliage Density:**	☐ Normal ☒ Sparse
NE	4	14	**Weak crotches:**	☒ No ☐ Yes
E	3	14	**Oak Pit Scale:**	☐ No ☐ Yes
SE	4	10	**Mainstem dieback:**	☒ No ☐ Yes
S	6	5	**Exposed Roots:**	☐ No ☒ Yes
SW	5	5	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	5	3	**Shading Out:**	☐ No ☒ Yes
NW	4	3	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 9x8			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Small oak growing beside, wrapping around slightly dying out 1.5", 3435 photo

[19] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[20] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[21] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 9

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[22]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 36			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6			**Crown Class**[23]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[24]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	15	**Foliage Density:**	☐ Normal ☒ Sparse
NE	5	15	**Weak crotches:**	☒ No ☐ Yes
E	8	15	**Oak Pit Scale:**	☒ No ☐ Yes
SE	10	12	**Mainstem dieback:**	☒ No ☐ Yes
S	10	8	**Exposed Roots:**	☒ No ☐ Yes
SW	8	7	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	3	12	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 10x11			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Replace tag

[22] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[23] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[24] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 10

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[25]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 60			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 20			**Crown Class**[26]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 90			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[27]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	10	22	**Foliage Density:**	☒ Normal ☐ Sparse
NE	18	30	**Weak crotches:**	☒ No ☐ Yes
E	25	40	**Oak Pit Scale:**	☒ No ☐ Yes
SE	35	45	**Mainstem dieback:**	☒ No ☐ Yes
S	40	55	**Exposed Roots:**	☒ No ☐ Yes
SW	25	50	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	20	40	**Shading Out:**	☐ No ☒ Yes
NW	20	35	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 50x45			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Replace tag

[25] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[26] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[27] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 11

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[28]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 25			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7			**Crown Class**[29]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[30]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	12	20	**Foliage Density:**	☒ Normal ☐ Sparse
NE	16	20	**Weak crotches:**	☒ No ☐ Yes
E	22	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	10	18	**Mainstem dieback:**	☒ No ☐ Yes
S	6	10	**Exposed Roots:**	☐ No ☒ Yes
SW	6	4	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	10	4	**Shading Out:**	☐ No ☒ Yes
NW	12	2	**Cavities:** ☐ None	☒ Trunk ☒ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 18x32			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Photo 3438

[28] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[29] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[30] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 12

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[31]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 65			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 29			**Crown Class**[32]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[33]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	35	45	**Foliage Density:**	☒ Normal ☐ Sparse
NE	30	50	**Weak crotches:**	☒ No ☐ Yes
E	30	40	**Oak Pit Scale:**	☒ No ☐ Yes
SE	25	45	**Mainstem dieback:**	☒ No ☐ Yes
S	20	45	**Exposed Roots:**	☐ No ☒ Yes
SW	25	35	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	25	30	**Shading Out:**	☐ No ☒ Yes
NW	35	30	**Cavities:** ☐ None	☐ Trunk ☒ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 55x55			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Replace tag, Photo 3439, Heart Rot Minor

[31] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[32] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[33] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 13

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[34]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 60			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 36			**Crown Class**[35]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[36]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	40	55	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	50	55	**Weak crotches:**	☒ No ☐ Yes
E	40	50	**Oak Pit Scale:**	☒ No ☐ Yes
SE	45	50	**Mainstem dieback:**	☒ No ☐ Yes
S	50	40	**Exposed Roots:**	☒ No ☒ Yes
SW	45	35	**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☒ Exten
W	45	10	**Shading Out:**	☐ No ☒ Yes
NW	45	10	**Cavities:** ☐ None	☐ Trunk ☒ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 90x85			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Retag, Photo 3440, Heart Rot Minor

[34] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[35] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[36] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 14

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[37]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 38			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 10			**Crown Class**[38]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 85			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[39]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	11	22	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	10	16	**Weak crotches:**	☒ No ☐ Yes
E	8	10	**Oak Pit Scale:**	☒ No ☐ Yes
SE	10	20	**Mainstem dieback:**	☒ No ☐ Yes
S	10	20	**Exposed Roots:**	☒ No ☐ Yes
SW	9	26	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	12	10	**Shading Out:**	☐ No ☒ Yes
NW	10	29	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 21x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Retag

[37] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[38] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[39] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 15

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[40]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5.5			**Crown Class**[41]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[42]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	8	8	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	5	8	**Weak crotches:**	☒ No ☐ Yes
E	12	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	20	**Mainstem dieback:**	☒ No ☐ Yes
S	12	12	**Exposed Roots:**	☒ No ☐ Yes
SW	6	10	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	8	6	**Shading Out:**	☐ No ☒ Yes
NW	12	10	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 20x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Heavily shaded out

[40] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[41] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[42] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 16

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[43]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11			**Crown Class**[44]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 90			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[45]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	12	5	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	8	8	**Weak crotches:**	☒ No ☐ Yes
E	8	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	14	1	**Mainstem dieback:**	☒ No ☐ Yes
S	16	20	**Exposed Roots:**	☒ No ☐ Yes
SW	20	18	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	15	18	**Shading Out:**	☐ No ☒ Yes
NW	16	18	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 28x23			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[43] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[44] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[45] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 17

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[46]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 9			**Crown Class**[47]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 85			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[48]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	10	20	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	6	15	**Weak crotches:**	☒ No ☐ Yes
E	6	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	30	**Mainstem dieback:**	☒ No ☐ Yes
S	12	20	**Exposed Roots:**	☒ No ☐ Yes
SW	18	16	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	18	16	**Shading Out:**	☐ No ☒ Yes
NW	22	30	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 22x24			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[46] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[47] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[48] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 18

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[49]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 52			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 12.5			**Crown Class**[50]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[51]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	12	14	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	18	22	**Weak crotches:**	☒ No ☐ Yes
E	25	30	**Oak Pit Scale:**	☒ No ☐ Yes
SE	35	20	**Mainstem dieback:**	☒ No ☐ Yes
S	20	35	**Exposed Roots:**	☐ No ☒ Yes
SW	15	20	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	12	10	**Shading Out:**	☐ No ☒ Yes
NW	8	8	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 32x37			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Over creek

[49] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[50] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[51] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 19

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[52]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 13			**Crown Class**[53]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[54]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☐ None
N	19	20	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	18	30	**Weak crotches:**	☒ No ☐ Yes
E	12	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	20	20	**Mainstem dieback:**	☒ No ☐ Yes
S	18	30	**Exposed Roots:**	☒ No ☐ Yes
SW	10	10	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	8	10	**Shading Out:**	☐ No ☒ Yes
NW	19	30	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 37x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[52] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[53] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[54] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 20

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[55]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 34			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 15			**Crown Class**[56]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[57]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	35	18	**Weak crotches:**	☒ No ☐ Yes
E	40	35	**Oak Pit Scale:**	☒ No ☐ Yes
SE	38	25	**Mainstem dieback:**	☒ No ☐ Yes
S	36	15	**Exposed Roots:**	☐ No ☒ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☐ None	☐ Trunk ☒ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 36x40			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Photo 3446

[55] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[56] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[57] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 21

GENERAL CHARACTERISTICS			**Condition Rating:** 70%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[58]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 50			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 10			**Crown Class**[59]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[60]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	7	30	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	25	30	**Weak crotches:**	☒ No ☐ Yes
E	32	30	**Oak Pit Scale:**	☒ No ☐ Yes
SE	25	16	**Mainstem dieback:**	☒ No ☐ Yes
S	24	7	**Exposed Roots:**	☐ No ☒ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 31x32			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[58] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[59] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[60] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 22

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[61]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 8.5			**Crown Class**[62]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[63]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	14	20	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	22	22	**Weak crotches:**	☒ No ☐ Yes
E	25	14	**Oak Pit Scale:**	☒ No ☐ Yes
SE	26	15	**Mainstem dieback:**	☒ No ☐ Yes
S	21	10	**Exposed Roots:**	☐ No ☒ Yes
SW	10	20	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 35x25			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[61] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[62] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[63] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 23

GENERAL CHARACTERISTICS			**Condition Rating:** 70%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[64]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 9			**Crown Class**[65]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[66]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N			**Foliage Density:**	☒ Norma l ☐ Sparse
NE			**Weak crotches:**	☒ No ☐ Yes
E			**Oak Pit Scale:**	☒ No ☐ Yes
SE			**Mainstem dieback:**	☒ No ☐ Yes
S			**Exposed Roots:**	☒ No ☐ Yes
SW			**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W			**Shading Out:**	☐ No ☒ Yes
NW			**Cavities:** ☐ None	☐ Trunk ☒ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):*			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Photo 3451

[64] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[65] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[66] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 24

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[67]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 60			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 25.5			**Crown Class**[68]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[69]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	45	40	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	38	30	**Weak crotches:**	☒ No ☐ Yes
E	36	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	37	18	**Mainstem dieback:**	☒ No ☐ Yes
S	35	35	**Exposed Roots:**	☒ No ☐ Yes
SW	20	40	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	20	50	**Shading Out:**	☐ No ☒ Yes
NW	25	50	**Cavities:** ☐ None	☐ Trunk ☒ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 80x56			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Over stream

[67] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[68] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[69] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 25

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[70]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 13.5			**Crown Class**[71]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[72]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	35	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	30	13	**Mainstem dieback:**	☒ No ☐ Yes
S	25	25	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 25x35			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[70] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[71] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[72] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 26

GENERAL CHARACTERISTICS			**Condition Rating:** 10%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[73]**:** ☐ A ☐ B ☐ C ☒ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 10.5			**Crown Class**[74]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 20			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[75]**:** ☐ A ☐ B ☐ C ☒ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	32	9	**Mainstem dieback:**	☐ No ☒ Yes
S	0	0	**Exposed Roots:**	☐ No ☒ Yes
SW	0	0	**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☒ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☐ None	☒ Trunk ☒ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):*			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Most of the canopy is epicormic growth

[73] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[74] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[75] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 27

GENERAL CHARACTERISTICS			**Condition Rating:** 70%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[76]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 10			**Crown Class**[77]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[78]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	11	14	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	12	17	**Weak crotches:**	☒ No ☐ Yes
E	12	22	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	21	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☐ No ☒ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	6	20	**Cavities:** ☐ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 11x12			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Photo 3455

[76] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[77] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[78] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 28

GENERAL CHARACTERISTICS			**Condition Rating:** 70%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[79]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 60			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 20			**Crown Class**[80]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[81]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	32	15	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	37	14	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☐ No ☒ Yes
SW	14	40	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	30	40	**Shading Out:**	☐ No ☒ Yes
NW	30	45	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 32x30			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[79] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[80] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[81] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 29

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[82]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 33			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11			**Crown Class**[83]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[84]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	12	8	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	6	8	**Weak crotches:**	☒ No ☐ Yes
E	15	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	12	**Mainstem dieback:**	☒ No ☐ Yes
S	14	10	**Exposed Roots:**	☐ No ☒ Yes
SW	8	14	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	6	18	**Shading Out:**	☐ No ☒ Yes
NW	16	30	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 26x21			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[82] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[83] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[84] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 30

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[85]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 60			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 23			**Crown Class**[86]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[87]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	35	55	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	30	55	**Weak crotches:**	☒ No ☐ Yes
E	22	50	**Oak Pit Scale:**	☒ No ☐ Yes
SE	22	40	**Mainstem dieback:**	☒ No ☐ Yes
S	25	35	**Exposed Roots:**	☐ No ☒ Yes
SW	25	50	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	20	50	**Shading Out:**	☐ No ☒ Yes
NW	15	50	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 60x42			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[85] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[86] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[87] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 31

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[88]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 65			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 28.5			**Crown Class**[89]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[90]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	20	40	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	15	20	**Weak crotches:**	☐ No ☒ Yes
E	15	15	**Oak Pit Scale:**	☒ No ☐ Yes
SE	30	15	**Mainstem dieback:**	☒ No ☐ Yes
S	30	25	**Exposed Roots:**	☐ No ☒ Yes
SW	30	25	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	32	30	**Shading Out:**	☐ No ☒ Yes
NW	30	20	**Cavities:** ☐ None	☒ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 50x47			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Heart rot moderate, basal cavity on west side photo#3459

[88] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[89] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[90] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 32

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[91]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 22			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 8			**Crown Class**[92]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[93]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	22	5	**Oak Pit Scale:**	☒ No ☐ Yes
SE	18	5	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 0x22			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: photo 3260 (R)

[91] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[92] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[93] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 33

GENERAL CHARACTERISTICS			**Condition Rating:** 60%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[94]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☐ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 30			☒ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 9			**Crown Class**[95]**:** ☐ Decurrent ☒ Excurrent		
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☒ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[96]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None		
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse	
NE	0	0	**Weak crotches:**	☒ No ☐ Yes	
E	23	15	**Oak Pit Scale:**	☒ No ☐ Yes	
SE	13	9	**Mainstem dieback:**	☒ No ☐ Yes	
S	0	0	**Exposed Roots:**	☒ No ☐ Yes	
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten	
W	0	0	**Shading Out:**	☐ No ☒ Yes	
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 0x23			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes: Prune for access to driveway near tennis club, photo #3461

[94] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[95] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[96] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 34

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[97]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 50			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 14, 2			**Crown Class**[98]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[99]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	5	20	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	25	18	**Weak crotches:**	☒ No ☐ Yes
E	35	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	35	20	**Mainstem dieback:**	☒ No ☐ Yes
S	30	30	**Exposed Roots:**	☒ No ☐ Yes
SW	10	25	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 35x35			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[97] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[98] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[99] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 35

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[100]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 25			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7			**Crown Class**[101]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[102]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	6	8	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	12	8	**Weak crotches:**	☒ No ☐ Yes
E	25	8	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	10	**Mainstem dieback:**	☐ No ☒ Yes
S	4	8	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 10x25			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: One major scaffold cut off

[100] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[101] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[102] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 36

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[103]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 20			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5.5			**Crown Class**[104]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[105]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	3	6	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	6	6	**Weak crotches:**	☒ No ☐ Yes
E	22	9	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	8	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 3x22			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Prune for access to driveway near tennis club

[103] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[104] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[105] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 37

GENERAL CHARACTERISTICS			**Condition Rating:**	
Species: ☐*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[106]**:** ☐ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11, 5.5			**Crown Class**[107]**:** ☐ Decurrent ☐ Excurrent	
Percent Canopy Cover:			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[108]**:** ☐ A ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☐ None
N			**Foliage Density:**	☐ Norma l ☐ Sparse
NE			**Weak crotches:**	☐ No ☐ Yes
E			**Oak Pit Scale:**	☐ No ☐ Yes
SE			**Mainstem dieback:**	☐ No ☐ Yes
S			**Exposed Roots:**	☐ No ☐ Yes
SW			**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☐ Exten
W			**Shading Out:**	☐ No ☐ Yes
NW			**Cavities:** ☐ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☐ Yes
***Canopy Spread** (feet):*			**Water Pocket(s):**	☐ No ☐ Yes
PROPOSED ACTIONS **TREE IS NOT PRESENT**			**Mechanical Damage:**	☐ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☐ Yes
Support Structure:	☐		**Included Bark:**	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☐ Yes
Mitigations:			**Galls:**	☐ No ☐ Yes

Comments & Notes:

[106] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[107] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[108] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 38

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[109]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 20			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7.5			**Crown Class**[110]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[111]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	3	10	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	5	12	**Weak crotches:**	☒ No ☐ Yes
E	6	14	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	10	**Mainstem dieback:**	☒ No ☐ Yes
S	4	8	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 7x6			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Topped and pruned up; second trunk cut at base (2.5")

[109] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[110] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[111] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 39

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[112]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 22			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6.5			**Crown Class**[113]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 30			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[114]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	2	12	**Exposed Roots:**	☒ No ☐ Yes
SW	18	16	**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☒ Exten
W	15	20	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 2x15			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Second trunk cut at base (2")

[112] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[113] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[114] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 40

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[115]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 50			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 12			**Crown Class**[116]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[117]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	16	35	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	20	40	**Weak crotches:**	☒ No ☐ Yes
E	22	40	**Oak Pit Scale:**	☒ No ☐ Yes
SE	16	35	**Mainstem dieback:**	☒ No ☐ Yes
S	18	25	**Exposed Roots:**	☒ No ☐ Yes
SW	16	30	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	18	35	**Shading Out:**	☐ No ☒ Yes
NW	16	35	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 34x40			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: second trunk cut at base (3.5")

[115] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[116] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[117] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 41

GENERAL CHARACTERISTICS			**Condition Rating:**	
Species: ☐*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[118]**:** ☐ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11, 5.5			**Crown Class**[119]**:** ☐ Decurrent ☐ Excurrent	
Percent Canopy Cover:			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[120]**:** ☐ A ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☐ None
N			**Foliage Density:**	☐ Norma l ☐ Sparse
NE			**Weak crotches:**	☐ No ☐ Yes
E			**Oak Pit Scale:**	☐ No ☐ Yes
SE			**Mainstem dieback:**	☐ No ☐ Yes
S			**Exposed Roots:**	☐ No ☐ Yes
SW			**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☐ Exten
W			**Shading Out:**	☐ No ☐ Yes
NW			**Cavities:** ☐ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☐ Yes
***Canopy Spread** (feet):*			**Water Pocket(s):**	☐ No ☐ Yes
PROPOSED ACTIONS **TREE IS NOT PRESENT**			**Mechanical Damage:**	☐ Trunk ☐ Branch ☐ None
Root Collar Inspection: ☐			**Cankers:**	☐ No ☐ Yes
Monitor for Progress: ☐			**Fungus:**	☐ No ☐ Yes
Remove Deadwood/Prune : ☐			**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment ☐			**Codominant Stem:**	☐ No ☐ Yes
Support Structure: ☐			**Included Bark:**	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☐ Yes
Mitigations:			**Galls:**	☐ No ☐ Yes

Comments & Notes:

[118] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[119] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[120] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 42

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[121]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 25			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 8			**Crown Class**[122]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover:			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[123]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	6	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	14	15	**Mainstem dieback:**	☒ No ☐ Yes
S	24	22	**Exposed Roots:**	☒ No ☐ Yes
SW	20	30	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	18	30	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 24x24			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[121] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[122] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[123] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 43

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[124]**:** ☐ A ☐ B ☐ C ☒ D+ ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 15			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2.5			**Crown Class**[125]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[126]**:** ☐ A ☐ B ☐ C ☒ D+ ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D+ ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	8	15	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	5	12	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	4	10	**Exposed Roots:**	☒ No ☐ Yes
SW	3	7	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	9	6	**Shading Out:**	☐ No ☒ Yes
NW	9	20	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 12x4			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes : in decline because of overstory suppression

[124] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[125] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[126] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 44

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[127]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 25			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3			**Crown Class**[128]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover:			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[129]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	7	16	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	9	15	**Weak crotches:**	☒ No ☐ Yes
E	11	17	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	14	**Mainstem dieback:**	☒ No ☐ Yes
S	5	8	**Exposed Roots:**	☒ No ☐ Yes
SW	4	9	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	7	12	**Shading Out:**	☐ No ☒ Yes
NW	8	14	**Cavities:** ☐ None	☒ Trunk ☒ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 12x18			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[127] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[128] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[129] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 45

GENERAL CHARACTERISTICS			**Condition Rating:** 65%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[130]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 10			**Crown Class**[131]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[132]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	18	24	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	20	25	**Weak crotches:**	☒ No ☐ Yes
E	25	35	**Oak Pit Scale:**	☒ No ☐ Yes
SE	20	35	**Mainstem dieback:**	☒ No ☐ Yes
S	15	30	**Exposed Roots:**	☒ No ☐ Yes
SW	17	25	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	12	16	**Shading Out:**	☐ No ☒ Yes
NW	14	28	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 33x37			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[130] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[131] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[132] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 46

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[133]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 32			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 10, 13			**Crown Class**[134]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover:			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[135]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S/W ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	3	8	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	6	12	**Weak crotches:**	☒ No ☐ Yes
E	12	8	**Oak Pit Scale:**	☒ No ☐ Yes
SE	14	10	**Mainstem dieback:**	☒ No ☐ Yes
S	12	12	**Exposed Roots:**	☒ No ☐ Yes
SW	10	16	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	22	18	**Shading Out:**	☐ No ☒ Yes
NW	20	16	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 15x24			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[133] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[134] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[135] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 47

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[136]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 37			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 16			**Crown Class**[137]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[138]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	6	18	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	12	20	**Weak crotches:**	☒ No ☐ Yes
E	20	25	**Oak Pit Scale:**	☒ No ☐ Yes
SE	18	14	**Mainstem dieback:**	☒ No ☐ Yes
S	20	25	**Exposed Roots:**	☒ No ☐ Yes
SW	12	30	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	10	30	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 26x30			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[136] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[137] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[138] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 48

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[139]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 14			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3.5			**Crown Class**[140]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[141]**:** ☐ A ☐ B ☐ C ☒ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D+ ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	8	9	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	5	8	**Weak crotches:**	☒ No ☐ Yes
E	11	3	**Oak Pit Scale:**	☒ No ☐ Yes
SE	7	4	**Mainstem dieback:**	☒ No ☐ Yes
S	8	6	**Exposed Roots:**	☒ No ☐ Yes
SW	4	3	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	7	5	**Shading Out:**	☐ No ☒ Yes
NW	4	8	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 16x18			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☒ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[139] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[140] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[141] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 49

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[142]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7			**Crown Class**[143]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[144]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	14	14	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	12	**Mainstem dieback:**	☒ No ☐ Yes
S	14	12	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 14x14			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[142] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[143] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[144] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 50

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[145]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 21			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5.5			**Crown Class**[146]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[147]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	5	11	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	8	7	**Weak crotches:**	☒ No ☐ Yes
E	10	5	**Oak Pit Scale:**	☒ No ☐ Yes
SE	7	12	**Mainstem dieback:**	☒ No ☐ Yes
S	7	7	**Exposed Roots:**	☒ No ☐ Yes
SW	5	10	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	10	12	**Shading Out:**	☐ No ☒ Yes
NW	13	12	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 12x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Scale present

[145] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[146] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[147] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 51

GENERAL CHARACTERISTICS			**Condition Rating:** 25%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[148]**:** ☐ A ☐ B ☐ C ☒ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 15			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3			**Crown Class**[149]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[150]**:** ☐ A ☐ B ☐ C ☒ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	7	9	**Weak crotches:**	☒ No ☐ Yes
E	5	7	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	8	**Mainstem dieback:**	☒ No ☐ Yes
S	6	7	**Exposed Roots:**	☒ No ☐ Yes
SW	4	8	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 6x5			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Another tree branch has fallen and smothered this canopy

[148] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[149] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[150] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 52

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[151]**:** ☐ A ☐ B ☐ C ☒ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 11			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2			**Crown Class**[152]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 10			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[153]**:** ☐ A ☐ B ☐ C ☒ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	8	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	11	6	**Mainstem dieback:**	☒ No ☐ Yes
S	4	1	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 4x8			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☒ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Heavily shaded

[151] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[152] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[153] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 53

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[154]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 17			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2.5			**Crown Class**[155]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 20			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[156]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	13	15	**Foliage Density:**	☐ Norma l ☐ Sparse
NE	7	13	**Weak crotches:**	☒ No ☐ Yes
E	5	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	1	8	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	5	14	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	15	17	**Shading Out:**	☐ No ☒ Yes
NW	12	18	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 13x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☒ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Heavily shaded

[154] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[155] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[156] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 54

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[157]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 22			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2.5			**Crown Class**[158]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 55			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[159]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	5	16	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	8	17	**Weak crotches:**	☒ No ☐ Yes
E	4	15	**Oak Pit Scale:**	☒ No ☐ Yes
SE	1	13	**Mainstem dieback:**	☒ No ☐ Yes
S	2	12	**Exposed Roots:**	☒ No ☐ Yes
SW	1	11	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	1	12	**Shading Out:**	☐ No ☒ Yes
NW	3	14	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 7x5			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[157] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[158] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[159] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 55

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[160]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 2			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2			**Crown Class**[161]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 55			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[162]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	10	12	**Weak crotches:**	☒ No ☐ Yes
E	11	10	**Oak Pit Scale:**	☒ No ☐ Yes
SE	8	2	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 0x11			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[160] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[161] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[162] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 56

GENERAL CHARACTERISTICS			**Condition Rating:** 50	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[163]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 20			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5			**Crown Class**[164]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 55			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[165]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	15	15	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	11	17	**Weak crotches:**	☒ No ☐ Yes
E	10	17	**Oak Pit Scale:**	☒ No ☐ Yes
SE	5	5	**Mainstem dieback:**	☒ No ☐ Yes
S	5	4	**Exposed Roots:**	☒ No ☐ Yes
SW	4	4	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	5	5	**Shading Out:**	☐ No ☒ Yes
NW	13	16	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 55			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Heavily shaded

[163] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[164] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[165] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 57

GENERAL CHARACTERISTICS			**Condition Rating:** 70%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[166]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 45			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 20			**Crown Class**[167]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[168]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	34	29	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	21	29	**Weak crotches:**	☒ No ☐ Yes
E	23	19	**Oak Pit Scale:**	☒ No ☐ Yes
SE	31	18	**Mainstem dieback:**	☒ No ☐ Yes
S	27	13	**Exposed Roots:**	☐ No ☒ Yes
SW	24	16	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	20	14	**Shading Out:**	☐ No ☒ Yes
NW	21	35	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 61x43			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[166] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[167] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[168] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 58

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[169]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 42			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 18			**Crown Class**[170]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[171]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	29	18	**Mainstem dieback:**	☒ No ☐ Yes
S	37	29	**Exposed Roots:**	☐ No ☒ Yes
SW	33	25	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 37x0			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Severe lean over creek

[169] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[170] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[171] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 59

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[172]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 24			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7			**Crown Class**[173]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[174]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	12	24	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	10	8	**Weak crotches:**	☒ No ☐ Yes
E	8	14	**Oak Pit Scale:**	☒ No ☐ Yes
SE	10	12	**Mainstem dieback:**	☒ No ☐ Yes
S	6	4	**Exposed Roots:**	☐ No ☒ Yes
SW	5	17	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	8	19	**Shading Out:**	☐ No ☒ Yes
NW	15	29	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 18x16			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[172] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[173] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[174] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 60

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[175]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3			**Crown Class**[176]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[177]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	6	4	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	6	3	**Weak crotches:**	☒ No ☐ Yes
E	12	8	**Oak Pit Scale:**	☒ No ☐ Yes
SE	13	12	**Mainstem dieback:**	☒ No ☐ Yes
S	12	16	**Exposed Roots:**	☒ No ☐ Yes
SW	1	3	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	2	3	**Shading Out:**	☐ No ☒ Yes
NW	3	3	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 18x14			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[175] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[176] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[177] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 61

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[178]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 23			**Crown Class**[179]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[180]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	40	25	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	35	20	**Weak crotches:**	☒ No ☐ Yes
E	40	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	40	22	**Mainstem dieback:**	☒ No ☐ Yes
S	30	35	**Exposed Roots:**	☐ No ☒ Yes
SW	30	30	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	8	35	**Shading Out:**	☐ No ☒ Yes
NW	30	25	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 70x48			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[178] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[179] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[180] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 62

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[181]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 45			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3, 16			**Crown Class**[182]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[183]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	24	34	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	15	17	**Mainstem dieback:**	☒ No ☐ Yes
S	20	18	**Exposed Roots:**	☐ No ☒ Yes
SW	8	40	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	35	50	**Shading Out:**	☐ No ☒ Yes
NW	35	50	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 44x35			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[181] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[182] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[183] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 63

GENERAL CHARACTERISTICS			**Condition Rating:** 15%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[184]**:** ☐ A ☐ B ☐ C ☒ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3			**Crown Class**[185]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 25			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[186]**:** ☐ A ☐ B ☐ C ☒ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	15	8	**Mainstem dieback:**	☒ No ☐ Yes
S	12	15	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 12x0			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☒ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Willow has fallen on it; declining

[184] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[185] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[186] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 64

GENERAL CHARACTERISTICS			**Condition Rating:** 25%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[187]**:** ☐ A ☐ B ☐ C ☒ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6			**Crown Class**[188]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 20			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[189]**:** ☐ A ☐ B ☐ C ☒ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☐ No ☒ Yes
SW	17	14	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	20	14	**Shading Out:**	☐ No ☒ Yes
NW	9	11	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 0x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☒ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Eroded at base

[187] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[188] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[189] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 65

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[190]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5			**Crown Class**[191]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[192]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	5	8	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	6	12	**Weak crotches:**	☒ No ☐ Yes
E	7	11	**Oak Pit Scale:**	☒ No ☐ Yes
SE	8	6	**Mainstem dieback:**	☒ No ☐ Yes
S	4	4	**Exposed Roots:**	☒ No ☐ Yes
SW	6	18	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	8	16	**Shading Out:**	☐ No ☒ Yes
NW	5	6	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 9x15			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[190] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[191] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[192] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 66

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[193]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 22			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3			**Crown Class**[194]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[195]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	8	8	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	10	20	**Weak crotches:**	☒ No ☐ Yes
E	7	15	**Oak Pit Scale:**	☒ No ☐ Yes
SE	4	10	**Mainstem dieback:**	☒ No ☐ Yes
S	8	2	**Exposed Roots:**	☒ No ☐ Yes
SW	8	6	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	6	8	**Shading Out:**	☐ No ☒ Yes
NW	5	8	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 16x13			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[193] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[194] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[195] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 67

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[196]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 20			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7			**Crown Class**[197]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[198]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	3	4	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	7	7	**Weak crotches:**	☒ No ☐ Yes
E	14	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	14	12	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 3x14			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Adjacent to fence; girdling rope around trunk

[196] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[197] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[198] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 68

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[199]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 45			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 16.5			**Crown Class**[200]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[201]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	15	30	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	20	30	**Weak crotches:**	☒ No ☐ Yes
E	25	25	**Oak Pit Scale:**	☒ No ☐ Yes
SE	25	2	**Mainstem dieback:**	☒ No ☐ Yes
S	18	25	**Exposed Roots:**	☒ No ☐ Yes
SW	24	18	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	30	20	**Shading Out:**	☐ No ☒ Yes
NW	18	25	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 33x55			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[199] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[200] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[201] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 69

GENERAL CHARACTERISTICS			**Condition Rating:** 70%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[202]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6			**Crown Class**[203]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[204]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	8	4	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	4	6	**Weak crotches:**	☒ No ☐ Yes
E	2	5	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	1	**Mainstem dieback:**	☒ No ☐ Yes
S	7	2	**Exposed Roots:**	☒ No ☐ Yes
SW	6	1	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	10	0	**Shading Out:**	☐ No ☒ Yes
NW	12	4	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 15x12			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[202] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[203] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[204] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 70

GENERAL CHARACTERISTICS			**Condition Rating:** 25%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[205]**:** ☐ A ☐ B ☐ C ☒ D+ ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 14			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2			**Crown Class**[206]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[207]**:** ☐ A ☐ B ☐ C ☒ D+ ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D+ ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	7	11	**Weak crotches:**	☒ No ☐ Yes
E	7	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	5	8	**Mainstem dieback:**	☒ No ☐ Yes
S	7	10	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	4	6	**Shading Out:**	☐ No ☒ Yes
NW	13	13	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 7x11			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[205] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[206] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[207] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 71

GENERAL CHARACTERISTICS			**Condition Rating:** 65%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[208]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5			**Crown Class**[209]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 45			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[210]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	6	14	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	7	13	**Weak crotches:**	☒ No ☐ Yes
E	13	9	**Oak Pit Scale:**	☒ No ☐ Yes
SE	10	5	**Mainstem dieback:**	☒ No ☐ Yes
S	8	10	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	2	14	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 14x15			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[208] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[209] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[210] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 72

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[211]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 45			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 12			**Crown Class**[212]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[213]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	22	35	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	25	35	**Weak crotches:**	☒ No ☐ Yes
E	18	25	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	28	**Mainstem dieback:**	☒ No ☐ Yes
S	10	30	**Exposed Roots:**	☒ No ☐ Yes
SW	12	18	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	18	25	**Shading Out:**	☐ No ☒ Yes
NW	25	40	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 32x36			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[211] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[212] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[213] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 73

GENERAL CHARACTERISTICS			**Condition Rating:** 30%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[214]**:** ☐ A ☐ B ☐ C ☒ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 22			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5			**Crown Class**[215]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[216]**:** ☐ A ☐ B ☐ C ☒ D+ ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	20	25	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	8	8	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	10	15	**Shading Out:**	☐ No ☒ Yes
NW	20	15	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 20x10			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☒ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[214] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[215] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[216] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 74

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[217]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F		
			Form: ☐ symmetric ☐ minor asymmetry		
Trunk Count: 2 **Height (ft.)**: 50			☒ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 27.5, 36			**Crown Class**[218]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature		
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent		
Aesthetic Rating[219]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None		
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	25	35	**Foliage Density:**	☒ Norma l ☐ Sparse	
NE	32	14	**Weak crotches:**	☐ No ☒ Yes	
E	44	5	**Oak Pit Scale:**	☒ No ☐ Yes	
SE	28	15	**Mainstem dieback:**	☒ No ☐ Yes	
S	27	12	**Exposed Roots:**	☐ No ☒ Yes	
SW	26	20	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten	
W	67	0	**Shading Out:**	☐ No ☒ Yes	
NW	46	16	**Cavities:** ☐ None	☐ Trunk ☒ Branch	
			Exfoliating Bark:	☐ No ☒ Yes	
Canopy Spread *(feet):* 52x111			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes	
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes: Measured with hypsometer; stub cuts should be removed; remove deadwood and end weights

[217] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[218] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[219] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 75

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[220]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 10.5			**Crown Class**[221]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[222]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	12	23	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	6	12	**Weak crotches:**	☒ No ☐ Yes
E	14	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	16	36	**Mainstem dieback:**	☒ No ☐ Yes
S	16	14	**Exposed Roots:**	☒ No ☐ Yes
SW	19	8	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	16	20	**Shading Out:**	☐ No ☒ Yes
NW	6	14	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 28x30			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[220] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[221] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[222] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 76

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[223]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 25			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3			**Crown Class**[224]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 85			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[225]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	7	16	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	10	13	**Weak crotches:**	☒ No ☐ Yes
E	8	15	**Oak Pit Scale:**	☒ No ☐ Yes
SE	4	23	**Mainstem dieback:**	☒ No ☐ Yes
S	5	22	**Exposed Roots:**	☒ No ☐ Yes
SW	8	20	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	6	17	**Shading Out:**	☐ No ☒ Yes
NW	6	18	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 12x14			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Not very vigorous; Heavily shaded

[223] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[224] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[225] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 77

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[226]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11.5			**Crown Class**[227]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[228]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	14	35	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	14	40	**Weak crotches:**	☒ No ☐ Yes
E	16	35	**Oak Pit Scale:**	☒ No ☐ Yes
SE	14	25	**Mainstem dieback:**	☒ No ☐ Yes
S	12	25	**Exposed Roots:**	☒ No ☐ Yes
SW	14	22	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	16	30	**Shading Out:**	☐ No ☒ Yes
NW	16	35	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 26x32			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[226] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[227] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[228] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 78

GENERAL CHARACTERISTICS			**Condition Rating:** 65%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[229]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3			**Crown Class**[230]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[231]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	8	18	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	8	16	**Weak crotches:**	☒ No ☐ Yes
E	10	18	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	14	**Mainstem dieback:**	☒ No ☐ Yes
S	6	12	**Exposed Roots:**	☒ No ☐ Yes
SW	8	14	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	10	15	**Shading Out:**	☐ No ☒ Yes
NW	6	14	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 14x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Shaded

[229] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[230] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[231] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 79

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[232]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 65			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 27			**Crown Class**[233]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 85			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[234]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	4	27	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	14	30	**Weak crotches:**	☒ No ☐ Yes
E	26	32	**Oak Pit Scale:**	☒ No ☐ Yes
SE	35	22	**Mainstem dieback:**	☒ No ☐ Yes
S	25	50	**Exposed Roots:**	☐ No ☒ Yes
SW	25	40	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	40	4	**Shading Out:**	☐ No ☒ Yes
NW	30	40	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 29x66			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Remove deadwood

[232] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[233] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[234] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 80

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[235]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 24			**Crown Class**[236]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 45			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[237]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	5	12	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	8	14	**Weak crotches:**	☒ No ☐ Yes
E	40	25	**Oak Pit Scale:**	☒ No ☐ Yes
SE	40	20	**Mainstem dieback:**	☒ No ☐ Yes
S	40	12	**Exposed Roots:**	☐ No ☒ Yes
SW	12	6	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☐ None	☐ Trunk ☒ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 45x40			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Measurement is at one foot due to low branching

[235] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[236] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[237] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 81

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[238]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 45			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 64			**Crown Class**[239]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[240]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	30	30	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	12	22	**Weak crotches:**	☒ No ☐ Yes
E	6	10	**Oak Pit Scale:**	☒ No ☐ Yes
SE	32	22	**Mainstem dieback:**	☒ No ☐ Yes
S	23	18	**Exposed Roots:**	☐ No ☒ Yes
SW	20	40	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	36	4	**Shading Out:**	☐ No ☒ Yes
NW	25	20	**Cavities:** ☐ None	☒ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 53x42			**Water Pocket(s):**	☐ No ☒ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☒ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Tree needs deadwood ans structural pruning

[238] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[239] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[240] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 82

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[241]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 22			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5			**Crown Class**[242]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[243]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☒ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	14	15	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	14	12	**Weak crotches:**	☒ No ☐ Yes
E	10	8	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 14x10			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Lower canopy shaded; upper canopy is good

[241] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[242] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[243] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 83

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[244]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 28			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7			**Crown Class**[245]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[246]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	4	18	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	3	18	**Weak crotches:**	☒ No ☐ Yes
E	5	18	**Oak Pit Scale:**	☒ No ☐ Yes
SE	8	22	**Mainstem dieback:**	☒ No ☐ Yes
S	14	20	**Exposed Roots:**	☒ No ☐ Yes
SW	14	24	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	14	20	**Shading Out:**	☐ No ☒ Yes
NW	5	16	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 18x19			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☒ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[244] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[245] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[246] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 84

GENERAL CHARACTERISTICS			**Condition Rating:** 65%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[247]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 30			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2.5			**Crown Class**[248]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[249]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	16	25	**Exposed Roots:**	☒ No ☐ Yes
SW	12	25	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 16x0			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☒ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[247] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[248] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[249] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 85

GENERAL CHARACTERISTICS			**Condition Rating:** 65%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[250]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 28			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2.5, 3.5			**Crown Class**[251]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[252]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	8	20	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	1	18	**Exposed Roots:**	☒ No ☐ Yes
SW	10	18	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	13	18	**Shading Out:**	☐ No ☒ Yes
NW	12	20	**Cavities:** ☐ None	☐ Trunk ☒ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 9x13			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[250] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[251] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[252] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 86

GENERAL CHARACTERISTICS			**Condition Rating:** 40%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[253]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2.5			**Crown Class**[254]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[255]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	12	4	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	16	5	**Shading Out:**	☐ No ☒ Yes
NW	10	4	**Cavities:** ☐ None	☒ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 0x16			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[253] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[254] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[255] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 87

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[256]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 30			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7			**Crown Class**[257]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[258]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	7	14	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	14	18	**Exposed Roots:**	☒ No ☐ Yes
SW	16	14	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	13	14	**Shading Out:**	☐ No ☒ Yes
NW	14	9	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 21x13			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[256] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[257] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[258] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 88

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[259]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 9.5			**Crown Class**[260]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[261]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	2	10	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	5	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	25	**Mainstem dieback:**	☒ No ☐ Yes
S	14	25	**Exposed Roots:**	☒ No ☐ Yes
SW	12	12	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	12	30	**Shading Out:**	☐ No ☒ Yes
NW	8	20	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 16x17			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[259] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[260] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[261] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 89

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[262]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 15			**Crown Class**[263]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 85			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[264]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	18	14	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	8	30	**Weak crotches:**	☒ No ☐ Yes
E	3	25	**Oak Pit Scale:**	☒ No ☐ Yes
SE	18	25	**Mainstem dieback:**	☒ No ☐ Yes
S	21	20	**Exposed Roots:**	☐ No ☒ Yes
SW	28	25	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	20	25	**Shading Out:**	☐ No ☒ Yes
NW	20	20	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 39x23			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[262] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[263] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[264] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 90

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[265]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 30			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11.5			**Crown Class**[266]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[267]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☒ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	25	30	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	20	45	**Weak crotches:**	☒ No ☐ Yes
E	15	40	**Oak Pit Scale:**	☒ No ☐ Yes
SE	10	30	**Mainstem dieback:**	☒ No ☐ Yes
S	14	12	**Exposed Roots:**	☒ No ☐ Yes
SW	12	5	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	8	4	**Shading Out:**	☐ No ☒ Yes
NW	5	20	**Cavities:** ☐ None	☒ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 39x23			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[265] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[266] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[267] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 91

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[268]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 3 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 8.5,14,15			**Crown Class**[269]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 85			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[270]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	33	10	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	26	14	**Weak crotches:**	☒ No ☐ Yes
E	23	14	**Oak Pit Scale:**	☒ No ☐ Yes
SE	13	15	**Mainstem dieback:**	☒ No ☐ Yes
S	13	10	**Exposed Roots:**	☒ No ☐ Yes
SW	13	6	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	20	20	**Shading Out:**	☐ No ☒ Yes
NW	17	18	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 46x43			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[268] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[269] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[270] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 92

GENERAL CHARACTERISTICS			**Condition Rating:** 90	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[271]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 50			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 24			**Crown Class**[272]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[273]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	24	30	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	23	25	**Weak crotches:**	☒ No ☐ Yes
E	35	40	**Oak Pit Scale:**	☒ No ☐ Yes
SE	32	47	**Mainstem dieback:**	☒ No ☐ Yes
S	38	25	**Exposed Roots:**	☒ No ☐ Yes
SW	45	40	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	33	45	**Shading Out:**	☐ No ☒ Yes
NW	19	20	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 62x68			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Remove deadwood

[271] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[272] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[273] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 93

GENERAL CHARACTERISTICS	**Condition Rating:** 90%
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*	**Health Rating**[274]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F
	Form: ☒ symmetric ☐ minor asymmetry
Trunk Count: 1 **Height (ft.)**: 60	☐ major asymmetry ☐ stump sprout ☐ stag-head
Trunk DBH (in.): 23.5	**Crown Class**[275]**:** ☒ Decurrent ☐ Excurrent
Percent Canopy Cover: 65	**Age Class:** ☐ immature ☐ semi-mature
Existing Terrain: ☒ Flat ☐ Slope	☒ mature ☐ over-mature/senescent
Aesthetic Rating[276]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None
Overall Grade: ☒ A- ☐ B ☐ C ☐ D ☐ F	**Heritage Tree:** ☒ No ☐ Yes

CANOPY CHARACTERISTICS		
	Dripline Radius (Feet)	Canopy to Grade (Feet)
N	26	50
NE	26	50
E	22	50
SE	18	45
S	26	50
SW	31	38
W	35	50
NW	31	38
***Canopy Spread** (feet):* 52x57		

TREE HEALTH	
Wound Wood Development:	☐ Excellent ☒ Average ☐ Poor ☐ None
Foliage Density:	☒ Norma l ☐ Sparse
Weak crotches:	☒ No ☐ Yes
Oak Pit Scale:	☒ No ☐ Yes
Mainstem dieback:	☒ No ☐ Yes
Exposed Roots:	☒ No ☐ Yes
Epicormic growth: ☐ None	☐ Min ☒ Mod ☐ Exten
Shading Out:	☐ No ☒ Yes
Cavities: ☒ None	☐ Trunk ☐ Branch
Exfoliating Bark:	☒ No ☐ Yes
Water Pocket(s):	☒ No ☐ Yes
Mechanical Damage:	☐ Trunk ☒ Branch ☐ None

PROPOSED ACTIONS	
Root Collar Inspection:	☐
Monitor for Progress:	☐
Remove Deadwood/Prune :	☐
Risk Assessment	☐
Support Structure:	☐

Cankers:	☒ No ☐ Yes
Fungus:	☒ No ☐ Yes
Twig/ Branch Dieback:	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Codominant Stem:	☒ No ☐ Yes
Included Bark:	☒ No ☐ Yes

IMPACTS & MITIGATIONS	
In Impacted Area: ☐ Yes ☐ No	**Borers/ Ants /Termites:** ☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:	
Impacts:	**Exudations:** ☒ No ☐ Yes
Mitigations:	**Galls:** ☒ No ☐ Yes

Vigor:	☐ Excellent ☒ Average ☐ Fair ☐ Poor

Comments & Notes:

[274] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[275] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[276] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 94

GENERAL CHARACTERISTICS			**Condition Rating:** 100%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[277]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 22			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11.5 @ 3'			**Crown Class**[278]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 90			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[279]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☒ A- ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	18	10	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	15	12	**Weak crotches:**	☒ No ☐ Yes
E	13	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	14	6	**Mainstem dieback:**	☒ No ☐ Yes
S	15	20	**Exposed Roots:**	☒ No ☐ Yes
SW	11	12	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	12	5	**Shading Out:**	☐ No ☐ Yes
NW	15	5	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 33x25			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Proposed for relocation – has low branches

[277] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[278] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[279] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 95

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[280]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 45			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 65			**Crown Class**[281]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☒ over-mature/senescent	
Aesthetic Rating[282]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	32	25	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	26	40	**Weak crotches:**	☒ No ☐ Yes
E	22	45	**Oak Pit Scale:**	☒ No ☐ Yes
SE	25	30	**Mainstem dieback:**	☒ No ☐ Yes
S	26	22	**Exposed Roots:**	☐ No ☒ Yes
SW	20	18	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	36	8	**Shading Out:**	☒ No ☐ Yes
NW	38	16	**Cavities:** ☐ None	☒ Trunk ☒ Branch
			Exfoliating Bark:	☐ No ☒ Yes
Canopy Spread *(feet):* 58x58			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☒ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[280] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[281] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[282] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 96

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[283]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 38			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 13,15			**Crown Class**[284]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[285]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	10	14	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	23	12	**Weak crotches:**	☒ No ☐ Yes
E	31	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	33	6	**Mainstem dieback:**	☒ No ☐ Yes
S	6	12	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 16x31			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: 8.5" trunk is dead – image #3540

[283] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[284] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[285] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 97

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[286]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 16			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 4			**Crown Class**[287]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[288]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	7	25	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	18	20	**Weak crotches:**	☒ No ☐ Yes
E	6	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	5	18	**Mainstem dieback:**	☒ No ☐ Yes
S	5	12	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☐ Exten
W	4	12	**Shading Out:**	☐ No ☒ Yes
NW	10	15	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 12x10			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[286] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[287] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[288] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 98

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☐*Q. agrifolia* ☒*Q. lobata* ☐*Other (see below)*			**Health Rating**[289]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 42			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 19			**Crown Class**[290]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[291]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	10	18	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	28	12	**Weak crotches:**	☒ No ☐ Yes
E	40	8	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 10x40			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[289] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[290] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[291] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 99

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[292]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 16			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5			**Crown Class**[293]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[294]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	10	4	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	12	14	**Weak crotches:**	☒ No ☐ Yes
E	10	8	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	6	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 10x10			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[292] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[293] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[294] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 100

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[295]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 12			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2			**Crown Class**[296]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[297]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	3	3	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	3	3	**Weak crotches:**	☒ No ☐ Yes
E	3	3	**Oak Pit Scale:**	☒ No ☐ Yes
SE	3	5	**Mainstem dieback:**	☒ No ☐ Yes
S	6	5	**Exposed Roots:**	☒ No ☐ Yes
SW	3	5	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	3	3	**Shading Out:**	☐ No ☒ Yes
NW	3	3	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 9x6			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[295] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[296] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[297] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 101

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[298]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 14			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3			**Crown Class**[299]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[300]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	5	8	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	5	10	**Weak crotches:**	☒ No ☐ Yes
E	5	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	5	12	**Mainstem dieback:**	☒ No ☐ Yes
S	3	12	**Exposed Roots:**	☒ No ☐ Yes
SW	1	12	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	3	12	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 8x5			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: image #3537

[298] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[299] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[300] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 102

GENERAL CHARACTERISTICS			**Condition Rating:**	
Species: ☐*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[301]**:** ☐ A ☐ B ☐ C ☐ D ☒ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11, 5.5			**Crown Class**[302]**:** ☐ Decurrent ☐ Excurrent	
Percent Canopy Cover:			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[303]**:** ☐ A ☐ B ☐ C ☐ D ☒ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☐ D ☒ F			**Heritage Tree:** ☐ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☐ None
N			**Foliage Density:**	☐ Norma l ☐ Sparse
NE			**Weak crotches:**	☐ No ☐ Yes
E			**Oak Pit Scale:**	☐ No ☐ Yes
SE			**Mainstem dieback:**	☐ No ☐ Yes
S			**Exposed Roots:**	☐ No ☐ Yes
SW			**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☐ Exten
W			**Shading Out:**	☐ No ☐ Yes
NW			**Cavities:** ☐ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☐ Yes
***Canopy Spread** (feet):*			**Water Pocket(s):**	☐ No ☐ Yes
PROPOSED ACTIONS **TREE IS STANDING DEAD**			**Mechanical Damage:**	☐ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☐ Yes
Support Structure:	☐		**Included Bark:**	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☐ Yes
Mitigations:			**Galls:**	☐ No ☐ Yes

Comments & Notes: Beatle infestation

[301] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[302] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[303] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 103

GENERAL CHARACTERISTICS			**Condition Rating:** 80%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[304]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 60			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 60			**Crown Class**[305]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☒ over-mature/senescent	
Aesthetic Rating[306]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	29	25	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	26	18	**Weak crotches:**	☒ No ☐ Yes
E	40	18	**Oak Pit Scale:**	☒ No ☐ Yes
SE	45	10	**Mainstem dieback:**	☒ No ☐ Yes
S	26	40	**Exposed Roots:**	☒ No ☐ Yes
SW	38	35	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	34	25	**Shading Out:**	☐ No ☒ Yes
NW	41	18	**Cavities:** ☐ None	☒ Trunk ☒ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 55x74			**Water Pocket(s):**	☐ No ☒ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Structural pruning of deadwood & reduction of end weight.. check water pocket

[304] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[305] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[306] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 104

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[307]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 26			**Crown Class**[308]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 85			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[309]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	27	40	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	30	35	**Weak crotches:**	☒ No ☐ Yes
E	25	5	**Oak Pit Scale:**	☒ No ☐ Yes
SE	22	4	**Mainstem dieback:**	☒ No ☐ Yes
S	30	30	**Exposed Roots:**	☐ No ☒ Yes
SW	30	40	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	22	40	**Shading Out:**	☐ No ☒ Yes
NW	20	35	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 57x47			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Nice tree; image #3548

[307] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[308] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[309] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 105

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[310]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 36			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 25.5			**Crown Class**[311]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[312]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	30	15	**Mainstem dieback:**	☒ No ☐ Yes
S	30	6	**Exposed Roots:**	☐ No ☒ Yes
SW	35	12	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☐ None	☒ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 30x0			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: remove deadwood and stub cuts

[310] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[311] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[312] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 106

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[313]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 45			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 47			**Crown Class**[314]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☒ over-mature/senescent	
Aesthetic Rating[315]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	10	30	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	10	35	**Weak crotches:**	☒ No ☐ Yes
E	25	18	**Oak Pit Scale:**	☒ No ☐ Yes
SE	30	25	**Mainstem dieback:**	☒ No ☐ Yes
S	30	30	**Exposed Roots:**	☐ No ☐ Yes
SW	35	35	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	22	45	**Shading Out:**	☐ No ☒ Yes
NW	18	27	**Cavities:** ☐ None	☒ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 40x47			**Water Pocket(s):**	☐ No ☒ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Remove deadwood in lower canopy; moderate heartwood rot

[313] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[314] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[315] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 107

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[316]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 24@3'			**Crown Class**[317]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[318]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	25	8	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	27	8	**Weak crotches:**	☐ No ☒ Yes
E	25	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	20	12	**Shading Out:**	☐ No ☒ Yes
NW	33	45	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 25x45			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Prune deadwood and remove stub cuts image #3546

[316] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[317] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[318] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 108

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[319]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 14			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6.5			**Crown Class**[320]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[321]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B- ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	12	8	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	12	8	**Weak crotches:**	☒ No ☐ Yes
E	16	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	12	8	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 12x16			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Prune over tennis club parking lot

[319] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[320] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[321] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 109

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[322]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 23			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 12			**Crown Class**[323]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[324]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	20	14	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	23	18	**Weak crotches:**	☒ No ☐ Yes
E	16	7	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	5	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☒ No ☐ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 20x16			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☒ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Prune over tennis club parking lot

[322] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[323] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[324] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 110

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[325]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 45			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 18			**Crown Class**[326]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[327]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	20	18	**Weak crotches:**	☒ No ☐ Yes
E	35	45	**Oak Pit Scale:**	☒ No ☐ Yes
SE	38	16	**Mainstem dieback:**	☒ No ☐ Yes
S	38	18	**Exposed Roots:**	☒ No ☐ Yes
SW	25	35	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 38x35			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[325] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[326] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[327] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 111

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[328]**:** ☐ A ☐ B ☒ C+ ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 25			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 15.5			**Crown Class**[329]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[330]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	26	5	**Mainstem dieback:**	☒ No ☐ Yes
S	35	12	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 35x0			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: twig girdler -- yes

[328] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[329] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[330] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 112

GENERAL CHARACTERISTICS			**Condition Rating:** 25%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[331]**:** ☐ A ☐ B ☐ C ☒ D+ ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 15			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 4.5			**Crown Class**[332]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[333]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	13	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	18	10	**Mainstem dieback:**	☒ No ☐ Yes
S	15	12	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 15x13			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☒ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: suppressed -- declining

[331] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[332] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[333] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 113

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[334]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 15			**Crown Class**[335]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[336]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	10	15	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	16	20	**Weak crotches:**	☒ No ☐ Yes
E	25	18	**Oak Pit Scale:**	☒ No ☐ Yes
SE	22	16	**Mainstem dieback:**	☒ No ☐ Yes
S	20	5	**Exposed Roots:**	☒ No ☐ Yes
SW	16	22	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 30x25			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☒ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[334] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[335] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[336] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 114

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[337]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 30			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 7.5			**Crown Class**[338]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[339]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	12	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	18	10	**Mainstem dieback:**	☒ No ☐ Yes
S	10	8	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 10x12			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[337] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[338] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[339] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 115

GENERAL CHARACTERISTICS			**Condition Rating:** 25%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[340]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 10			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6.5			**Crown Class**[341]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[342]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C+ ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	20	1	**Oak Pit Scale:**	☒ No ☐ Yes
SE	22	1	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 0x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[340] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[341] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[342] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 116

GENERAL CHARACTERISTICS			**Condition Rating:** 80%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[343]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11.5, 16.5			**Crown Class**[344]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 85			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[345]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	16	20	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	20	14	**Weak crotches:**	☒ No ☐ Yes
E	22	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	22	8	**Mainstem dieback:**	☒ No ☐ Yes
S	22	30	**Exposed Roots:**	☒ No ☐ Yes
SW	30	50	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	25	40	**Shading Out:**	☐ No ☒ Yes
NW	18	35	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 38x47			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[343] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[344] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[345] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 117

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[346]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 30			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 21			**Crown Class**[347]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[348]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	0	0	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	15	10	**Weak crotches:**	☒ No ☐ Yes
E	25	10	**Oak Pit Scale:**	☒ No ☐ Yes
SE	20	0	**Mainstem dieback:**	☒ No ☐ Yes
S	20	0	**Exposed Roots:**	☒ No ☐ Yes
SW	20	10	**Epicormic growth:** ☐ None	☐ Min ☒ Mod ☐ Exten
W	18	10	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 20x43			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☒ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: White scale present; deadwood pruning in lower canopy

[346] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[347] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[348] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 118

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[349]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 16.5			**Crown Class**[350]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[351]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	8	15	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	16	20	**Weak crotches:**	☒ No ☐ Yes
E	7	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	10	15	**Mainstem dieback:**	☒ No ☐ Yes
S	18	18	**Exposed Roots:**	☒ No ☐ Yes
SW	20	35	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	20	20	**Shading Out:**	☐ No ☒ Yes
NW	25	20	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☒ Yes
***Canopy Spread** (feet):* 26x27			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[349] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[350] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[351] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 119

GENERAL CHARACTERISTICS			**Condition Rating:** 95%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[352]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 17			**Crown Class**[353]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[354]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☒ A- ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	5	7	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	6	4	**Weak crotches:**	☒ No ☐ Yes
E	6	4	**Oak Pit Scale:**	☒ No ☐ Yes
SE	5	5	**Mainstem dieback:**	☒ No ☐ Yes
S	9	8	**Exposed Roots:**	☒ No ☐ Yes
SW	11	13	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	14	18	**Shading Out:**	☐ No ☒ Yes
NW	7	12	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 14x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[352] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[353] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[354] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 120

GENERAL CHARACTERISTICS			**Condition Rating:** 80%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[355]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 42			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 15			**Crown Class**[356]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[357]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	30	35	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	25	30	**Weak crotches:**	☒ No ☐ Yes
E	18	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	10	20	**Mainstem dieback:**	☒ No ☐ Yes
S	8	14	**Exposed Roots:**	☒ No ☐ Yes
SW	8	14	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	18	22	**Shading Out:**	☐ No ☒ Yes
NW	22	35	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 38x36			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: image #3573

[355] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[356] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[357] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 121

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[358]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 50			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 46			**Crown Class**[359]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 85			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[360]**:** ☒ A ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☒ A- ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	25	40	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	35	18	**Weak crotches:**	☒ No ☐ Yes
E	30	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	30	0	**Mainstem dieback:**	☒ No ☐ Yes
S	28	0	**Exposed Roots:**	☒ No ☐ Yes
SW	50	30	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	31	45	**Shading Out:**	☒ No ☐ Yes
NW	30	35	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 53x61			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[358] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[359] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[360] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 122

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[361]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 55			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 33			**Crown Class**[362]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[363]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	22	25	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	16	45	**Weak crotches:**	☒ No ☐ Yes
E	20	40	**Oak Pit Scale:**	☒ No ☐ Yes
SE	25	0	**Mainstem dieback:**	☒ No ☐ Yes
S	30	0	**Exposed Roots:**	☒ No ☐ Yes
SW	18	10	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	30	35	**Shading Out:**	☐ No ☒ Yes
NW	28	40	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 52x50			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[361] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[362] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[363] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 123

GENERAL CHARACTERISTICS	**Condition Rating:** 90%
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*	**Health Rating**[364]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F
	Form: ☐ symmetric ☒ minor asymmetry
Trunk Count: 1 **Height (ft.)**: 45	☐ major asymmetry ☐ stump sprout ☐ stag-head
Trunk DBH (in.): 20	**Crown Class**[365]**:** ☒ Decurrent ☐ Excurrent
Percent Canopy Cover: 80	**Age Class:** ☐ immature ☐ semi-mature
Existing Terrain: ☐ Flat ☒ Slope	☒ mature ☐ over-mature/senescent
Aesthetic Rating[366]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F	**Heritage Tree:** ☒ No ☐ Yes

CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	15	30	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	18	1	**Oak Pit Scale:**	☒ No ☐ Yes
SE	25	1	**Mainstem dieback:**	☒ No ☐ Yes
S	30	5	**Exposed Roots:**	☒ No ☐ Yes
SW	23	30	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	28	18	**Shading Out:**	☒ No ☒ Yes
NW	40	40	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 45x46			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[364] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[365] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[366] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 124

GENERAL CHARACTERISTICS			**Condition Rating:** 50%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[367]**:** ☐ A ☐ B ☒ C ☐ D ☐ F		
			Form: ☐ symmetric ☐ minor asymmetry		
Trunk Count: 8 **Height (ft.)**: 10			☐ major asymmetry ☒ stump sprout ☐ stag-head		
Trunk DBH (in.): 1.5, 1.5, 1, 1, 1, 1, 1, 1			**Crown Class**[368]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 50			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[369]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ SW ☐ None		
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	4	5	**Foliage Density:**	☒ Norma l ☐ Sparse	
NE	4	5	**Weak crotches:**	☒ No ☐ Yes	
E	3	3	**Oak Pit Scale:**	☒ No ☐ Yes	
SE	4	6	**Mainstem dieback:**	☒ No ☐ Yes	
S	6	4	**Exposed Roots:**	☐ No ☒ Yes	
SW	5	14	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten	
W	5	12	**Shading Out:**	☐ No ☒ Yes	
NW	3	5	**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 10x8			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☐ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

[367] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[368] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[369] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 125

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[370]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 25			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 9			**Crown Class**[371]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[372]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	6	12	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	8	10	**Weak crotches:**	☒ No ☐ Yes
E	8	10	**Oak Pit Scale:**	☒ No ☐ Yes
SE	8	10	**Mainstem dieback:**	☒ No ☐ Yes
S	12	10	**Exposed Roots:**	☐ No ☒ Yes
SW	10	8	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	6	10	**Shading Out:**	☐ No ☒ Yes
NW	3	15	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 18x14			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: "S" shaped trunk base

[370] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[371] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[372] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 126

GENERAL CHARACTERISTICS			**Condition Rating:** 90	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[373]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 3 **Height (ft.)**: 22			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6, 1, 2			**Crown Class**[374]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 90			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[375]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	8	14	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	8	12	**Weak crotches:**	☒ No ☐ Yes
E	6	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	8	14	**Mainstem dieback:**	☒ No ☐ Yes
S	10	18	**Exposed Roots:**	☒ No ☐ Yes
SW	10	20	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	18	12	**Shading Out:**	☐ No ☒ Yes
NW	10	12	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 18x24			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[373] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[374] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[375] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 127

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[376]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 7 **Height (ft.)**: 35			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5, 6, 6.5, 10, 1, 1, 1			**Crown Class**[377]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 90			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[378]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☒ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	18	30	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	20	15	**Weak crotches:**	☒ No ☐ Yes
E	20	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	18	25	**Mainstem dieback:**	☒ No ☐ Yes
S	15	35	**Exposed Roots:**	☒ No ☐ Yes
SW	16	25	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	18	25	**Shading Out:**	☒ No ☐ Yes
NW	10	20	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 33x38			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☐ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: image 3574

[376] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[377] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[378] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 128

GENERAL CHARACTERISTICS			**Condition Rating:** 90	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[379]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 25			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 12			**Crown Class**[380]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 90			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[381]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	15	20	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	14	12	**Weak crotches:**	☒ No ☐ Yes
E	10	12	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	5	**Mainstem dieback:**	☒ No ☐ Yes
S	10	14	**Exposed Roots:**	☒ No ☐ Yes
SW	14	22	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	18	22	**Shading Out:**	☐ No ☒ Yes
NW	18	6	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 25x28			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☒ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[379] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[380] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[381] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 129

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[382]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 45			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 17.5			**Crown Class**[383]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 90			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[384]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	15	18	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	12	18	**Weak crotches:**	☒ No ☐ Yes
E	6	10	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	30	**Mainstem dieback:**	☒ No ☐ Yes
S	16	14	**Exposed Roots:**	☐ No ☒ Yes
SW	18	18	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	24	8	**Shading Out:**	☐ No ☒ Yes
NW	26	6	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 31x30			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[382] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[383] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[384] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 130

GENERAL CHARACTERISTICS			**Condition Rating:**	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[385]**:** ☐ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 7			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 5, 1.5			**Crown Class**[386]**:** ☐ Decurrent ☐ Excurrent	
Percent Canopy Cover: 5 (old percentage)			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[387]**:** ☐ A ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☐ None
N			**Foliage Density:**	☐ Norma l ☐ Sparse
NE			**Weak crotches:**	☐ No ☐ Yes
E			**Oak Pit Scale:**	☐ No ☐ Yes
SE			**Mainstem dieback:**	☐ No ☐ Yes
S			**Exposed Roots:**	☐ No ☐ Yes
SW			**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☐ Exten
W			**Shading Out:**	☐ No ☐ Yes
NW			**Cavities:** ☐ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☐ Yes
***Canopy Spread** (feet):*			**Water Pocket(s):**	☐ No ☐ Yes
PROPOSED ACTIONS **TREE IS GONE**			**Mechanical Damage:**	☐ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☐ Yes
Support Structure:	☐		**Included Bark:**	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☐ Yes
Mitigations:			**Galls:**	☐ No ☐ Yes

Comments & Notes:

[385] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[386] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[387] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 131

GENERAL CHARACTERISTICS			**Condition Rating:**	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[388]**:** ☐ A ☐ B ☐ C ☐ D ☒ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 40			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 11, 5.5			**Crown Class**[389]**:** ☐ Decurrent ☐ Excurrent	
Percent Canopy Cover:			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[390]**:** ☐ A ☐ B ☐ C ☐ D ☒ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☐ D ☒ F			**Heritage Tree:** ☐ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☐ None
N			**Foliage Density:**	☐ Norma l ☐ Sparse
NE			**Weak crotches:**	☐ No ☐ Yes
E			**Oak Pit Scale:**	☐ No ☐ Yes
SE			**Mainstem dieback:**	☐ No ☐ Yes
S			**Exposed Roots:**	☐ No ☐ Yes
SW			**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☐ Exten
W			**Shading Out:**	☐ No ☐ Yes
NW			**Cavities:** ☐ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☐ No ☐ Yes
***Canopy Spread** (feet):*			**Water Pocket(s):**	☐ No ☐ Yes
PROPOSED ACTIONS **TREE IS DEAD**			**Mechanical Damage:**	☐ Trunk ☐ Branch ☐ None
Root Collar Inspection: ☐			**Cankers:**	☐ No ☐ Yes
Monitor for Progress: ☐			**Fungus:**	☐ No ☐ Yes
Remove Deadwood/Prune : ☐			**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment ☐			**Codominant Stem:**	☐ No ☐ Yes
Support Structure: ☐			**Included Bark:**	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☐ No ☐ Yes
Mitigations:			**Galls:**	☐ No ☐ Yes

Comments & Notes: Dead-fallen, image 3529

[388] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[389] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[390] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 132

GENERAL CHARACTERISTICS			**Condition Rating:** 60%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[391]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 16			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 1.5, 1.5			**Crown Class**[392]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[393]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	10	16	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	7	14	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	3	6	**Mainstem dieback:**	☒ No ☐ Yes
S	5	4	**Exposed Roots:**	☒ No ☐ Yes
SW	4	5	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	6	7	**Shading Out:**	☐ No ☒ Yes
NW	8	10	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 15x6			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☐ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[391] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[392] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[393] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 133

GENERAL CHARACTERISTICS			**Condition Rating:** 10%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[394]**:** ☐ A ☐ B ☐ C ☒ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 20			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2.5			**Crown Class**[395]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 20			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[396]**:** ☐ A ☐ B ☐ C ☒ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☐ C ☒ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☒ Poor ☐ None
N	0	0	**Foliage Density:**	☐ Norma l ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	10	8	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	8	**Mainstem dieback:**	☒ No ☐ Yes
S	8	12	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☐ None	☒ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 8x10			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☐ Moderate ☒ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☐ Fair ☒ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[394] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[395] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[396] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 134

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[397]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 35			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 15.5			**Crown Class**[398]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☒ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[399]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☒ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	5	12	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	8	12	**Weak crotches:**	☐ No ☒ Yes
E	15	15	**Oak Pit Scale:**	☒ No ☐ Yes
SE	19	20	**Mainstem dieback:**	☒ No ☐ Yes
S	20	20	**Exposed Roots:**	☐ No ☒ Yes
SW	20	20	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	18	30	**Shading Out:**	☒ No ☐ Yes
NW	8	10	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 25x33			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☐ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Photo 3456, In planter on adjacent property

[397] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[398] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[399] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 135

GENERAL CHARACTERISTICS			**Condition Rating:** 80%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[400]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☒ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 12			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 2			**Crown Class**[401]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 80			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[402]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	4	4	**Foliage Density:**	☒ Norma l ☐ Sparse	
NE	4	4	**Weak crotches:**	☒ No ☐ Yes	
E	4	4	**Oak Pit Scale:**	☒ No ☐ Yes	
SE	4	4	**Mainstem dieback:**	☒ No ☐ Yes	
S	4	8	**Exposed Roots:**	☒ No ☐ Yes	
SW	4	12	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	4	15	**Shading Out:**	☐ No ☒ Yes	
NW	4	18	**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 8x8			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes: One of old 1-2" trees, Near tree 20 over creek on steep slope

[400] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[401] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[402] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 136

GENERAL CHARACTERISTICS			**Condition Rating:** 80%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[403]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 14			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2			**Crown Class**[404]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 60			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[405]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	4	4	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	4	4	**Weak crotches:**	☒ No ☐ Yes
E	4	4	**Oak Pit Scale:**	☒ No ☐ Yes
SE	8	7	**Mainstem dieback:**	☒ No ☐ Yes
S	10	12	**Exposed Roots:**	☒ No ☐ Yes
SW	3	12	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☒ No ☐ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 14x4			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: New tree, Photo 3450

[403] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[404] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[405] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 137

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[406]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 14			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3, 4			**Crown Class**[407]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[408]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	8	8	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	8	8	**Weak crotches:**	☐ No ☒ Yes
E	8	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	8	**Mainstem dieback:**	☒ No ☐ Yes
S	4	8	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	3	4	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 12x8			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☒ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☒ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Photo 3457, NE corner of prop. Immed. Adjacent to driveway to the Raznick office bldg. Pruned for driveway clearance

[406] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[407] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[408] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 138

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[409]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 3 **Height (ft.)**: 25			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6.5, 8.5, 9			**Crown Class**[410]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☐ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☒ mature ☐ over-mature/senescent	
Aesthetic Rating[411]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	15	18	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	18	15	**Weak crotches:**	☐ No ☒ Yes
E	18	15	**Oak Pit Scale:**	☒ No ☐ Yes
SE	15	15	**Mainstem dieback:**	☒ No ☐ Yes
S	15	15	**Exposed Roots:**	☒ No ☐ Yes
SW	6	18	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	4	15	**Shading Out:**	☐ No ☒ Yes
NW	4	15	**Cavities:** ☐ None	☒ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 30x22			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: One trunk cut @ base on west; 3 live trunks, Pruned over driveway of tennis club

[409] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[410] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[411] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 139

GENERAL CHARACTERISTICS			**Condition Rating:** 90	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[412]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 16			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2.5			**Crown Class**[413]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 90			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[414]**:** ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	2	6	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	1	6	**Weak crotches:**	☒ No ☐ Yes
E	5	11	**Oak Pit Scale:**	☒ No ☐ Yes
SE	5	11	**Mainstem dieback:**	☒ No ☐ Yes
S	10	12	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 12x5			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Photo 3494, Pruned

[412] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[413] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[414] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 140

GENERAL CHARACTERISTICS			**Condition Rating:** 90	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[415]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 22			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6.5 @ 3 feet			**Crown Class**[416]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 100			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[417]**:** ☒ A ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☒ A ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☐ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	16	16	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	16	20	**Weak crotches:**	☒ No ☐ Yes
E	12	20	**Oak Pit Scale:**	☒ No ☐ Yes
SE	10	12	**Mainstem dieback:**	☒ No ☐ Yes
S	12	12	**Exposed Roots:**	☒ No ☐ Yes
SW	8	4	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	8	5	**Shading Out:**	☒ No ☐ Yes
NW	8	5	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 28x20			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[415] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[416] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[417] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 141

GENERAL CHARACTERISTICS			**Condition Rating:** 90	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[418]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 14			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2			**Crown Class**[419]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[420]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B+ ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	4	4	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	2	4	**Weak crotches:**	☒ No ☐ Yes
E	5	4	**Oak Pit Scale:**	☒ No ☐ Yes
SE	4	7	**Mainstem dieback:**	☒ No ☐ Yes
S	3	9	**Exposed Roots:**	☒ No ☐ Yes
SW	5	5	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	6	4	**Shading Out:**	☐ No ☒ Yes
NW	4	4	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 7x11			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: 3' wrought iron fence on S. side property

[418] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[419] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[420] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 142

GENERAL CHARACTERISTICS			**Condition Rating:** 60	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[421]**:** ☐ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 16			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6			**Crown Class**[422]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 50			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[423]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	0	0	**Foliage Density:**	☐ Normal ☒ Sparse
NE	0	0	**Weak crotches:**	☒ No ☐ Yes
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes
SE	12	12	**Mainstem dieback:**	☒ No ☐ Yes
S	16	16	**Exposed Roots:**	☒ No ☐ Yes
SW	15	14	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 16			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Heavily shaded; growing through wrought iron; remove wrought iron bars. Photo 3553

[421] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[422] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[423] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 143

GENERAL CHARACTERISTICS			**Condition Rating:** 90	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[424]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 3.5			**Crown Class**[425]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 100			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[426]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☒ N ☐ S ☒ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	8	4	**Foliage Density:**	☒ Normal ☐ Sparse
NE	15	20	**Weak crotches:**	☒ No ☐ Yes
E	5	8	**Oak Pit Scale:**	☒ No ☐ Yes
SE	0	0	**Mainstem dieback:**	☒ No ☐ Yes
S	0	0	**Exposed Roots:**	☒ No ☐ Yes
SW	0	0	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 8x5			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Leaning NE toward property & over PL

[424] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[425] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[426] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 144

GENERAL CHARACTERISTICS			**Condition Rating:** 70	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[427]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 7			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 1, 2.5			**Crown Class**[428]**:** ☐ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[429]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	3	5	**Foliage Density:**	☒ Normal ☐ Sparse
NE	3	5	**Weak crotches:**	☒ No ☐ Yes
E	3	5	**Oak Pit Scale:**	☒ No ☐ Yes
SE	3	5	**Mainstem dieback:**	☒ No ☐ Yes
S	5	6	**Exposed Roots:**	☒ No ☐ Yes
SW	3	5	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	3	5	**Shading Out:**	☐ No ☒ Yes
NW	3	5	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 8x6			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Codom

[427] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[428] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[429] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 145

GENERAL CHARACTERISTICS	**Condition Rating:** 90
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*	**Health Rating**[430]**:** ☐ A ☒ B ☐ C ☐ D ☐ F
	Form: ☐ symmetric ☒ minor asymmetry
Trunk Count: 2 **Height (ft.)**: 12	☐ major asymmetry ☐ stump sprout ☐ stag-head
Trunk DBH (in.): 2, .5	**Crown Class**[431]**:** ☒ Decurrent ☐ Excurrent
Percent Canopy Cover: 80	**Age Class:** ☒ immature ☐ semi-mature
Existing Terrain: ☐ Flat ☒ Slope	☐ mature ☐ over-mature/senescent
Aesthetic Rating[432]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F	**Heritage Tree:** ☒ No ☐ Yes

CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	3	3	**Foliage Density:**	☒ Normal ☐ Sparse
NE	4	6	**Weak crotches:**	☒ No ☐ Yes
E	3	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	8	**Mainstem dieback:**	☒ No ☐ Yes
S	6	10	**Exposed Roots:**	☒ No ☐ Yes
SW	3	4	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 9x3			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Photo 3566, Leaning south; shaded out

[430] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[431] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[432] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 146

GENERAL CHARACTERISTICS			**Condition Rating:** 85	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[433]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2.5			**Crown Class**[434]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[435]**:** ☒ A ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ S ☐ E ☐ W ☐ None	
Overall Grade: ☒ A ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	3	5	**Foliage Density:**	☒ Norma l ☐ Sparse
NE	4	5	**Weak crotches:**	☒ No ☐ Yes
E	5	10	**Oak Pit Scale:**	☒ No ☐ Yes
SE	7	10	**Mainstem dieback:**	☒ No ☐ Yes
S	5	5	**Exposed Roots:**	☒ No ☐ Yes
SW	4	5	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	5	4	**Shading Out:**	☐ No ☒ Yes
NW	3	3	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 8x10			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Leaning south; Photo 3567

[433] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[434] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[435] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 147

GENERAL CHARACTERISTICS			**Condition Rating:** 75%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[436]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☒ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 10			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 4 @ 2.5' (low branches)			**Crown Class**[437]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 65			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[438]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	3	5	**Foliage Density:**	☐ Normal ☒ Sparse
NE	5	6	**Weak crotches:**	☒ No ☐ Yes
E	6	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	7	5	**Mainstem dieback:**	☒ No ☐ Yes
S	12	4	**Exposed Roots:**	☐ No ☒ Yes
SW	8	4	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	6	12	**Shading Out:**	☐ No ☒ Yes
NW	14	3	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 15x12			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[436] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[437] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[438] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 148

GENERAL CHARACTERISTICS	**Condition Rating:** 90%
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*	**Health Rating**[439]**:** ☐ A ☒ B ☐ C ☐ D ☐ F
	Form: ☒ symmetric ☐ minor asymmetry
Trunk Count: 1 **Height (ft.)**: 50	☐ major asymmetry ☐ stump sprout ☐ stag-head
Trunk DBH (in.): 24	**Crown Class**[440]**:** ☐ Decurrent ☐ Excurrent
Percent Canopy Cover: 80	**Age Class:** ☐ immature ☐ semi-mature
Existing Terrain: ☐ Flat ☒ Slope	☒ mature ☐ over-mature/senescent
Aesthetic Rating[441]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F	**Heritage Tree:** ☐ No ☒ Yes

CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	22	35	**Foliage Density:**	☒ Normal ☐ Sparse
NE	20	45	**Weak crotches:**	☐ No ☒ Yes
E	20	45	**Oak Pit Scale:**	☒ No ☐ Yes
SE	30	25	**Mainstem dieback:**	☒ No ☐ Yes
S	20	30	**Exposed Roots:**	☒ No ☐ Yes
SW	18	20	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	22	30	**Shading Out:**	☐ No ☒ Yes
NW	20	35	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
Canopy Spread *(feet):* 42x42			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☐ No ☒ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: Moved here by Larry many years ago…

[439] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[440] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[441] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 149

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[442]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 18			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6			**Crown Class**[443]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 75			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[444]**:** ☒ A ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☒ A ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☐ Average ☐ Poor ☒ None
N	5	6	**Foliage Density:**	☒ Normal ☐ Sparse
NE	5	6	**Weak crotches:**	☒ No ☐ Yes
E	3	7	**Oak Pit Scale:**	☒ No ☐ Yes
SE	4	8	**Mainstem dieback:**	☒ No ☐ Yes
S	6	9	**Exposed Roots:**	☒ No ☐ Yes
SW	6	5	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	7	4	**Shading Out:**	☐ No ☒ Yes
NW	5	5	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 11x10			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☐ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[442] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[443] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[444] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 150

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[445]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 22			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 4			**Crown Class**[446]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 90			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[447]**:** ☒ A ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☒ A ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	3	6	**Foliage Density:**	☒ Normal ☐ Sparse
NE	3	6	**Weak crotches:**	☒ No ☐ Yes
E	3	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE	5	6	**Mainstem dieback:**	☒ No ☐ Yes
S	3	6	**Exposed Roots:**	☒ No ☐ Yes
SW	3	6	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	3	6	**Shading Out:**	☐ No ☒ Yes
NW	0	0	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 6x6			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[445] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[446] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[447] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 151

GENERAL CHARACTERISTICS			**Condition Rating:** 90%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[448]**:** ☒ A ☐ B ☐ C ☐ D ☐ F	
			Form: ☒ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 20			☐ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 6			**Crown Class**[449]**:** ☐ Decurrent ☒ Excurrent	
Percent Canopy Cover: 80			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[450]**:** ☒ A ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☐ None	
Overall Grade: ☒ A ☐ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None
N	10	15	**Foliage Density:**	☒ Normal ☐ Sparse
NE	8	15	**Weak crotches:**	☒ No ☐ Yes
E	6	15	**Oak Pit Scale:**	☒ No ☐ Yes
SE	6	15	**Mainstem dieback:**	☒ No ☐ Yes
S	4	15	**Exposed Roots:**	☒ No ☐ Yes
SW	6	15	**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	6	15	**Shading Out:**	☐ No ☒ Yes
NW	6	15	**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 14x12			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☐ Trunk ☐ Branch ☒ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☒ None ☐ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

[448] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[449] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[450] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 152

GENERAL CHARACTERISTICS			**Condition Rating:** 50%	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[451]**:** ☐ A ☐ B ☒ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 1 **Height (ft.)**: 9			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 2			**Crown Class**[452]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 40			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[453]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☐ B ☒ C- ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	5	10	**Foliage Density:**	☐ Normal ☒ Sparse
NE			**Weak crotches:**	☒ No ☐ Yes
E	4	5	**Oak Pit Scale:**	☒ No ☐ Yes
SE			**Mainstem dieback:**	☒ No ☐ Yes
S	2	5	**Exposed Roots:**	☒ No ☐ Yes
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	2	5	**Shading Out:**	☐ No ☒ Yes
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 7x6			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☐ Minor ☒ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes: image 8141, trees 152-54

[451] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[452] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[453] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 50%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[454]**:** ☐ A ☐ B ☒ C ☐ D ☐ F		
			Form: ☒ symmetric ☐ minor asymmetry		
Trunk Count: 2 **Height (ft.)**: 8			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 2, 1			**Crown Class**[455]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 50			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[456]**:** ☐ A ☐ B ☒ C- ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	5	4	**Foliage Density:**	☐ Normal ☒ Sparse	
NE			**Weak crotches:**	☐ No ☒ Yes	
E	4	5	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	0	0	**Exposed Roots:**	☐ No ☒ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	4	4	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 5x8			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☐ Average ☒ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☒ Minor ☐ Moderate ☐ Extensive ☐ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes: image 8141

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 154

[454] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[455] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[456] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[457]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☒ minor asymmetry		
Trunk Count: 2 **Height (ft.)**: 12			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 2,1.5			**Crown Class**[458]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 60			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[459]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	5	12	**Foliage Density:**	☐ Normal ☒ Sparse	
NE			**Weak crotches:**	☐ No ☒ Yes	
E	5	10	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	0	0	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	4	8	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 5x9			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 155

[457] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[458] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[459] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 60%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[460]**:** ☐ A ☐ B ☒ C ☐ D ☐ F		
			Form: ☐ symmetric ☐ minor asymmetry		
Trunk Count: 2 **Height (ft.)**: 9			☒ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 3, 1			**Crown Class**[461]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 60			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[462]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	6	4	**Foliage Density:**	☐ Normal ☒ Sparse	
NE			**Weak crotches:**	☒ No ☐ Yes	
E	4	3	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	0	0	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	3	5	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 6x7			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 156

[460] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[461] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[462] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 60%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[463]**:** ☐ A ☐ B ☒ C ☐ D ☐ F		
			Form: ☐ symmetric ☐ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 8			☒ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 2.5 @ 3'			**Crown Class**[464]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 40			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[465]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	5	3	**Foliage Density:**	☐ Normal ☒ Sparse	
NE			**Weak crotches:**	☒ No ☐ Yes	
E	3	4	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	0	0	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	0	0	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):*			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 157

[463] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[464] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[465] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:75%**	
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[466]**:** ☐ A ☒ B ☐ C ☐ D ☐ F	
			Form: ☐ symmetric ☐ minor asymmetry	
Trunk Count: 2 **Height (ft.)**: 12			☒ major asymmetry ☐ stump sprout ☐ stag-head	
Trunk DBH (in.): 1, 4			**Crown Class**[467]**:** ☒ Decurrent ☐ Excurrent	
Percent Canopy Cover: 70			**Age Class:** ☒ immature ☐ semi-mature	
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent	
Aesthetic Rating[468]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None	
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes	
CANOPY CHARACTERISTICS			**TREE HEALTH**	
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None
N	10	14	**Foliage Density:**	☒ Normal ☐ Sparse
NE			**Weak crotches:**	☒ No ☐ Yes
E	6	6	**Oak Pit Scale:**	☒ No ☐ Yes
SE			**Mainstem dieback:**	☒ No ☐ Yes
S	4	5	**Exposed Roots:**	☒ No ☐ Yes
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten
W	0	0	**Shading Out:**	☐ No ☒ Yes
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch
			Exfoliating Bark:	☒ No ☐ Yes
***Canopy Spread** (feet):* 14x6			**Water Pocket(s):**	☒ No ☐ Yes
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None
Proposed Land Use:				
Impacts:			**Exudations:**	☒ No ☐ Yes
Mitigations:			**Galls:**	☒ No ☐ Yes

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 158

[466] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[467] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[468] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[469]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☐ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 14			☒ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 5			**Crown Class**[470]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 65			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[471]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	7	6	**Foliage Density:**	☒ Normal ☐ Sparse	
NE			**Weak crotches:**	☒ No ☐ Yes	
E	4	5	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	3	6	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	4	5	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 10x8			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 159

[469] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[470] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[471] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[472]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☒ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 14			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 3.5			**Crown Class**[473]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 65			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[474]**:** ☒ A- ☐ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	7	12	**Foliage Density:**	☐ Normal ☒ Sparse	
NE			**Weak crotches:**	☐ No ☒ Yes	
E	4	7	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	3	6	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	4	6	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 10x8			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 160

[472] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[473] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[474] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[475]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☒ minor asymmetry		
Trunk Count: 2 **Height (ft.)**: 18			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 1, 4.5			**Crown Class**[476]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 65			**Age Class:** ☐ immature ☐ semi-mature		
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[477]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	5	12	**Foliage Density:**	☒ Normal ☐ Sparse	
NE			**Weak crotches:**	☐ No ☒ Yes	
E	6	8	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	3	8	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	5	5	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 8x11			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 161

[475] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[476] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[477] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[478]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☒ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 14			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 3			**Crown Class**[479]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 65			**Age Class:** ☐ immature ☐ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[480]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	5	12	**Foliage Density:**	☒ Normal ☐ Sparse	
NE			**Weak crotches:**	☒ No ☐ Yes	
E	8	7	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	0	0	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	4	7	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 5x12			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 162

[478] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[479] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[480] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[481]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☒ minor asymmetry		
Trunk Count: 2 **Height (ft.)**: 16			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 1.5, 1.5			**Crown Class**[482]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 70			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[483]**:** ☐ A ☒ B- ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	6	8	**Foliage Density:**	☒ Normal ☐ Sparse	
NE			**Weak crotches:**	☐ No ☒ Yes	
E	0	0	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	4	6	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	4	8	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 10x4			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 163

[481] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[482] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[483] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[484]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☒ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 14			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 3			**Crown Class**[485]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 50			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[486]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	3	5	**Foliage Density:**	☐ Normal ☒ Sparse	
NE			**Weak crotches:**	☒ No ☐ Yes	
E	4	4	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	5	8	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☐ Exten	
W	0	0	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 8x4			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 164

[484] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[485] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[486] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[487]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☒ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 13			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 2.5			**Crown Class**[488]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 60			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[489]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☒ Excellent ☐ Average ☐ Poor ☐ None	
N	5	8	**Foliage Density:**	☐ Normal ☒ Sparse	
NE			**Weak crotches:**	☒ No ☐ Yes	
E	5	12	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	3	7	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	3	7	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 8x8			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 165

[487] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[488] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[489] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 70%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[490]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☐ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 16			☒ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 4 @ 3'			**Crown Class**[491]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 70			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[492]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☐ B ☒ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	10	12	**Foliage Density:**	☐ Normal ☒ Sparse	
NE			**Weak crotches:**	☒ No ☐ Yes	
E	5	14	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	10	8	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☐ None	☐ Min ☐ Mod ☐ Exten	
W	6	10	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 20x11			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 166

[490] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[491] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[492] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 80%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[493]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☒ minor asymmetry		
Trunk Count: 2 **Height (ft.)**: 20			☐ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 4, 1.5			**Crown Class**[494]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 80			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☐ Flat ☒ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[495]**:** ☐ A ☒ B ☐ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☐ S ☐ E ☐ W ☒ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	6	18	**Foliage Density:**	☒ Normal ☐ Sparse	
NE			**Weak crotches:**	☒ No ☐ Yes	
E	6	8	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	7	8	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	7	5	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 13x13			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☒ Excellent ☐ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

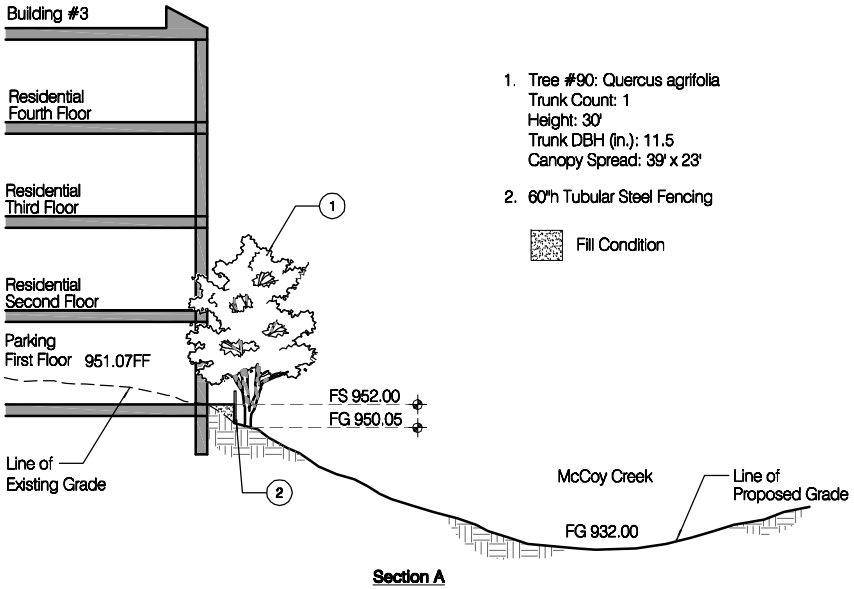
Survey Date: 10/15/12 Thru 10/17/12 **Tree Number:** 167

[493] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[494] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[495] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

GENERAL CHARACTERISTICS			**Condition Rating:** 75%		
Species: ☒*Q. agrifolia* ☐*Q. lobata* ☐*Other (see below)*			**Health Rating**[496]**:** ☐ A ☒ B ☐ C ☐ D ☐ F		
			Form: ☐ symmetric ☐ minor asymmetry		
Trunk Count: 1 **Height (ft.)**: 18			☒ major asymmetry ☐ stump sprout ☐ stag-head		
Trunk DBH (in.): 4			**Crown Class**[497]**:** ☒ Decurrent ☐ Excurrent		
Percent Canopy Cover: 60			**Age Class:** ☒ immature ☐ semi-mature		
Existing Terrain: ☒ Flat ☐ Slope			☐ mature ☐ over-mature/senescent		
Aesthetic Rating[498]**:** ☐ A ☐ B ☒ C ☐ D ☐ F			**Trunk Lean:** ☐ N ☒ SE ☐ E ☐ W ☐ None		
Overall Grade: ☐ A ☒ B ☐ C ☐ D ☐ F			**Heritage Tree:** ☒ No ☐ Yes		
CANOPY CHARACTERISTICS			**TREE HEALTH**		
	Dripline Radius (Feet)	Canopy to Grade (Feet)	**Wound Wood Development:**	☐ Excellent ☒ Average ☐ Poor ☐ None	
N	0	0	**Foliage Density:**	☐ Normal ☒ Sparse	
NE			**Weak crotches:**	☒ No ☐ Yes	
E	8	14	**Oak Pit Scale:**	☒ No ☐ Yes	
SE			**Mainstem dieback:**	☒ No ☐ Yes	
S	12	16	**Exposed Roots:**	☒ No ☐ Yes	
SW			**Epicormic growth:** ☒ None	☐ Min ☐ Mod ☐ Exten	
W	0	0	**Shading Out:**	☐ No ☒ Yes	
NW			**Cavities:** ☒ None	☐ Trunk ☐ Branch	
			Exfoliating Bark:	☒ No ☐ Yes	
***Canopy Spread** (feet):* 12x8			**Water Pocket(s):**	☒ No ☐ Yes	
PROPOSED ACTIONS			**Mechanical Damage:**	☒ Trunk ☒ Branch ☐ None	
Root Collar Inspection:	☐		**Cankers:**	☒ No ☐ Yes	
Monitor for Progress:	☐		**Fungus:**	☒ No ☐ Yes	
Remove Deadwood/Prune :	☐		**Twig/ Branch Dieback:**	☐ None ☒ Minor ☐ Moderate ☐ Extensive	
Risk Assessment	☐		**Codominant Stem:**	☒ No ☐ Yes	
Support Structure:	☐		**Included Bark:**	☒ No ☐ Yes	
IMPACTS & MITIGATIONS			**Vigor:**	☐ Excellent ☒ Average ☐ Fair ☐ Poor	
In Impacted Area: ☐ Yes ☐ No			**Borers/ Ants /Termites:**	☐ Minor ☐ Moderate ☐ Extensive ☒ None	
Proposed Land Use:					
Impacts:			**Exudations:**	☒ No ☐ Yes	
Mitigations:			**Galls:**	☒ No ☐ Yes	

Comments & Notes:

[496] Health: A =Outstanding; B = Above Average; C = Average; D = Below Average; F = Dead
[497] Decurrent = Lacking Strong Central Leader. Excurrent = Strong Central Leader.
[498] Aesthetic (compared to standard tree of same species) : A = nearly symmetrical, healthy tree – F = Dead

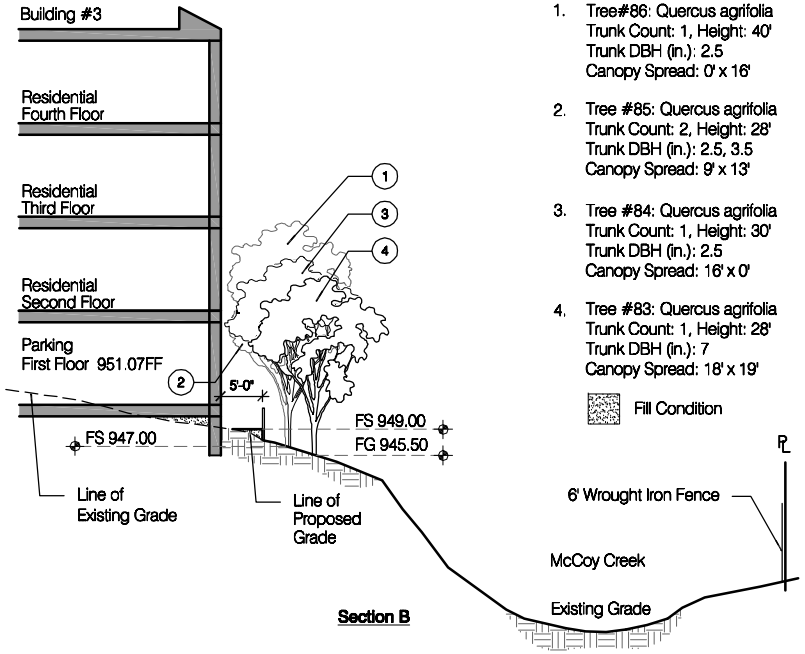


Section A

Tree#90: Quercus agrifolia (Protected Tree)

Scale: 1"=30'-0"

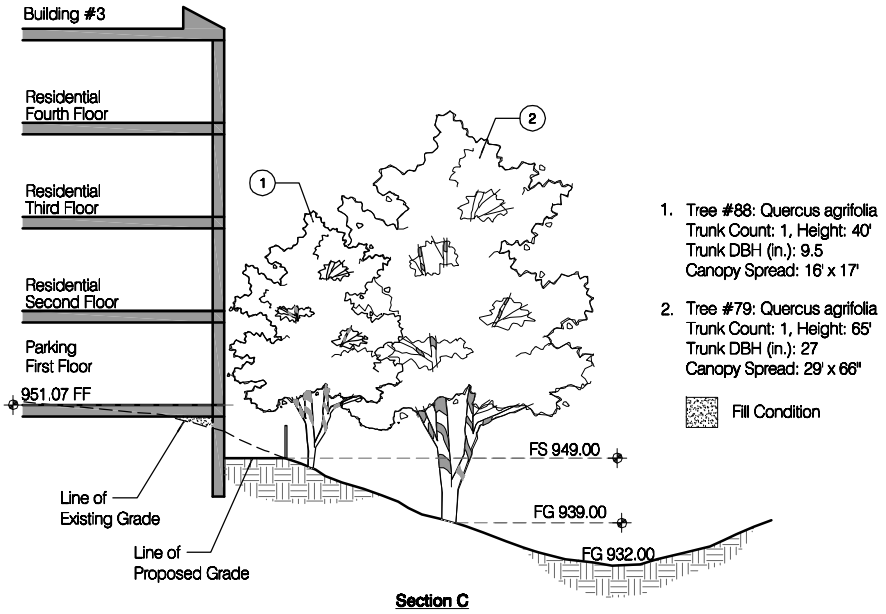
Site Plan- NTS



Section B

Tree#83-86: Quercus agrifolia (Protected Tree)

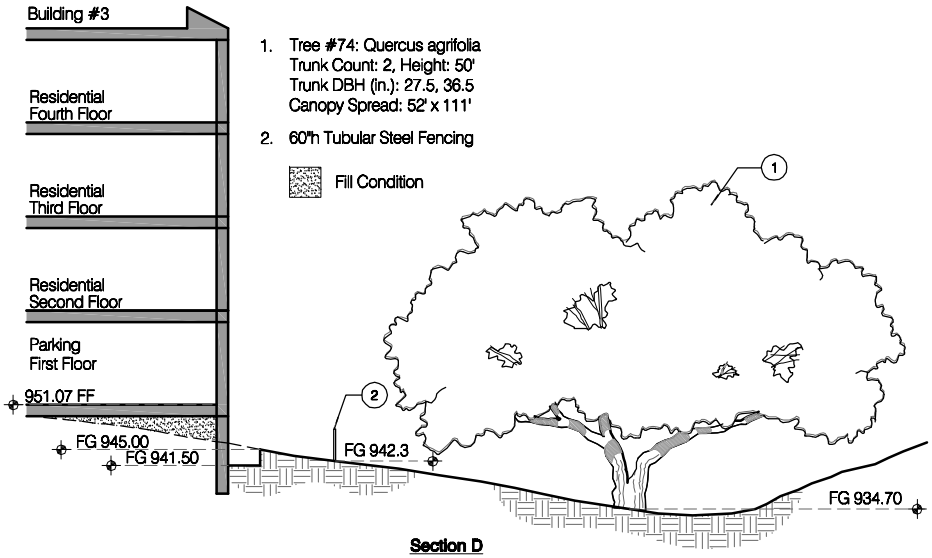
Scale: 1"=30'-0"



Section C

Tree#79,88: Quercus agrifolia (Protected Tree)

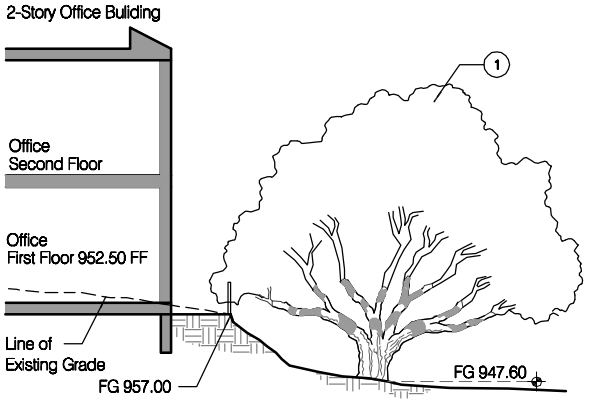
Scale: 1"=30'-0"



Section D

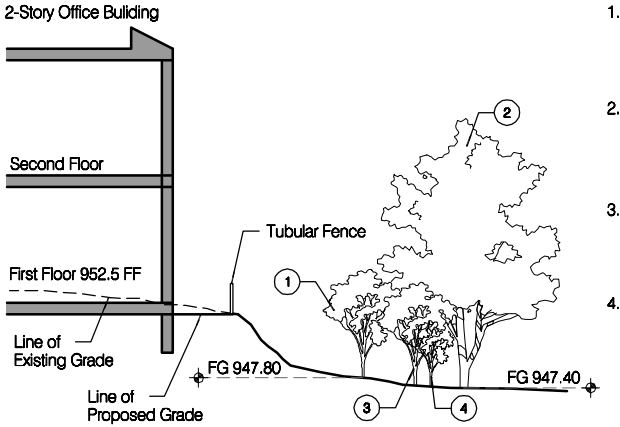
Tree#74: Quercus agrifolia (Heritage Oak Tree)
Scale: 1"=30'-0"

Site Plan- NTS



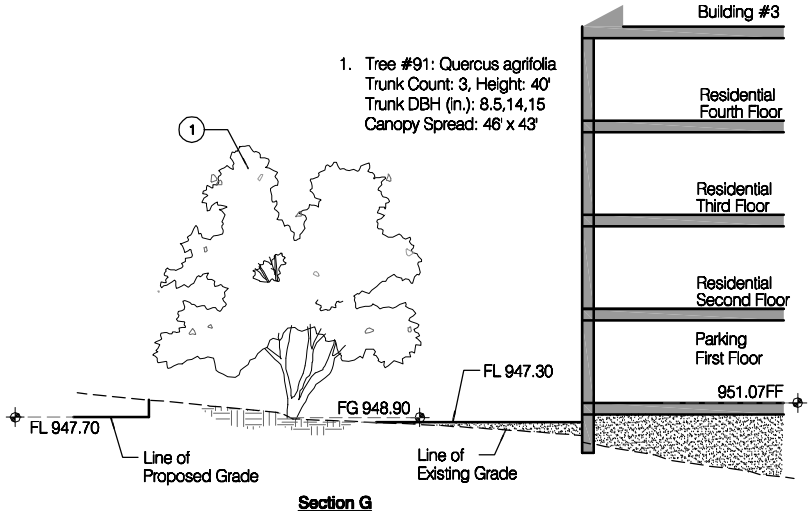
Section E

Tree#95: Quercus agrifolia (Heritage Oak Tree)
Scale: 1"=30'-0"



Section F

Tree#97-100: Quercus agrifolia (Heritage Oak Tree)
Scale: 1"=30'-0"

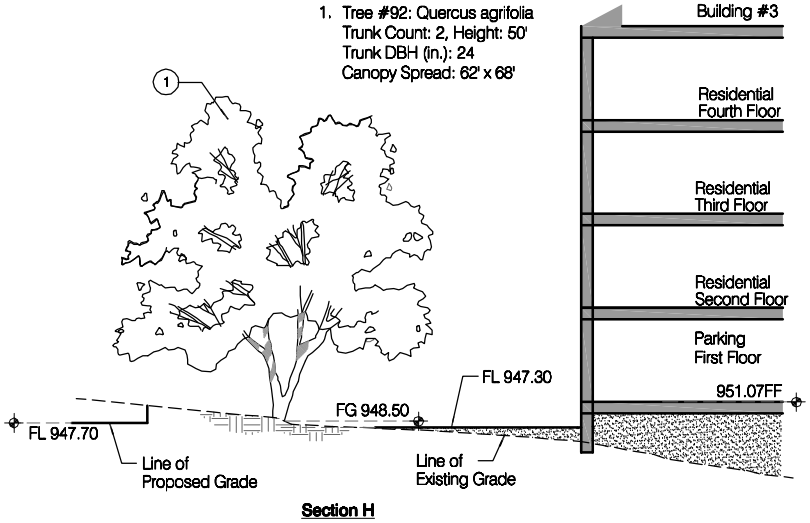


Section G

Tree#91: Quercus agrifolia (Protected Tree)

Scale: 1"=30'-0"

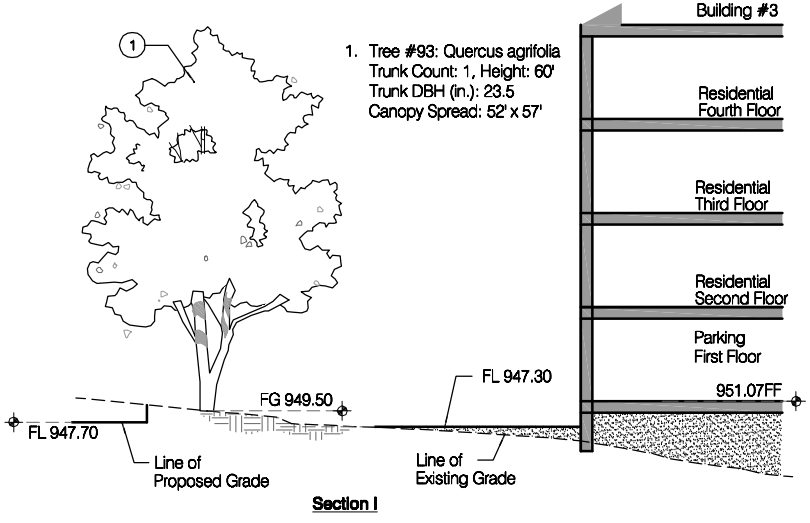
Site Plan- NTS



Section H

Tree#92: Quercus agrifolia (Protected Tree)

Scale: 1"=30'-0"



Section I

Tree#93: Quercus agrifolia (Protected Tree)

Scale: 1"=30'-0"

PRC Values for Oak Trees on the Village at Calabasas Project – 23500 Park Sorrento, Calabasas

Tree No.	Diameter(s)	Adjusted Diameter (based on additive trunk area for multi-trunk trees)	Condition Rating	Basic Value $ ($4,600 for 1st 7" dbh + $2,600 x balance of dbh)	PRC Value $ (Basic value x Condition Rating)
1	11, 5.5	12.3	0.50	18,380	9,190
2	19.5	n/a	0.5	37,100	18,550
3	7.5	n/a	0.4	5,900	2,360
4	26	n/a	0.75	54,000	40,500
5	21	n/a	0.6	41,000	24,600
6	29	n/a	0.8	61,800	49,440
7	7	n/a	0.25	4,600	1,150
8	3	n/a	0.25	1,600	400
9	6	n/a	0.5	4,700	2,350
10	20	n/a	0.9	38,400	34,560
11	7	n/a	0.75	7,600	5,700
12	29	n/a	0.75	61,800	46,350
13	36	n/a	0.75	80,000	60,000
14	10	n/a	0.75	12,400	9,300
15	5.5	n/a	0.4	4,700	1,880
16	11	n/a	0.75	15,000	11,250
17	9	n/a	0.75	9,800	7,350
18	12.5	n/a	0.75	18,900	14,175
19	13	n/a	0.75	20,200	15,150
20	15	n/a	0.5	25,400	12,700
21	10	n/a	0.7	12,400	8,680
22	8.5	n/a	0.75	8,500	6,375
23	9	n/a	0.7	9,800	6,860
24	25.5	n/a	0.6	52,700	31,620
25	13.5	n/a	0.4	21,500	8,600
26	10.5	n/a	0.1	13,700	1,370
27	10	n/a	0.7	12,400	8,680
28	20	n/a	0.7	38,400	26,880
29	11	n/a	0.75	15,000	11,250
30	23	n/a	0.75	46,200	34,650
31	28.5	n/a	0.75	60,500	45,375
32	8	n/a	0.4	7,200	2,880
33	9	n/a	0.6	9,800	5,880
34	14, 2	14.2	0.6	23,320	13,992
35	7	n/a	0.6	7,600	4,560
36	5.5	n/a	0.5	4,600	2,300
37	Gone	n/a	0	0	0
38	7.5	n/a	0.4	5,900	2,360
39	6.5	n/a	0.4	7,600	3,040

40	12	n/a	0.6	17,600	10,560
41	Gone	n/a	0	0	0
42	8	n/a	0.6	7,200	4,320
43	2.5	n/a	0.4	1,275	510
44	3	n/a	0.5	1,600	800
45	10	n/a	0.65	12,400	8,060
46	10, 13	16.4	0.6	29,040	17,424
47	16	n/a	0.75	28,000	21,000
48	3.5	n/a	0.4	1,950	780
49	7	n/a	0.75	7,600	5,700
50	5.5	n/a	0.5	4,700	2,350
51	3	n/a	0.25	1600	400
52	2	n/a	0.4	910	364
53	2.5	n/a	0.5	1275	638
54	2.5	n/a	0.5	1275	638
55	2	n/a	0.5	910	455
56	5	n/a	0.5	3000	1,500
57	20	n/a	0.7	38400	26,880
58	18	n/a	0.6	33200	19,920
59	7	n/a	0.6	7600	4,560
60	3	n/a	0.5	1600	800
61	23	n/a	0.9	46,200	41,580
62	3, 16	16.3	0.9	46,980	42,282
63	3	n/a	0.15	1600	240
64	6	n/a	0.25	4700	1,175
65	5	n/a	0.75	3000	2,250
66	3	n/a	0.6	1600	960
67	7	n/a	0.5	7600	3,800
68	16.5	n/a	0.75	29,300	21,975
69	6	n/a	0.7	4700	3,290
70	2	n/a	0.25	910	228
71	5	n/a	0.65	3000	1,950
72	12	n/a	0.75	17,600	13,200
73	5	n/a	0.3	3000	900
74	27.5, 36	52	0.75	121,600	91,200
75	10.5	n/a	0.75	13,700	10,275
76	3	n/a	0.5	1600	800
77	11.5	n/a	0.75	16,300	12,225
78	3	n/a	0.65	1600	1,040
79	27	n/a	0.75	56,600	42,450
80	24	n/a	0.5	48,800	24,400
81	64	n/a	0.5	152,800	76,400
82	5	n/a	0.75	3000	2,250
83	7	n/a	0.75	7600	5,700

84	2.5	n/a	0.65	1275	829
85	2.5, 3.5	4.3	0.65	2,300	1,495
86	2.5	n/a	0.4	1275	510
87	7	n/a	0.75	7600	5,700
88	9.5	n/a	0.75	11,100	8,325
89	15	n/a	0.9	25,400	22,860
90	11.5	n/a	0.9	16,300	14,670
91	8.5, 14, 15	22.2	0.9	44,120	39,708
92	24	n/a	0.9	48,800	43,920
93	23.5	n/a	0.9	47,500	42,750
94	11.5	n/a	1	16,300	16,300
95	65	n/a	0.5	155,400	77,700
96	13, 15	19.9	0.6	38,140	22,884
97	4	n/a	0.75	1,950	1,463
98	19	n/a	0.75	35,800	26,850
99	5	n/a	0.75	3000	2,250
100	2	n/a	0.9	910	819
101	3	n/a	0.6	1,600	960
102	11, 5.5	standing dead	0	0	0
103	60	n/a	0.8	142,400	113,920
104	26	n/a	0.9	54,000	48,600
105	25.5	n/a	0.5	52,700	26,350
106	47	n/a	0.75	108,600	81,450
107	24	n/a	0.75	48,800	36,600
108	6.5	n/a	0.5	7,600	3,800
109	12	n/a	0.5	17,600	8,800
110	18	n/a	0.75	33,200	24,900
111	15.5	n/a	0.5	26,700	13,350
112	4.5	n/a	0.25	2300	575
113	15	n/a	0.75	25,400	19,050
114	7.5	n/a	0.5	5900	2,950
115	6.5	n/a	0.25	7,600	1,900
116	11.5, 16.5	20.1	0.8	38,660	30,928
117	21	n/a	0.75	41,000	30,750
118	16.5	n/a	0.9	29,300	26,370
119	17	n/a	0.95	30,600	29,070
120	15	n/a	0.8	25,400	20,320
121	46	n/a	0.9	106,000	95,400
122	33	n/a	0.9	72,200	64,980
123	20	n/a	0.9	38,400	34,560
124	1,1,1,1,1,1,1.5,1.5	9	0.5	9,800	4,900
125	9	n/a	0.75	9,800	7,350
126	6, 1, 2	6.4	0.9	7600	6,840

127	1,1,1,5,6, 6.5,10	14.4	0.9	23,840	21,456
128	12	n/a	0.9	17,600	15,840
129	17.5	n/a	0.9	31,900	28,710
130	gone	n/a	0	0	0
131	11, 5.5	standing dead	0	0	0
132	1.5, 1.5	3	0.6	1,600	960
133	2.5	n/a	0.1	1275	128
134	15.5	n/a	0.75	26,700	20,025
135	2	n/a	0.8	910	728
136	2	n/a	0.8	910	728
137	3, 4	5	0.75	3,000	2,250
138	6.5, 8.5, 9	14	0.75	22,800	17,100
139	2.5	n/a	0.9	1275	1,148
140	6.5	n/a	0.9	7600	6,840
141	2	n/a	0.9	910	819
142	6	n/a	0.6	4700	2,820
143	3.5	n/a	0.9	1,950	1,755
144	1, 2.5	2.8	0.7	1,600	1,120
145	0.5, 2	2.5	0.9	1,600	1,440
146	2.5	n/a	0.85	1,275	1,084
147	4	n/a	0.75	1,950	1,463
148	24	n/a	0.9	48,800	43,920
149	6	n/a	0.9	4,700	4,230
150	4	n/a	0.9	1,950	1,755
151	6	n/a	0.9	4,700	4,230
152	2	n/a	0.5	910	455
153	1, 2	2.3	0.5	1,600	800
154	1.5, 2	2.4	0.75	1,600	1,200
155	1, 3	3.2	0.6	1,600	960
156	2.5	n/a	0.6	1,275	765
157	1, 4	4.2	0.75	1,950	1,463
158	5	n/a	0.75	3,000	2,250
159	3.5	n/a	0.75	1,950	1,463
160	1, 4.5	4.7	0.75	3,000	2,250
161	3	n/a	0.75	1,600	1,200
162	1.5, 1.5	3	0.75	1,600	1,200
163	3	n/a	0.75	1,600	1,200
164	2.5	n/a	0.75	1,275	956
165	4	n/a	0.7	1,950	1,365
166	1.5, 4	4.2	0.8	1,950	1,560
167	4	n/a	0.75	1,950	1,463
					2,385,336

APPENDIX IV - A

OAK TREE PHOTOGRAPHS TREES 1 - 65

SITE VISIT DATES: NOVEMBER 15-17, 2012

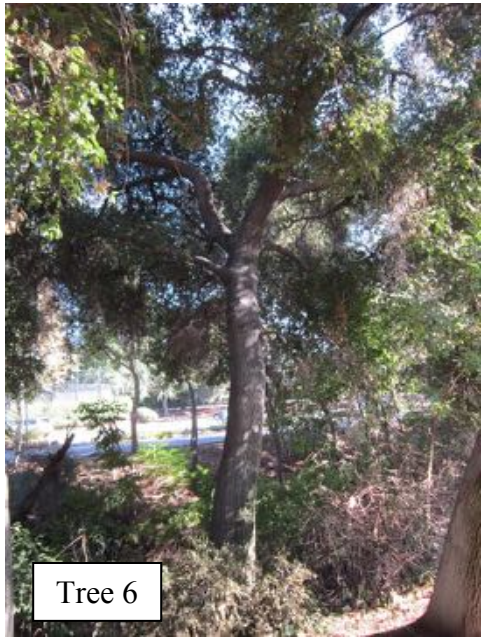
Tree 1

Tree 2

Tree 3

Tree 4

Tree 5


Tree 6

Tree 7

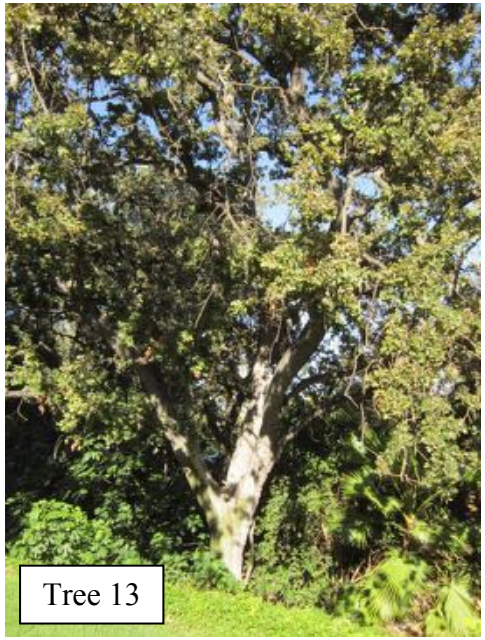
Tree 8

Tree 9

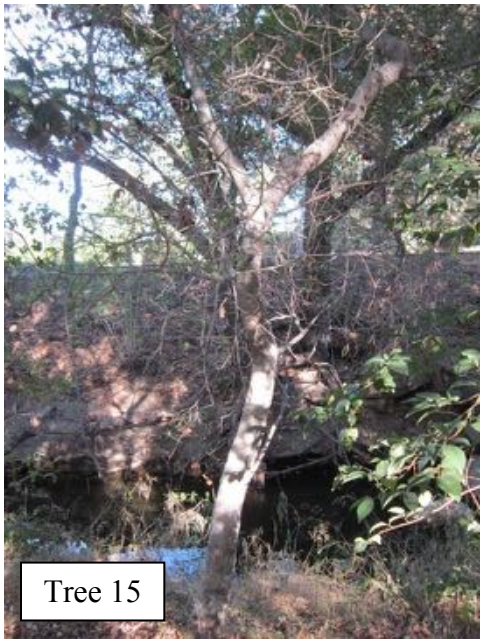
Tree 10

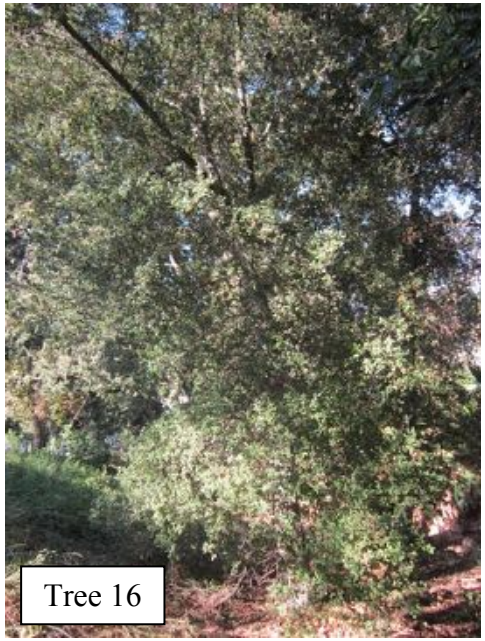
Tree 11

Tree 12


Tree 13

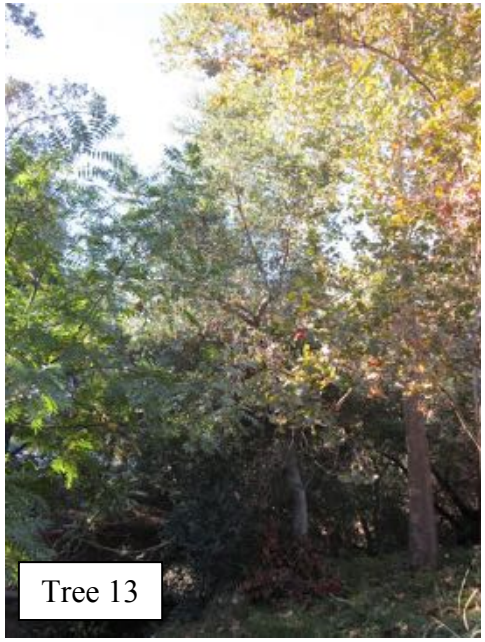
Tree 14


Tree 15

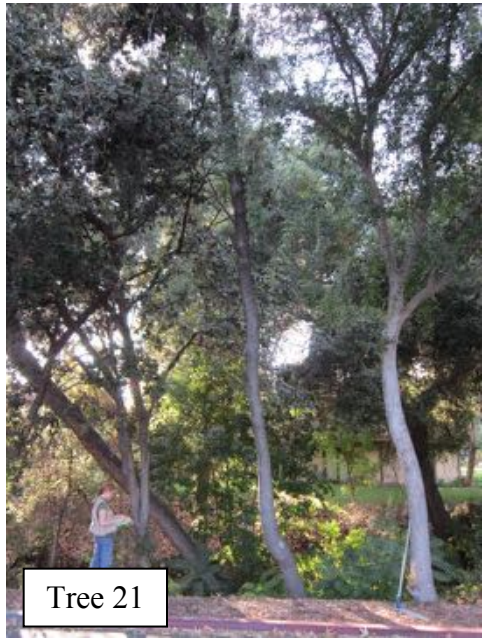

Tree 16

Tree 17

Tree 18

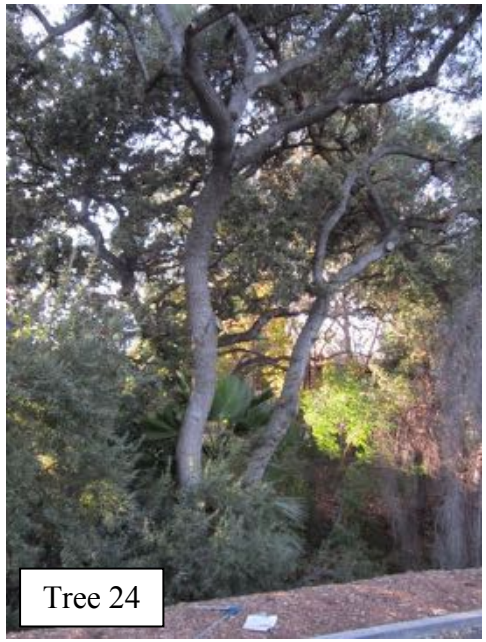

Tree 13

Tree 20


Tree 21

Tree 22

Tree 23

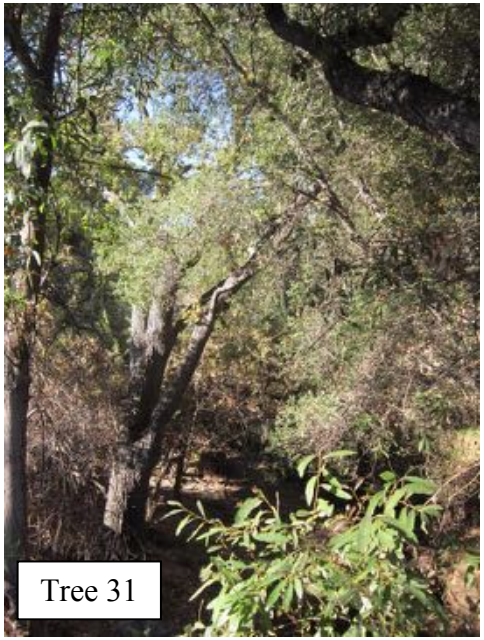

Tree 24

Tree 25

Tree 26

Tree 27

Trees 28-30 (R to L)


Tree 31

Tree 32

Tree 33

Tree 34

Trees 35&36 (R to L)

Trees 38-40 (L to R)

Tree 42

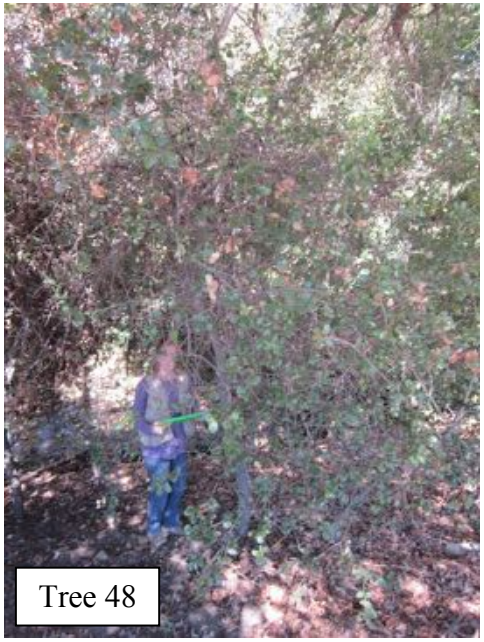
Tree 43

Tree 44

Tree 45

Tree 46

Tree 47


Tree 48

Tree 49

Trees 50-53 (L to R)

Trees 54-56 (L to R)

Tree 57

Tree 58

Tree 59

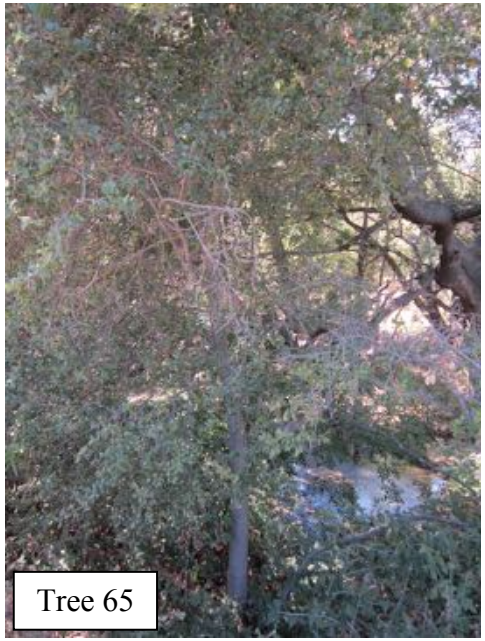
Tree 60

Tree 61

Tree 62

Tree 63

Tree 64


Tree 65

APPENDIX IV - B

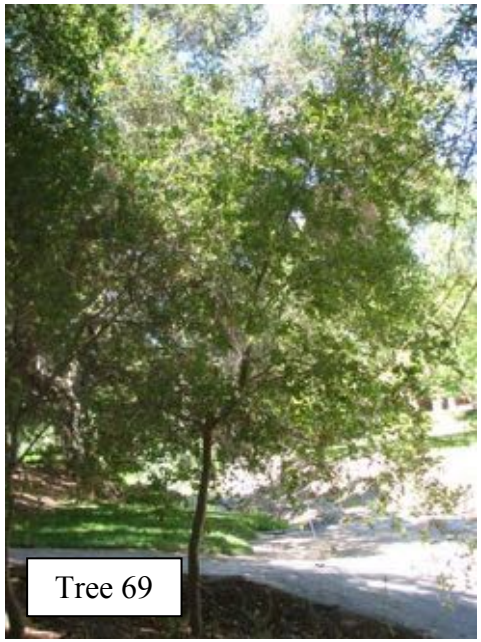
OAK TREE PHOTOGRAPHS TREES 66 - 133

SITE VISIT DATES: NOVEMBER 15-17, 2012

Tree 66

Tree 67

Tree 68


Tree 69

Tree 70

Tree 71

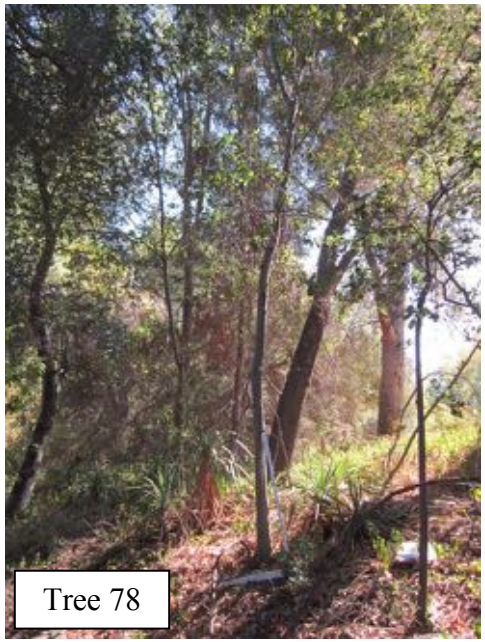
Tree 72

Tree 73

Tree 74

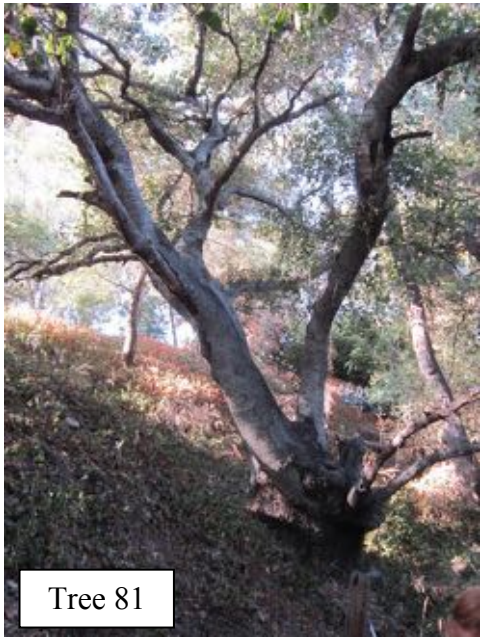
Tree 75

Trees 76&77 (L to R)


Tree 78

Tree 79

Tree 80


Tree 81

Tree 82

Trees 83-86 (L to R)

Tree 87

Tree 88

Tree 89

Tree 90

Trees 92, 91, & 93 (L to R)

Tree 94

Tree 95

Trees 96, & 98 (L to R)

Tree 97

Trees 99, & 100 (R to L)

Tree 101

Tree 102 (dead)

Tree 103

Tree 104

Tree 105

Tree 106

Tree 107

Tree 108

Tree 109

Tree 110

Tree 111

Tree 112

Trees 113, & 114 (R to L)

Tree 115

Tree 116

Tree 117

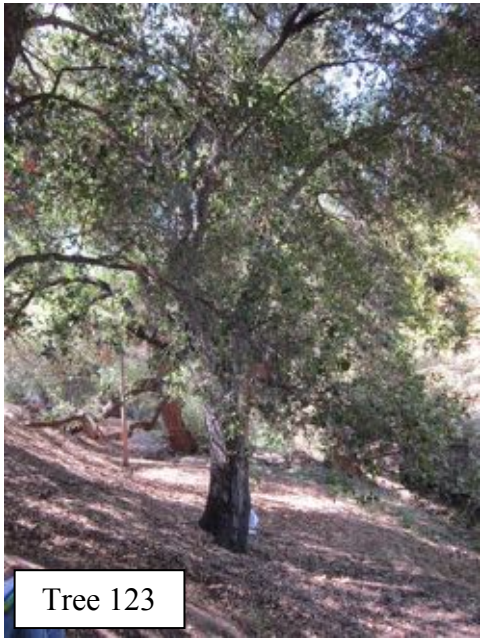
Tree 118

Tree 119

Tree 120

Tree 121

Tree 122


Tree 123

Tree 124

Trees 125, & 126 (L to R)

Tree 127

Tree 128

Tree 129

Tree 131 (dead)

Tree 132

Tree 133

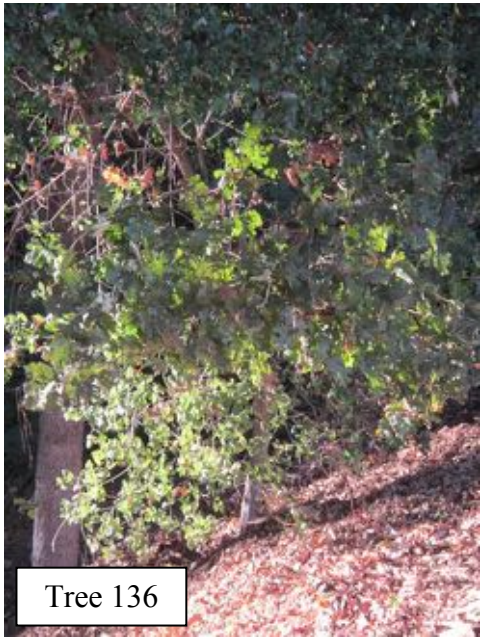
APPENDIX IV - C

OAK TREE PHOTOGRAPHS TREES 134 - 167

SITE VISIT DATES: NOVEMBER 15-17, 2012

Tree 134

Tree 135


Tree 136

Tree 137

Tree 138

Tree 139

Tree 140

Tree 141

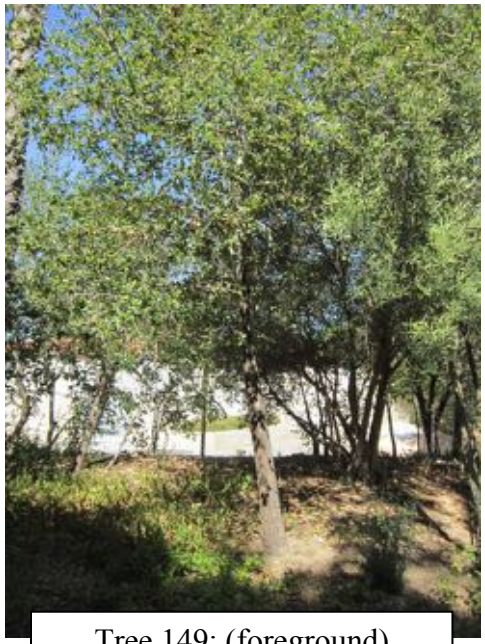
Tree 142

Tree 143-145 (L to R)

Tree 146

Tree 147

Tree 148



Tree 149; (foreground)
Trees 158-167, (background)

Trees 150-151; (foreground)
Trees 153-157, (background)

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Satellite Office • 80 West Sierra Madre Boulevard, #241 • Sierra Madre • California • 91024
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Education
B.A., Social Ecology, Environmental Analysis and Design, University of California, Irvine, 1993
Graduate, International Society of Arboriculture Certification Study Program, 1998
Graduate, Consulting Academy, American Society of Consulting Arborists, 2008

Experience
Consulting Arborist, Carlberg Associates, 2011 – Present
Director of Environmental Services and Senior Arborist, Land Design Consultants, Inc., Pasadena, 1994 – 2011
Park Specialist/Naturalist, City of Monrovia, CA, 1988 - 1996

Certificates
Certified Arborist, WE-1982A, International Society of Arboriculture, 1998
Registered Consulting Arborist, #502, American Society of Consulting Arborists, 2011
Certified Tree Risk Assessor, #1529, International Society of Arboriculture, 2012

Areas of Expertise

Ms. Cuba is experienced in the following areas of tree management and preservation:

- Inventories & reports for thousands of native and non-native trees
- Evaluation of trees for hazards, preservation, encroachment, relocation & restoration
- Value assessments for native and non-native trees
- Impact analysis based on engineering, architect, and grading plans
- Preparation of guidelines for tree preservation and management
- Construction monitoring – program development & implementation
- Tree & landscape resource mapping
- Planting, pruning, and maintenance specifications
- Post-fire inventories, assessments, and valuations for native & non-native trees
- Planning Commission, City Council, and community meetings representation
- Review of landscape plans for mitigation compliance
- Preparation of native habitat and woodland management plans
- Performance of long-term mitigation compliance monitoring & reporting
- Expert testimony

Previous Consulting Experience

Ms. Cuba has performed hundreds of tree inventories, health evaluations, impact analyses, hazard and value assessments for government agencies including; counties, cities, sanitation districts, and water districts, as well as private developers, architects, engineers and homeowners. With over 23 years of experience in arboriculture related to environmental planning, state and federal regulatory permitting, preparation of CEQA analyses, and mitigation planning and implementation, Ms. Cuba's representative clients include:

City of Pasadena
City of Monrovia
City of Santa Clarita
City of Glendora
Los Angeles County Fire Dept.
L.A. County Sanitation Districts
Valley Canyon Partners/D2 Homes
Newhall County Water District
Pulte/Centex
Lennar
Newhall Land & Farming
Southern California Pipeline

Affiliations

Ms. Cuba participates with the following professional organizations:

- Member, American Society of Consulting Arborists and ASCA Education Task Force
- Member, International Society of Arboriculture, Western Chapter
- Member, Los Angeles Oak Woodland Habitat Conservation Strategic Alliance (2009-present)
- Board Member (2010-2011) and Secretary (2011-present), Street Tree Seminar, Inc.

Additional Background and Selected Projects

As a consulting arborist and senior environmental project manager, Ms. Cuba's experience in arboriculture extends to the preparation of environmental impact reports, state and federal regulatory permitting, subdivision planning and entitlement, mitigation planning and implementation, and construction monitoring. Specific examples include: preparation and processing of oak and other protected tree surveys and reports, preparation of tree protection plans, construction monitoring, preparation of specific plans, mitigation monitoring programs and compliance plans, Conditional Use Permits/Tentative map applications, and pre-development site constraints analysis. Her experience also includes the preparation and/or peer review of oak tree, riparian, and native plant revegetation/habitat replacement plans and trail master plans, U.S. Army Corps of Engineers' Section 404- Nationwide and Individual Permits, California Department of Fish & Game 1603 Agreements; State of California Regional Water Quality Control Board Section 401 Water Quality Certifications, NPDES compliance documentation, State-mandated Storm Water Pollution Prevention Plans, and Standard Urban Storm Water Management Plans. As an advocate of environmental education, Christy brings eight years of curriculum planning and instruction of California native flora, fauna, and ecological principles to her arboricultural consulting philosophy.

She specializes in arboricultural consultation and planning for residential, institutional, and commercial development projects and construction monitoring. Ms. Cuba was the senior project manager on the following representative projects:

City of Pasadena Planning Department – On-call Arborist services 2002 – 2011
Prepare independent inspections of trees proposed for removal
Review applications for tree removals on private properties as requested
Perform independent hazard and value assessments
Review engineering/landscape plans for impacts to trees
Prepare recommendations for preservation during development
Review landscape plans for mitigation compliance
Provide representation at City Commission and/or Council meetings & hearings

City of Monrovia Public Works Department – On-call Arborist Services 2000-2010
Prepare independent inspections of trees proposed for removal or relocation
Review applications for tree removals on private properties as requested
Perform independent hazard and value assessments
Review engineering/landscape plans for tree impacts
Prepare recommendations for preservation during development

L.A. County Sanitation Districts – Solid Waste Division
On-call consulting Arborist for multiple pipe-line and road alignment projects at Puente Hills Landfill, Whittier, CA 2001 - 2003

L.A. County Sanitation Districts – Planning Division
Conduct tree inventories for sewer line replacement/realignment projects
Prepare impact reports w/ value assessments for the District to process with the local cities
Prepare mitigation recommendations for construction

Gorman Post Ranch – Los Angeles County (2,700± acres, 533 residential lots)
Prepare Oak tree survey & report
Prepare & process Oak Tree Permit Application and Burden of Proof
Prepare Draft Oak Woodlands Habitat Mitigation Planting Plan

Copper Creek North – Los Angeles County (450 acres, 484 residential lots, school site, public park)
Prepare Oak tree survey & report
Prepare & process Oak Tree Permit Application and Burden of Proof
Prepare Oak Mitigation Planting Plan
Regional Planning Commission & Board of Supervisors' representation

Spring Canyon – Los Angeles County (540 acres, 542 residential lots, school, parks, public service lots)
Prepare Oak tree survey & report
Prepare & process Oak Tree Permit Application and Burden of Proof
Prepare Oak Mitigation Planting Plan
Regional Planning Commission & Board of Supervisors' representation

Newhall County Water District – Santa Clarita (Numerous Water Line & Tank Road Improvement Projects)
Oak tree surveys & reports—various sites in Santa Clarita Valley
Construction monitoring—various sites in Santa Clarita Valley

Hasley Canyon Estates – Los Angeles County (60 acres, 43 residential estate lots)
Prepare & process Oak Tree Mitigation Plan
Monitor installation of mitigation oaks and monitor as required over 2 years

Hasley Canyon Road – Sewer Project - Los Angeles County (6,700 Linear feet of sewer line realignment & upgrade)
Prepare Oak tree survey & report
Prepare & process Oak Tree Permit – County of Los Angeles
Construction Monitoring and reports

Seco III - Los Angeles County (120 acres, 318 residential lots)
Prepare & process Oak Tree Survey & Report
Prepare & process Oak Tree Mitigation Plan
Monitor installation of mitigation oaks and monitor as required over 2 years

The Village @ Calabasas – City of Calabasas (60,000 sq. ft. of commercial space & 66 condo units) (2007-08)
Oak tree survey & report for EIR w/value assessments for oaks
Attendance at Public Meetings
Provide Peer Review of City's EIR for oak and biological sections
Response to comments on oak habitat issues for Final EIR

Golden Valley Road – Los Angeles County (118 residential lots & 1 commercial lot)
Provide Peer Review of City's EIR
Oak tree survey & report w/vvalue assessments for all oaks
Oak Tree Mitigation Planting Plan

Fagan Canyon – City of Santa Paula (2,000± acres, 1,835 residential units, schools, parks)
Inventory and report for over 1,500 mature trees
Impact studies based on numerous grading plans
Technical support for EIR Sections related to trees
Specific Plan Support related to trees
Attendance at Public meetings & hearings
Provide Peer Review of City's EIR & provide response to comments regarding bio/trees

Mesivta School — Los Angeles County (8.46 acres, private school and affiliated student and staff housing)
Environmental Questionnaire
Mitigated Negative Declaration
Representation at Public Meetings
Oak tree survey & report for MND
Biological survey & report for MND
Corps & CDFG delineation for permitting
Mitigation Monitoring Program

Peridian Development - Los Angeles County (80 acres, 170 residential lots)
Prepare & process Oak Tree Survey & Report
Value assessments for all oaks
Prepare & process Oak Tree Mitigation Plan

City of Santa Clarita – Planning and Engineering Division
Oak Tree Survey & Report for Placerita Canyon Utility line upgrades
Value assessments for all oaks
Mitigation recommendations for construction

Lyons Canyon/Warner Ranch – Los Angeles County (95 ± acres, 600± oaks grading studies)
Oak Tree Survey & Report
Value assessments for all oaks
Impact analysis based on several grading studies

Hillside Village (Bella) – Los Angeles County (51 condominiums)
Prepare & process Oak Tree Survey & Report
Prepare & process Oak Tree Mitigation Plan
Construction monitoring
Map and monitor installation of mitigation oaks off-site
Monitoring and reporting on-site oaks as required over 2 years

Burrtec, Inc. – 26000 Springbrook, City of Santa Clarita (35± acres, MRF)
Oak Tree Survey & Report
Value assessments
Mitigation planting plan

Liberty Canyon Estates – Los Angeles County (87 acres, 11 residential lots)
Prepare & process Oak Tree Survey & Report
Prepare & process Oak Tree Mitigation Plan
Construction monitoring

Dead Horse Canyon Mitigation Area – Los Angeles County (10± acres, Habitat Mitigation)
Prepare & process Oak Tree Survey & Report
Prepare & process overall Habitat Mitigation planting plan

Stephens Ranch – Los Angeles County (La Verne) (67± acres, 22 estate lots)
Oak Tree Survey & Report for 650+ oak trees
Mapping and impact analysis based on several grading plans
Representation at meetings with County Forestry
Mitigation recommandations

LaMonte Property - Simi Valley (550± acre, 58 residential lots)
Mature Tree Survey and Report
Value Assessments, mapping and impact analysis based on several grading plans

Newhall Ranch Road Gap Closure Project – City Santa Clarita
Oak Tree Survey & Report
Value assessments
Mitigation recommendations

Robinson Golf Sand Canyon – Los Angeles County (88 acres, 40 residential lots)
Fuel Modification Plan for Fire Department clearance
Mitigation recommendations

Hummingbird Ranch Property – City of Simi Valley
Preparation of the Hummingbird Ranch Draft Specific Plan

Los Angeles Oak Woodland Habitat Conservation Strategic Alliance
Preparation and processing of the Draft County of Los Angeles Oak Woodlands Habitat Conservation Management Plan
On-going coordination with the County of Los Angeles in the preparation of the Final documentation and implementation of the Oak Woodlands Habitat Conservation Management Plan

17.26.070 Oak trees; oak tree permit.

A. Purpose.
1. The city of Calabasas lies within a unique area of Los Angeles County, the beauty and welfare of which is greatly enhanced by the presence of large numbers of oak trees and scrub oak habitat areas. Past development of the area resulted in removal of a great number of these trees and diminished resource habitat areas. Further destruction of these finite resources would detrimentally affect the ecosystem and aesthetics of the city.
2. It is the policy of the city to preserve and enhance its ecosystem, one element being its inventory of oak trees and scrub oak habitat, due in part to their contribution to the hardwood canopy and wildlife habitat. Other identified benefits of oak trees and scrub oak habitat to the health, safety and welfare of the citizens of Calabasas include, but are not limited to, erosion control, solar benefits, dust control, visual enjoyment, energy reduction, property values and the sense of community and place created by the surrounding vistas.
3. The preservation program outlined in this section contributes to the historical and environmental value of these trees to the community. Accordingly, the spirit and intent of this section are meant to have an equal parity to its articulated contents.
B. Oak Tree and Scrub Oak Habitat Preservation.
1. Any person or entity that owns, controls or has custody or possession of any real property within the city shall maintain all oak trees and scrub oak habitat located thereon in a state of good health pursuant to the most current “Oak Tree Preservation and Protection Guidelines” (Guidelines) adopted by council Resolution 91-36, which can be found on file in the office of the city clerk.
2. In an effort to further the goals and intent of this section, the city shall establish an oak tree preservation program. The objectives of this program shall include, but not be limited to, the following:
a. Reforestation of sites inside or outside of a project area that will not be subject to future development;
b. Replacement of existing oak woodlands and scrub oak habitat previously removed for development;
c. Public acquisition of or establishment of permanent conservation easements on otherwise developable lands;
d. Public environmental education regarding reforestation and habitat preservation;
e. Support for nonprofit organizations and other governmental agencies for the acquisition, preservation and reforestation of oak woodlands and other suitable wildlife habitat areas.
3. All cash fees, fines, forfeitures and mitigations, apart from permit processing fees, shall be placed within a fund for the oak tree and scrub oak habitat preservation program.
C. Oak Tree Permit Requirements and Exemptions.
1. Requirements.
a. No person shall alter any oak tree or scrub oak habitat on any real property within the city, unless a valid oak tree permit is issued pursuant to the provisions of this section and the guidelines.
b. Any other permit issued for the purpose of development of any public or private property shall also comply with this section.
2. Exemptions. A permit is not required to cut or remove an oak tree or alter scrub oak habitat under the following circumstances:
a. If the oak tree is less than two inches in diameter, unless the tree is within a scrub oak habitat or was planted as mitigation for a prior removal;
b. If an oak tree or scrub oak habitat is damaged by thunderstorms, windstorms, floods, earthquakes, fires, or other natural disaster or incident and verified by city staff;
c. Replacement or repair of existing utility lines or structures, while performing emergency or routine maintenance activities that may impact oak trees or scrub oak habitat, and which are necessary to maintain the facilities or other property of a public utility. The utility shall notify the city of any action taken that impacts oak trees or scrub oak habitat as soon as reasonably possible.
3. Minor Oak Tree Permit. A minor oak tree permit shall be required to remove or alter oak

trees, under the following circumstances:
a. When an oak tree is less than six inches in diameter, as confirmed by city staff, and has any portion of its trunk located within forty (40) feet of an existing primary structure, unless the tree was planted as mitigation for a prior removal. Oak trees located within a public right-of-way, however, are not exempted by this subsection;
b. Pruning of oak trees or vegetation on scrub oak habitat for fuel modification to meet city requirements. Official agency documentation must be provided to the city and verified by city staff prior to commencing work;
c. Routine maintenance action needed to maintain the continued good health of an oak tree, limited to removal of deadwood, insect control spraying, fertilization, cabling, mulching and watering;
d. Routine maintenance actions needed to assure safe clearance for pedestrians, vehicles or structures;
e. Replacement, modification or repair of existing improvements within the protected zone of an oak tree, as long as the tree is not impacted by the action.
4. Utility Projects. New construction, modification or replacement of existing facilities, excluding the replacement or repair of utility lines and structures as discussed in subsection (C)(2)(c) of this section, shall be governed by the provisions of this section. Utilities shall be responsible for damage to oak trees. Utilities shall be required to notify the city five working days prior to any maintenance activity that might affect an oak tree or scrub oak habitat. As an alternative to individual prior notifications for each maintenance activity, the utility may submit an annual notification of maintenance activities to the city. This notification shall include, but is not limited to, the following:
a. List of facilities;
b. Schedule of work;
c. Extent of maintenance activities;
d. List of oak trees and/or scrub oak habitat that might be affected.
Utilities may take emergency action with respect to oak trees without giving advance notice when immediate action is required in order to protect the public or the utility's employees, prevent damage or destruction of facilities and property, or to effect expeditious reinstatement of service following an interruption. The utility shall notify the city of such action taken as soon as reasonably possible.
D. Permit Processing. The applicant shall furnish all necessary information required by the guidelines and pay the appropriate filing fee to the city.
1. An application shall be completed and submitted to city staff for review and approval.
2. The comments from the city staff shall be forwarded to the community development director for review and approval. The director may approve permits for the following types of activity:
a. Removal of up to three living oak trees, less than six inches in diameter each, and not greater than twelve (12) inches in diameter aggregate. This limit shall be on a cumulative basis for the parcel. Following such removals, a notice shall be recorded regarding the subject property, requiring that any subsequent removal of oak trees from the subject site be approved by the planning commission, as appropriate;
b. Removal of any number of dead and/or hazardous oak trees or portions of oak trees or scrub oak habitat of any size, which is required due to health and safety concerns, or a public emergency, as determined by the director and the city arborist;
c. Pruning for clearance from existing structures or above roadways, sidewalks, trails or other transportation corridors, comprising not more than twenty-five (25) percent of the live foliage for each oak tree;
d. Minor encroachments into a protected zone of an oak tree including, but not limited to, fence installations or minor improvements that may impact up to ten (10) percent of the total area included within the protected zone;
e. Replacement or repair of existing improvements located within the protected zone of an oak tree, as long as the impacts to the tree do not increase.
3. The recommendation of the director shall be forwarded to the planning commission for consideration and disposition for the following types of activity:

a. Removal of any number of oak trees (beyond that allowed by subsection (D)(2)(a) or (D)(2)(b) of this section) or any amount of scrub oak habitat, excluding any living heritage oak;
b. Pruning comprising more than twenty-five (25) percent of the live foliage for an individual oak tree;
c. Encroachments impacting more than ten (10) percent of the total area included within the protected zone of an oak tree;
d. Impacts to any oak tree of special or significant community interest or exceptional, aesthetic, environmental or historical value. Such tree shall have been previously designated as having special or significant value by a specific action of the planning commission or council.
4. The recommendation of the planning commission shall be forwarded to the council for consideration and disposition for the following levels of activity:
a. Any oak tree permit for a project that involves the removal of any living heritage oak;
b. Any oak tree permit for a project that requires a separate development project approval from the council.
E. Permit Findings. An oak tree permit may be approved by the city based upon at least one of the following findings:
1. The request to remove an oak tree or scrub oak habitat is warranted to enable reasonable and conforming use of the subject property, which would otherwise be prevented by the presence of the oak tree or scrub oak habitat. Reasonable use of the property shall be determined in accordance with the guidelines.
2. The request to alter or encroach within the protected zone of an oak tree or scrub oak habitat is warranted to enable reasonable and conforming use of the property, which would otherwise be prevented by the presence of the oak tree or scrub oak habitat. In addition, such alterations and encroachments can be performed without significant long-term adverse impacts to the oak tree or scrub oak habitat. Reasonable use of the property shall be determined in accordance with the guidelines.
3. The condition or location of the oak tree or scrub oak habitat requires altering to maintain or aid its health, balance or structure.
4. The condition of the oak tree or scrub oak habitat warrants its removal due to disease, dangerous condition, proximity to existing structures, high pedestrian traffic areas, such as parking lots and pedestrian walkways when such conditions may be unsafe or cannot be controlled or remedied through reasonable preservation and/or prevention procedures and practices.
5. Removal or altering of the oak tree(s) will have minimal impact on the total hardwood canopy with special emphasis on associated tree growth and their natural regeneration, wildlife habitat and heritage oak trees.
F. Required Oak Tree Report. The applicant shall submit an oak tree report, prepared by a city-qualified arborist. The exact information and format of the information required is described in the guidelines. An oak tree report may include, but is not limited to, the following information:
1. An inventory of the individual oak trees and scrub oak habitat areas associated with the project;
2. An oak tree location map indicating the current topography and proposed grading plan, the tag number, exact trunk location, dripline, and protected zone of each oak tree within the project area, as well as the outline of proximate scrub oak habitat areas;
3. All proposed site development activities including, but not limited to, excavation for foundations, utility corridors and construction access routes;
4. Analysis of the potential impacts of the proposed development activities upon the oak trees and scrub oak habitat;
5. A mitigation program for the proposed impacts.
G. Permit Conditions. A gain or loss in oak tree inventory on the site shall be described in terms of species, total inches of diameter aggregate gain or loss, and the magnitude of the impacts. A gain or loss of scrub oak habitat shall be described in terms of acres of habitat coverage and the magnitude of the impacts. Conditions may be imposed on an oak tree

permit by the city, including but not limited to any combination of the following:
1. A cash fee paid to the oak tree mitigation fund, which shall include maintenance and monitoring costs. The determination of the dollar value, cost or loss shall be calculated in accordance with the most current mitigation schedule established by the council. The council shall review and approve such fees at least once every three years. The city may accept appropriate dedication of land in lieu of cash;
2. One inch of oak tree diameter shall be planted for each inch of tree removed. Scrub oak habitat shall be replaced on a land area basis. Locations appropriate for new replacement plantings may be proposed by the applicant and approved by the city arborist prior to the granting of a permit based upon the potential for long-term viability;
3. Replacement or placement of additional oak trees, scrub oak habitat, associated hardwood canopy, land or wildlife habitat to proportionally offset the impacts associated with the loss of oak trees, scrub oak habitat, limbs, roots or potential long-term adverse impacts due to alterations or encroachment within the protected zone. Locations appropriate to such new plantings may be proposed by the applicant and must be approved by city staff prior to the granting of a permit based upon the potential for long-term viability;
4. Relocation of oak trees over ten (10) inches in diameter shall not be considered as mitigation;
5. Restrictions on construction activities within the protected zone of oak trees or within scrub oak habitat areas;
6. Remedial maintenance programs to improve the health of existing oak trees and scrub oak habitat areas;
7. Monitoring. Monitoring shall be conducted during all grading and construction activities at intervals warranted by the site conditions and level of activity. The monitoring program shall consist of quantitative and qualitative observations useful in identifying stress-related responses of oak trees and scrub oak habitat. Monitoring activities shall be performed in accordance with the procedures adopted in the guidelines.
a. Duration of and Responsibility for Monitoring. As noted above, monitoring shall be maintained during grading and construction activities; furthermore, following construction, annual monitoring shall be performed for a minimum of five years as warranted by site conditions, to ensure continued health of the trees and habitat areas. A city-qualified arborist shall conduct all monitoring. Costs shall be borne by the applicant. Restitution or remediation shall be required, should a project fail to comply with the desired establishment goals.
b. Use of Monitoring Information. Information provided by monitoring shall be used in establishing realistic mitigation measures and to ensure the future of oak resources throughout the city.
c. Establishment Goals. Criteria for evaluating the success of oak tree and scrub oak habitat preservation and establishing associated vegetation shall be specified in the permit conditions. Remediation shall be required as necessary to enable a site to meet the establishment criteria;
8. Registration. All replacement oak trees and scrub oak habitat areas shall be registered with the city in accordance with the guidelines;
9. Maintenance. All oak trees and scrub oak habitat areas shall be maintained in accordance with the guidelines;
10. Bond. The city may require adequate security to ensure performance, correct construction procedures, reforestation, monitoring and maintenance, in an amount to be determined by the city;
11. Recordation. As deemed necessary by the city or as set forth in this section, conditions of approval for an oak tree permit shall be recorded. The specific wording of the recorded permit shall be subject to the approval of the director.
H. Nonliability of City. Nothing in this section or within the guidelines shall be deemed to impose any liability for damages or a duty of care and maintenance upon the city or upon any of its officers or employees.
I. Other Laws and Authorities. The granting of an oak tree permit by the city shall not be

construed as a permit to ignore any other law or authority. Among the laws that should be considered are the following at the California state level:
1. California Department of Fish and Game Code laws prohibit the destruction of a tree that contains a nest of certain birds.
2. State law includes the California Environmental Quality Act, which addresses tree removals.
3. The California Department of Forestry published the Integrated Hardwood Range Management Program which has specific guidelines for oak rangeland.
J. Violation—Penalty.
1. Any person or entity that violates this section is guilty of a misdemeanor and upon conviction, may be punished as set forth in this code.
2. Any person or entity that violates this section shall be required to obtain a retroactive oak tree permit and to comply with any mitigation measures specified therein.
3. Violation of this section and the guidelines during any construction shall result in an immediate stop-work order issued by the city, and work may not continue until permits are obtained and proper mitigation is completed.
4. Removal of an oak tree or scrub oak habitat may also result in a building or improvement moratorium being placed on the property for a period not to exceed ten (10) years and will apply to any subsequent owner of the property until the term is completed. A notice of noncompliance may also be recorded on the property. (Ord. 2006-222 § 2, 2006; Ord. 2005-210 § 1, 2005; Ord. 2001-166 § 3, 2001)

ORDINANCE NO. 2006-222

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CALABASAS AMENDING VARIOUS SECTIONS OF TITLE 17 OF THE CALABASAS MUNICIPAL CODE

THE CITY COUNCIL OF THE CITY OF CALABASAS DOES ORDAIN AS FOLLOWS:

SECTION 1. CODE AMENDMENT. Section 17.26.050(F) of the Calabasas Municipal Code is hereby amended to read as follows:

"F. Oak Tree Removal. No oak tree shall be removed, except one confirmed by City staff as dead, without first obtaining an oak tree permit pursuant to Section 17.26.070."

SECTION 2. CODE AMENDMENT. Sections 17.26.070(C)-(G) of the Calabasas Municipal Code are hereby amended to read as follows:

"C. Oak Tree Permit Requirements and Exemptions.

1. Requirements.

a. No person shall alter any oak tree or scrub oak habitat on any real property within the City unless a valid oak tree permit is issued by pursuant to the provisions of this section and the Guidelines.

b. Any other permit issued for the purpose of development of any public or private property shall also comply with this section.

2. Exemptions. A permit is not required to cut or remove an oak tree or alter scrub oak habitat under the following circumstances:

a. If the oak tree is less than two (2) inches in diameter, unless the tree is within a scrub oak habitat or was planted as mitigation for a prior removal;

b. If an oak tree or scrub oak habitat is damaged by thunderstorms, windstorms, floods, earthquakes, fires, or other natural disaster or incident and verified by City staff.

c. Replacement or repair of existing utility lines or structures, while performing emergency or routine maintenance activities that may impact oak trees or scrub oak habitat, and which are necessary to maintain the facilities or other

property of a public utility. The utility shall notify the city of any action taken that impacts oak trees or scrub oak habitat as soon as reasonably possible.

3. Minor Oak Tree Permit. A minor oak tree permit shall be required to remove or alter oak trees, under the following circumstances:

a. When an oak tree is less than six (6) inches in diameter, as confirmed by City staff, and has any portion of its trunk located within forty (40) feet of an existing primary structure, unless the tree was planted as mitigation for a prior removal. Oak trees located within a public right-of-way, however, are not exempted by this subsection;

b. Pruning of oak trees or vegetation on scrub oak habitat for fuel modification to meet City requirements. Official agency documentation must be provided to the City and verified by City staff prior to commencing work;

c. Routine maintenance action needed to maintain the continued good health of an oak tree, limited to removal of deadwood, insect control spraying, fertilization, cabling, mulching and watering;

d. Routine maintenance actions needed to assure safe clearance for pedestrians, vehicles or structures;

e. Replacement, modification or repair of existing improvements within the protected zone of an oak tree, as long as the tree is not impacted by the action.

4. Utility Projects. New construction, modification or replacement of existing facilities, excluding the replacement or repair of utility lines and structures as discussed in subsection C.2.c., shall be governed by the provisions of this section. Utilities shall be responsible for damage to oak trees. Utilities shall be required to notify the City five working days prior to any maintenance activity that might affect an oak tree or scrub oak habitat. As an alternative to individual prior notifications for each maintenance activity, the utility may submit an annual notification of maintenance activities to the City. This notification shall include, but is not limited to, the following:

a. List of facilities;

b. Schedule of work;

c. Extent of maintenance activities;

d. List of oak trees and/or scrub oak habitat that might be affected.

Utilities may take emergency action with respect to oak trees without giving advance notice when immediate action is required in order to protect the public or the utility's employees, prevent damage or destruction of facilities and property, or to effect expeditious reinstatement of service following an interruption. The utility shall notify the City of such action taken as soon as reasonably possible.

D. Permit Processing. The applicant shall furnish all necessary information required by the Guidelines and pay the appropriate filing fee to the City.

1. An application shall be completed and submitted to City staff for review and approval.

2. The comments from the City staff shall be forwarded to the Community Development Director for review and approval. The Director may approve permits for the following types of activity:

a. Removal of up to three living oak trees, less than six (6) inches in diameter each, and no greater than twelve (12) inches in diameter aggregate. This limit shall be on a cumulative basis for the parcel. Following such removals, a notice shall be recorded regarding the subject property, requiring that any subsequent removal of oak trees from the subject site be approved by the Planning Commission, as appropriate;

b. Removal of any number of dead and/or hazardous oak trees or portions of oak trees or scrub oak habitat of any size, which is required due to health and safety concerns, or a public emergency, as determined by the Director and the City Arborist;

c. Pruning for clearance from existing structures or above roadways, sidewalks, trails or other transportation corridors, comprising not more than twenty-five percent (25%) of the live foliage for each oak tree;

d. Minor encroachments into a protected zone of an oak tree, including but not limited to, fence installations or minor improvements that may impact up to ten percent (10%) of the total area included within the protected zone;

e. Replacement or repair of existing improvements located within the protected zone of an oak tree, as long as the impacts to the tree do not increase.

3. The recommendation of the Director shall be forwarded to the Planning Commission for consideration and disposition for the following types of activity:

a. Removal of any number of oak trees (beyond that allowed by subsections (D)(2)(a) or (2)(b), above) or any amount of scrub oak habitat, excluding any living heritage oak;

b. Pruning comprising more than twenty-five (25) percent of the live foliage for an individual oak tree;

c. Encroachments impacting more than ten percent (10%) of the total area included within the protected zone of an oak tree;

d. Impacts to any oak tree of special or significant community interest or exceptional, aesthetic, environmental or historical value. Such tree shall have been previously designated as having special or significant value by a specific action of the Planning Commission or Council.

4. The recommendation of the Planning Commission shall be forwarded to the Council for consideration and disposition for the following levels of activity:

a. Any oak tree permit for a project that involves the removal of any living heritage oak;

b. Any oak tree permit for a project that requires a separate development project approval from the Council.

E. Permit Findings. An oak tree permit may be approved by the City based upon at least one of the following findings:

1. The request to remove an oak tree or scrub oak habitat is warranted to enable reasonable and conforming use of the subject property, which would otherwise be prevented by the presence of the oak tree or scrub oak habitat. Reasonable use of the property shall be determined in accordance with the Guidelines.

2. The request to alter or encroach within the protected zone of an oak tree or scrub oak habitat is warranted to enable reasonable and conforming use of the property, which would otherwise be prevented by the presence of the oak tree or scrub oak habitat. In addition, such alterations and encroachments can be performed without significant long-term adverse impacts to the oak tree or scrub oak habitat. Reasonable use of the property shall be determined in accordance with the Guidelines.

3. The condition or location of the oak tree or scrub oak habitat requires altering to maintain or aid its health, balance or structure.

4. The condition of the oak tree or scrub oak habitat warrants its removal due to disease, dangerous condition, proximity to existing structures, high pedestrian traffic areas such as parking lots and pedestrian walkways when such conditions may be unsafe or cannot be controlled or remedied through reasonable preservation and/or prevention procedures and practices.

5. Removal or altering of the oak tree(s) will have minimal impact on the total hardwood canopy with special emphasis on associated tree growth and their natural regeneration, wild life habitat, and heritage oak trees.

F. Required Oak Tree Report. The applicant shall submit an oak tree report, prepared by a City-qualified arborist. The exact information and format of the information required is described in the Guidelines. An oak tree report may include but is not limited to, the following information:

1. An inventory of the individual oak trees and scrub oak habitat areas associated with the project;

2. An oak tree location map indicating the current topography and proposed grading plan, the tag number, exact trunk location, dripline, and protected zone of each oak tree within the project area, as well as the outline of proximate scrub oak habitat areas;

3. All proposed site development activities, including but not limited to excavation for foundations, utility corridors and construction access routes;

4. Analysis of the potential impacts of the proposed development activities upon the oak trees and scrub oak habitat;

5. A mitigation program for the proposed impacts.

G. Permit Conditions. A gain or loss in oak tree inventory on the site shall be described in terms of species, total inches of diameter aggregate gain or loss, and the magnitude of the impacts. A gain or loss of scrub oak habitat shall be described in terms of acres of habitat coverage and the magnitude of the impacts. Conditions may be imposed on an oak tree permit by the City, including but not limited to any combination of the following:

1. A cash fee paid to the oak tree mitigation fund, which shall include maintenance and monitoring costs. The determination of the dollar value, cost or loss shall be calculated in accordance with the most current mitigation schedule established by the Council. The Council shall review and approve such fees at least once every three years. The City may accept appropriate dedication of land in lieu of cash;

2. One inch of oak tree diameter shall be planted for each inch of tree removed. Scrub oak habitat shall be replaced on a land area basis. Locations appropriate for new replacement plantings may be proposed by the applicant and approved by the City Arborist prior to the granting of a permit based upon the potential for long-term viability;

3. Replacement or placement of additional oak trees, scrub oak habitat, associated hardwood canopy, land or wildlife habitat to proportionally offset the impacts associated with the loss of oak trees, scrub oak habitat, limbs, roots or potential long-term adverse impacts due to alterations or encroachment within the protected zone. Locations appropriate to such new plantings may be proposed by the applicant and must be approved by City staff prior to the granting of a permit based upon the potential for long-term viability;

4. Relocation of oak trees over ten (10) inches in diameter shall not be considered as mitigation;

5. Restrictions on construction activities within the protected zone of oak trees or within scrub oak habitat areas;

6. Remedial maintenance programs to improve the health of existing oak trees and scrub oak habitat areas;

7. Monitoring. Monitoring shall be conducted during all grading and construction activities at intervals warranted by the site conditions and level of activity. The monitoring program shall consist of quantitative and qualitative observations useful in identifying stress-related responses of oak trees and scrub oak habitat. Monitoring activities shall be performed in accordance with the procedures adopted in the Guidelines.

a. Duration of and Responsibility for Monitoring. As noted above, monitoring shall be maintained during grading and construction activities; furthermore, following construction, annual monitoring shall be performed for a minimum of five years as warranted by site conditions, to ensure continued health of the trees and habitat areas. A City-qualified arborist shall conduct all monitoring. Costs shall be borne by the applicant. Restitution or remediation shall be required should a project fail to comply with the desired establishment goals.

b. Use of Monitoring Information. Information provided by monitoring shall be used in establishing realistic mitigation measures and to ensure the future of oak resources throughout the City.

c. Establishment Goals. Criteria for evaluating the success of oak tree and scrub oak habitat preservation and establishing associated vegetation shall be specified in the permit conditions. Remediation shall be required as necessary to enable a site to meet the establishment criteria;

8. Registration. All replacement oak trees and scrub oak habitat areas shall be registered with the City in accordance with the Guidelines;

9. Maintenance. All oak trees and scrub oak habitat areas shall be maintained in accordance with the Guidelines;

10. Bond. The city may require adequate security to ensure performance, correct construction procedures, reforestation, monitoring and maintenance, in an amount to be determined by the City;

11. Recordation. As deemed necessary by the City or as set forth in this Section, conditions of approval for an oak tree permit shall be recorded. The specific wording of the recorded permit shall be subject to the approval of the Director."

SECTION 3. CODE AMENDMENT. Table 6-1 of Section 17.60.020 of the Calabasas Municipal Code is hereby amended to read as follows in the row which reads "Type of Permit or Decision":

"Director of Planning & Building Services" is hereby replaced with "Community Development Director."

SECTION 4. CODE AMENDMENT. Footnote (3) of Table 6-1 of Section 17.60.020 of the Calabasas Municipal Code is hereby deleted.

SECTION 5. CODE AMENDMENT. The definition of "city arborist" in Section 17.90.020 of the Calabasas Municipal Code is hereby deleted. The definition of "city-qualified arborist" is hereby added to the Calabasas Municipal Code in the place where the definition of "city arborist" had been, and shall read as follows:

"'City-qualified arborist' means an individual having special expertise regarding the preservation of oak trees and scrub oak habitat, including but not limited to a registered landscape architect or certified arborist, and authorized by City staff to review and provide recommendations with respect to oak trees and scrub oak habitat within the City."

SECTION 6. CODE AMENDMENT. The definition of "oak tree permit" in Section 17.90.020 of the Calabasas Municipal Code is hereby amended to read as follows:

"'Oak tree permit' means a permit issued by the city in compliance with Section 17.26.070."

SECTION 7. SEVERABILITY. If any provision, section, paragraph, sentence or word of this ordinance, or the application thereof to any person or circumstance, is rendered or declared invalid by any court of competent jurisdiction, the remaining provisions, sections, paragraphs, sentences or words of this ordinance, and their application to other persons or circumstances, shall not be affected thereby and shall remain in full force and effect and, to that end, the provisions of this ordinance are severable.

SECTION 8. CONSTRUCTION. To the extent the provisions of the Calabasas Municipal Code as amended by this ordinance are substantially the same as the provisions of that Code as they read prior to the adoption of this ordinance, they shall be construed as continuations of those prior provisions and not as new enactments.

SECTION 9. EFFECTIVE DATE. This ordinance shall take effect thirty days after its passage and adoption pursuant to California Government Code section 36937.

SECTION 10. CERTIFICATION. The City Clerk shall certify to the passage and adoption of this ordinance and shall cause the same to be published or posted according to law.

PASSED, APPROVED AND ADOPTED, this ___th day of February 2006.

_____
Barry Groveman, Mayor

ATTEST:

_____
Gwen Peirce, Assistant City Clerk

APPROVED AS TO FORM:

_____
Michael G. Colantuono, City Attorney

CITY OF CALABASAS

RECEIVED
APR 26 2008
LDC INC.

OAK TREE PRESERVATION AND PROTECTION GUIDELINES

REVISED DRAFT 29 April 1993

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INTRODUCTION

Oak trees within the City of Calabasas are a valuable resource and are protected by the Oak Tree Ordinance. These guidelines describe methods, procedures and application materials required by the City to ensure that proper consideration is given to oak trees and their habitat in connection with development and other requests. An oak tree permit is required for the removal, encroachment or moving by development of an oak tree with certain exceptions as described below.

Certain work on an oak tree may be performed without a permit and therefore, the provisions of these guidelines do not apply. Please refer to the Oak Tree Ordinance and these guidelines for details if in doubt.

It is generally advisable to contact the City prior to beginning any construction or earthwork on property that has any oak trees within 200 feet. The City will be happy to answer your questions and assist you with your oak trees.

OAK TREE PRESERVATION AND PROTECTION GUIDELINES

I. PURPOSE

The City lies in a unique portion of Los Angeles County, the beauty and natural setting of which is greatly enhanced by the presence of large numbers of majestic oak trees. These indigenous oak trees are recognized for their significant historical, aesthetic and environmental value. They are indicator species for the natural communities in which they exist, supporting a broad spectrum of other native plant and animal species. As one of the most picturesque trees in the Southern California area, they lend beauty and charm to the natural and man-made landscape, provide over $5,000 per year in environmental enhancement by controlling soil erosion and water run-off, moderating air pollution and cutting heating and cooling costs, enhance the value of property and preserve the character of the communities in which they exist.

Development within the Calabasas area has resulted in the removal of a great number of oak trees. Further uncontrolled and indiscriminate destruction of this diminishing plant heritage would have a detrimental affect the general health, safety and welfare of the citizens of Calabasas. The preservation program and procedures outlined in these guidelines contribute to the welfare and aesthetics of the community and retain the great historical and environmental value of these trees.

No person, partnership, firm, corporation, government agency, or other legal entity shall cut, prune, remove, relocate, endanger or damage any tree protected by the City Oak Tree Ordinance on any public or private land located within the incorporated areas of the City of Calabasas except in accordance with the conditions of a valid oak tree permit issued by the City.

II. OAK TREE POLICY

It shall be the policy of the City of Calabasas to require the preservation of all healthy oak trees unless compelling reasons justify the removal of such trees. This policy shall apply to the removal, pruning, cutting and/or encroachment into the protected zone of oak trees. The Planning Commission, in conjunction with an oak tree preservation consultant as necessary, shall have the primary

and overall responsibility to administer, evaluate and monitor this policy to assure strict compliance.

III. DEFINITIONS

For the purposes of these guidelines, unless otherwise apparent from the context, certain words and phrases used are defined in this section.

"Alter" - Any action undertaken which may cause damage or cause injury, death or disfigurement to a tree. This includes, but is not limited to, removing, transplanting, detaching, cutting or pruning, poisoning, over watering, excavating, or paving within the protected zone of an oak tree.

"Canopy Cover" - The percentage of a site covered by oak canopy based on the sum of all oak crown canopies within the property boundaries .

"Canopy Retention Standard" - The amount of canopy that is to remain on any property following improvement. The City policy is to retain 75% of the baseline canopy within its jurisdiction, as of August 1992.

"Certification Letter" - A letter certifying that the work was performed under the general or direct supervision of an oak tree preservation consultant and that said work fully complies with the conditions of the development permit, the oak tree report and/or these Oak Tree Preservation Guidelines, as appropriate.

"Crown Canopy" - The leafy portion of the tree outlined using dripline measurements.

"Cutting" - The detaching or separating either in whole or in part, from a protected tree, any part of the tree including, but not limited to, any limb, branch, root, or leaves. Cutting shall include pruning and trimming.

"Damage" - Any action which causes or tends to cause injury, death or disfigurement to a tree. This includes, but is not limited to, cutting, poisoning, burning, over watering, relocating or transplanting a protected tree, changing or compacting the natural grade within the protected zone of a protected tree, changing groundwater levels or drainage patterns, or trenching, excavating or paving within the protected zone of an oak tree.

"Dead Tree" - A tree that does not contain any live tissue; i.e. green leaves or live limbs. Since Valley Oak (Quercus

lobata) are deciduous trees and are dormant in the winter, their status must be confirmed by the City's Oak Tree Consultant in the spring before being declared dead.

"**Deadwood**" - Limbs or branches that contain no green leaves or live tissues. A tree or limb may be considered dead if it does not show evidence of any green leaves or live branches over the span of 1 year, inclusive of prime growing weather.

"**Deadwooding**" - The process of trimming an oak tree of its deadwood.

"**DBH**" - Diameter at breast height is to be measured at 4 1/2 feet above grade on the high side of the tree.

"**Dripline**" - The outermost edge of the tree's canopy. When depicted on a map or on the ground, the dripline will appear as an irregular shape that follows the outline of the trees branches as seen from overhead.

"**Encroachment**" - Any intrusion into the protected zone of an oak tree which includes, but is not limited to, altering, pruning, grading, excavating, trenching, dumping of materials, animal corrals, storage of materials or equipment, or the construction of structures, paving or other improvements. For purposes of this section, encroachment shall not include the action of a person physically entering the protected zone of an oak tree.

"**Fencing Plan**" - A detailed design showing placement of protective structures around trees. Fences will be located outside the protected zone of a tree or group of trees, be a minimum of 5 feet high, with warning signs located on 4 sides.

"**Fine Grading Permit**" - An entitlement from the City authorizing certain grading work that must be conducted within the protected zone of an oak tree, designed to ensure proper drainage as required by the City of Calabasas Municipal Code.

"**Ground Plane Improvements**" - Improvements that do not disturb the soil within the protected zone of an oak tree.

"**Heritage Oak**" - Any tree in the oak genus with a diameter of 24 inches at 4 1/2 feet above natural grade. In addition, the Planning Commission and/or the City Council may classify an oak tree, regardless of size, as a heritage oak tree if it is determined by a majority vote thereof that such tree has exceptional historic, aesthetic and/or environmental qualities of major significance or prominence to the community.

"Monitoring" - The process of physically measuring various aspects of tree health and vigor to determine how the tree changes over time. This can include photographs, soil analysis, and measurements of water stem potential and flushing growth as well as visual assessment.

"Multiple trunks" - Refers to more than one trunk growing from one root system, with the aggregate diameters totaled, deemed to equal one tree.

"Oak Tree" - Any oak tree of the genus Quercus, including, but not limited to, Valley Oak (Quercus lobata), California Live Oak (Quercus agrifolia), Interior Live Oak (Quercus wislizenii), and Scrub Oak (Quercus dumosa), having a diameter greater than 1 inch when measured 12 inches above grade.

"Oak Tree Consultant" - An individual or firm with a degree of acceptable and relevant experience in landscape architecture and/or horticulture, including extensive experience in monitoring and maintaining the health of oak trees. A list of such individuals/firms will be available from the City.

"Oak Tree Information Packet" - A packet containing certain handouts concerning the care and maintenance of oak trees which will be distributed to property owners whose lots contain oak trees.

"Oak Tree Permit" - An entitlement from the City authorizing specific work to be performed within the protected zone of an oak tree pursuant to the provisions of the Oak Tree Ordinance.

"Oak Tree Preservation and Protection Guidelines" or **"Guidelines"** - The policy established by the City Council and the dministrative procedures and rules established by the Planning Commission for the implementation of the Oak Tree Ordinance.

"Oak Tree Report" - A report prepared by an oak tree consultant containing specific information on the location, condition, potential impacts of development, recommended actions and mitigation measures regarding one or more oak trees on an individual lot or project site.

"Person" - Any natural person, partnership, firm, corporation, governmental agency, or other legal entity; does not include the City of Calabasas.

"Pre-Application Conference" - A meeting between the applicant and appropriate City representatives, including the City oak tree consultant for the purposes of discussing the

requirements for submitting an application for an oak tree permit.

"**Pre-Construction Conference**" - A meeting with the applicant, his/her contractors, superintendent, engineers, oak tree consultants, and City representatives, including the City oak tree consultant, to delineate special procedures, limits of work, lines of authority and special conditions or procedures.

"**Protected Tree**" - The same as oak tree.

"**Protected Zone**" - A specifically defined area totally encompassing an oak tree within which work activities are strictly controlled. Using the dripline as a point of reference, the protected zone shall commence at a point 5' outside of the dripline, and no less than 15' from the trunk of an oak tree, or 50' from the trunk of a heritage tree. The perimeter of the protected zone shall be fenced during construction according to the specifications contained in these guidelines.

"**Pruning**" - Any and all cutting performed upon any portion of an oak tree. Requires a permit and must be conducted in strict compliance to ISA Pruning Standards.

"**Registered Oak**" - Any tree registered by the City or a City recognized entity.

"**Removal**" - Physically removing, or causing the death of a tree through damaging, poisoning, or other direct or indirect action.

"**Routine Maintenance**" - Actions taken for the continued health of an oak tree such as deadwooding. In special cases fertilization, insect control, limited watering and ground aeration may also be warranted. For purposes of the ordinance, routine maintenance shall not include pruning.

"**Stress**" - Any indication that the tree is suffering from changes in its environment.Stress can include, but is not limited to, change in leaf color, crown thinning, curling of leaves, early leaf drop, and reduced shoot growth.

IV. OAK TREE PERMIT APPLICATION PROCESS

Any person who owns, controls, or has custody or possession of any real property within the City of Calabasas shall make a reasonable effort to maintain all oak tree(s) located thereon in a state of good health. Failure to do so will constitute a violation of the ordinance.

Oak Tree Permit Required - No person shall cut, remove, encroach into, or remove brush from the protected zone or remove or transplant any oak tree on any public or private property within the City of Calabasas, unless a valid Oak Tree Permit has been issued pursuant to the provisions of the Oak Tree Ordinance. The applicant shall be required to furnish all necessary information as determined by the Planning Commission together with a fee as established by Council Resolution.

There are two classes of permits:

1. Permit to Alter
   (prune, change grade, encroach, fuel modification:

2. Permit to Remove
   (which also includes relocations)

If the situation calls for both removal and encroachment, only the Permit for Removal is necessary.

No grading permits for properties containing oak trees will be issued without prior approval of an Oak Tree Permit.

STEP ONE: Pre-Application Conference

The purpose of this meeting is to familiarize the applicant with the City's permit process, review pertinent environmental constraints, identify the Canopy Retention Standard, discuss City guidelines on reasonable use of the property and identify the information and materials necessary to file an application for an oak tree permit or request to prune. Criteria for design constraints will be identified at this time and can include: locations of walkways, driveways, cut and fill, fencing individual or clusters of trees, staking surveyed corners of buildings.

A pre-application conference may be arranged by calling the City. Attending the meeting will be the appropriate City planning staff and the City oak tree consultant. For Permits to Alter, this step may be accomplished by phone.

STEP TWO: Formal Application

Once the applicant has completed all application forms and prepared all of the information identified during the pre-application conference, the applicant may formally submit the project application together with the applicable fee.

STEP THREE: Application Review

On receipt of an application for an oak tree permit or request to prune, the City shall review the application for accuracy and completeness and make an inspection of the project site.

The application will be reviewed by the City's oak tree consultant. Those situations requiring consultant review include, but are not limited to, projects involving significant numbers of protected trees, projects involving development activities in the immediate vicinity of protected trees, and/or projects where physical protective measures may be required for the continued health of the remaining trees.

Upon completion of application review and on-site inspections, the City's oak tree consultant shall submit a written report to the City outlining the findings and recommendations. Normally, this will occur within ten (10) working days of receipt of the application materials from the City.

STEP FOUR: Environmental Review

Pursuant to the requirements of the California Environmental Quality Act, the City staff shall determine the appropriate level of environmental review for the project. If an initial study is required, an Environmental Questionnaire and associated filing fee shall be needed.

STEP FIVE: Findings for Approval

After receiving all of the required information, the City may approve the request when one of the following findings can be made:

A. The condition of the protected tree(s) requires pruning to preserve health or maintain balance.

B. The condition of the protected tree(s) general health with respect to the perceived danger of falling over or dropping limbs and proximity to existing structures, high pedestrian areas such as roadways, pedestrian walkways, parking lots or interference with public utility lines cannot be controlled or remedied

through reasonable preservation and/or preventative measures.

C. The approval of this request will not be contrary or in conflict with the general purpose and intent of the Oak Tree Ordinance.

In evaluating requests for removal or encroachments based on the reasonable and conforming use section, the City shall take into consideration: comparison of proposed building(s) gross floor area and other on-site design features with other conforming developments in the same vicinity and zone, and any other factors that are unique to the property such as topographic constraints and other physical limitations. The applicant shall be responsible for submitting adequate information to demonstrate that reasonable and conforming use cannot be made of the subject property without removal(s) or encroachment(s) into the protected zone of an oak tree.

STEP SIX: Approval Procedure

A. The Planning Commission may approve, deny, or conditionally approve a request for the removal of three (3) or fewer oak trees comprising less than 25% of the total canopy cover on a single parcel except for Heritage Oak Trees as provided herein. The Planning Commission may also approve, deny, or conditionally approve a request for pruning or encroachment involving an unlimited number of oak trees.

B. The Planning Commission may refer any request for an oak tree permit directly to the City Council if the Planning Commission determines that special circumstances may exist with regard to the status of the tree(s), special community interest, or exceptional aesthetic, environmental or historical value.

C. The decision of the Planning Commission may be appealed to the City Council pursuant to the provisions of the Municipal Code.

D. Any request for removal of one (1) or more Heritage Oak Trees or greater than 25% of the canopy cover on a single parcel shall require a public hearing and three-fifths approval of the City Council.

E. Notwithstanding the Planning Commission's authority under the preceding paragraphs to act on requests relating to oak trees, whenever the request involves another entitlement requiring a recommendation or approval by the City Council, the Planning Commission shall refer the request to the City Council.

V. CONDITIONS OF PERMIT APPROVAL

Conditions may be imposed on the permit at the discretion of the City including, but not limited to, any of the following mitigations:

A. It is the policy of the City to preserve and enhance its ecosystem, one element being the contribution of oaks to the total hardwood canopy and wildlife habitat. Therefore, the loss or gain of total oak tree canopy as reflected in a baseline inventory of these resources shall be described in terms of species, total inches of diameter of any tree, and/or aggregate inches of diameter for more than one tree, and the magnitude of impact.

B. Requiring the replacement or placement of additional trees on the subject property to offset the impacts associated with the loss of a tree, limbs or encroachment into the protected zone of an oak. For every inch of tree, limb or root removed, a minimum of one inch must be replaced.

C. Canopy Retention Standards recognize the need to protect and retain stands of trees, as well as individual trees which will be impacted by proposed development. It is the policy of the City of Calabasas to retain 75% or more of the baseline canopy of each subject property.

Canopy cover will be determined by using dripline measurements to determine crown canopy and by comparing the amount of the subject property covered by canopy to that without canopy.

D. Unless waived by the City Council, a refundable security deposit in an amount equal to the cost of the replacement trees and canopy shall be deposited in trust with the City of Calabasas to guarantee the implementation and success of this replacement. The deposit will be refunded upon satisfactory completion of all conditions, including successful establishment of replacement plantings according to the criteria outlined in section V.4. The dollar deposit shall be determined using the PRC method of determination as outlined in Appendix B.

E. A signed acceptance of the conditions of the oak tree permit for removal shall be executed by the applicant or his/her representative, and the refundable security deposit shall be made prior to the issuance of the oak tree permit.

F. The planting of new trees on-site or off-site will be required to offset the loss of a tree. The applicant shall be responsible for periodic submission of affidavits by a certified oak tree consultant according to the permit specifications. This will include, but not be limited to, reports at the conclusion of grading and construction,and annually for the next 5 years based on quarterly or bi-annual site visits and including monitoring observations. Such affidavit shall certify compliance with all conditions of the permit, establishment goals and the health of all replaced, remaining or relocated trees.

This requirement shall be supplemented by random inspections by the City of Calabasas. The applicant's acceptance of an approved permit and the exercise of the rights thereunder shall be deemed consistent with allowing City officials reasonable access to the property for the purpose of conducting such inspections.

A written proposal from a qualified transplantation company must be submitted stating the validity of transplanting any tree.

A written proposal from a qualified monitoring agency/ company must be submitted outlining the specific monitoring required for the site/project according to the protocol in Appendix D.

G. The timing of any pruning, removals or relocations will avoid disturbing nesting birds.

H. The monitoring schedule, and the maintenance and care program outlined in the Oak Tree Report be carried out by qualified professionals. This program is to insure the continued health and care of oak trees on the property. The cost of the report, monitoring and the City review shall be paid by the applicant.

I. Payment of a fee to the City based on the following criteria:

Class I: To alter.

The cost for the loss of more than 25% canopy impact to any one tree, or limbs or roots over 2 inches in diameter based upon PRC value of the tree before and after alteration.

Class II: To transplant.

The cost for monitoring, maintenance and replacement in accordance with the Guidelines, by a City approved agency or firm, in addition to the cost related to the PRC value of the tree.

Class III: To remove.

The cost for the loss related to total inches of diameter of the tree(s) removed, associated hardwood canopy cover loss, wildlife habitat loss, and reforestation.

All such funds will be used to provide for reforestation of equivalent sites within or outside the project area that will remain as open space, replace woodlands removed for development, provide for public acquisition of title to and permanent conservation easement on developable lands and provide for public environmental education regarding reforestation and habitat preservation.

As an alternative to the payment of all or part of the fees described above, donation of land suitable for oak reforestation to the City may also be acceptable at the discretion of the City Council. Fees imposed under this section may be reduced as mitigated by specific circumstances and corrective measures undertaken by the property owner.

J. All oak trees included in an Oak Tree Report shall be considered registered with the City. Persons wishing to register other oak trees are encouraged to do so with either the City or a City-approved entity such as the Topanga-Las Virgenes Resource Conservation District.

K. If applicable, a bonded assurance of performance for reforestation, monitoring or maintenance may be required, in an amount to be determined by the City.

VI. PERMIT REQUIREMENTS: REQUEST TO ALTER

CONDITIONS REQUIRING A PERMIT TO ALTER

Pruning Request

Branches and roots under 2 inches in diameter and deadwood may be pruned without a permit.

The removal of live growth exceeding 2 inches in diameter requires application for an oak tree permit and approval of the Planning Commission. However, a property owner may remove limited live roots and branches under 2 inches in diameter considered to be unsafe because of decay, rot, cavities, cracks or splitting, based on the written description of the problem and recommendation for remediation by the property owner's oak tree consultant.

IT IS THE POLICY OF THE CITY OF CALABASAS NOT TO ALLOW THE REMOVAL OF LIVE TISSUE FOR THE PURPOSE OF ALTERING THE APPEARANCE OF AN OAK TREE. THEREFORE, ORNAMENTAL PRUNING, THINNING OUT, HEADING UP, OR ANY OTHER SIMILAR PRUNING WHICH INVOLVES THE REMOVAL OF LIVE TISSUE IS DISCOURAGED. THESE PROCESSES CONTRIBUTE TO THE ONSET OF INSECTS AND DISEASES.

Exceptions to this requirement are cases where clearance is required for utilities or public rights-of-way which are made known to the City in advance. All such pruning work shall follow proper arboriculture practices as outlined in the ISA Pruning Standards (Appendix A) and as approved by the City's oak tree consultant. Sealer should not be applied to cut ends. Research indicates that this aids the pathogens and not the tree.

Encroachment within the Protected Zone

Intrusion of any kind within the protected zone of an oak tree (15 feet from the trunk or 5 feet outside the dripline of trees under 24 inch DBH; 50 feetfrom all trees 24 inch DBH or greater) is to be avoided whenever possible. However, permits will be granted in those situations where such encroachment is unavoidable. Use of trenches for more than one utility service, proper trench design which minimizes root impacts, proper cutting and treatment of roots should all be detailed in the application.

Change of Grade

Any changes to the natural grade within or adjacent to the protected zone of an oak tree require a permit. Included in the application should be clearly detailed drawings indicating intended cut and fill, tree protection devices and other strategies as needed to meet or exceed City standards.

Fuel Modification

In accordance with Public Resources Code 4291 (Minimum Statewide Clearance of Brush) and recognizing the importance of the natural scrub oak communities within the City, the following standards shall be used to provide adequate clearance and protection from wildland fires.

1. Existing or Previously Approved Construction

When deemed necessary by the County of Los Angeles Fire Department, communities of scrub oaks are to be cleared of all deadwood, be limbed up a minimum of 48 inches above natural grade, and be thinned to allow at least 18 feet between groups of plants, for a distance of at least 100 feet from any structure, and not to exceed 200 feet, from any structure. Planting of low growing (below 18 inch) native groundcovers will be allowed within the cleared area to prevent erosion.

All work must have prior approval from the City and be supervised by a City approved arborist/landscaper.

2. New Construction

All new structures shall be sited 100 to 200 feet from scrub oak communities, or from the boundaries of any State or National Park lands. If the parcel size precludes this setback, the siting of structures will then be set back from the slope/pad intercept by at least 50 feet. Additional clearance of native vegetation may be required to provide adequate fire protection.

All work must have prior approval of the City and be supervised by a City approved arborist/landscaper.

In order to receive a permit for any of these activities, the following information must be submitted to the City, along with the necessary fee.

Application Form

Application shall be made on the standard application form supplied by the City. The signature of the property owner will be required in all cases.

Data Sheet

Data sheets are supplied by the City and must be completed for each tree involved.

Justification Statement

This is a written statement indicating the need for taking proposed actions involving oak trees. It should establish that the trees in the vicinity will be protected by meeting or exceeding the standards set by the City; that any encroachment, grade change or fuel modification will be done using approved preservation methods; and that one or more of the following findings can be made:

1. that the condition of the oak tree(s) with respect to disease, danger of falling, proximity to existing or proposed buildings and/or structures and parking lots, or interference with utility services cannot be controlled or remedied through redesign of the site elements or reasonable preservation procedures and practices;

2. that the retention or failure to allow some encroachment of the trees as described in the application prohibits the reasonable and conforming use of the property.

Description of work

Site plan showing tree locations and how proposed actions will impact the tree(s). In the case of fuel modification include a copy of the request from the Fire Department.

VII. PERMIT REQUIREMENTS: REQUEST TO REMOVE

The materials required to complete an application are described below. The City may waive the filing of one or more of the items listed when deemed necessary to process the application. However, additional information may be required when deemed necessary for permit processing. The accuracy of all information, maps, and lists submitted shall be the responsibility of the applicant.

Application Form

Application shall be made on the standard application form supplied by the City. The signature of the property owner will be required in all cases.

Justification Statement

An application requirement which may not be waived is a written statement by the applicant or his/her oak tree consultant stating the justification for planned actions involving oak trees.

Statements should establish that the oak trees in the vicinity of the project or construction site will be protected by meeting or exceeding the standards set by the City; that any construction or use will be done with approved preservation methods; and that one or more of the following findings can be made:

1. That due to the condition of the oak tree(s), certain actions are required to maintain its health, balance, or structure.

2. That the retention of or failure to allow some encroachment as described in the application prohibits the reasonable and conforming use of the property.

3. That the condition of the oak tree(s) with respect to disease, danger of falling, proximity to existing or proposed buildings and/or structures, parking lots or interference with utility services cannot be controlled or remedied through redesign of the site elements, reasonable preservation procedures and practices.

Site Plan and Oak Tree Map

In those cases determined to require a site plan, the following information should be included.

NOTE: Existing site plans may be used provided the information is both current and accurate.

1. Size: Maps should not exceed 30" x 42" in size.

2. Scale: The scale should not be smaller than 1" = 20'.
   Note: Map size and scale may be decreased with prior approval.

3. Property address and legal description.

4. Title Block: In one corner of the map, indicate the name of the property owners, applicant, appropriate consultants, (such as surveyor and oak tree specialist), address(s) and phone number(s) of those involved in preparing the plans and application.

5. Physical characteristics: the body of the map should accurately portray the following existing and proposed features:

   a. property lines;
   b. streets, access easements and/or public or private driveways and any other paved areas;
   c. buildings or structures;
   d. setbacks of all buildings and structures from the property lines;
   e. parking and other paved areas;
   f. land uses on parcel (existing and proposed as applicable);
   g. proposed grading and construction, including utilities and subdrains.

6. Oak Tree Locations: The map shall indicate the exact location of all oak tree(s) proposed to be encroached upon, removed and/or relocated, and those trees within 200 feet of the project or construction area, even if this extends beyond the property boundaries. Surveying the exact location(s) of the tree(s) both horizontally and vertically is very important and must be accomplished by obtaining the services of a professional engineer or a licensed land surveyor whose signature shall be affixed to the site plan and oak tree location map as appropriate.

   Symbols shall be used to indicate the proposed status of the tree(s).

   X - tree to remain
   O - tree to be removed
   * - tree to be relocated

7. Dripline(s) of the Tree(s): The exact location of the dripline of an oak tree is crucial in order to evaluate any impacts resulting from construction. Consequently, aerial photographs and rough approximations will not be acceptable. The dripline must be plotted in the following manner:

   a. Obtain and record four compass readings: N, E, S, W, plus any directions which have greater dripline dimensions.

   b. Perform a measurement of the dripline in the field at each compass point.

   c. Sketch in any variations as observed in the field.

Tagging

In anticipation of a field inspection, each tree having a caliper measure of 1 inch at 12 inches above grade shall be assigned a number on the plan and be physically tagged in the field. In order to standardize the system so that everyone may easily locate the tree number the following procedure is established:

1. A permanent tag, a minimum of 1 1/4" to 2" is to be used. The tag must be made from a non-corrosive, all-weather material and be permanently attached to the tree. For small trees that would be damaged by affixing the tag directly to the trunk, the tag may be tied with non-corrosive wire to a lower branch on the north side. It may need to be retagged more permanently at a later date.

2. The tag shall be affixed to the north side of the tree at 4 1/2 feet above natural grade.

3. Except for trees whose number has become obliterated, trees that were previously tagged properly need not be retagged.

4. Trees whose numbers have become obliterated shall be retagged using the required method.

Canopy Retention Standards

To promote woodland conservation, proposed development designs should make every effort to maintain groups of trees in contiguous areas that function as a cohesive habitat. No more than 25% of the total oak canopy cover for a given property as of August 1992 may be removed without City Council approval.

Total canopy cover will be determined by taking the sum of the individual tree crown canopies and comparing the percentage covered with the total area of the site.

Since preservation and reforestation are the long-term goals, special consideration should be given for protecting those areas having obvious natural regeneration and mixed age stands of oaks. The mitigations for loss of these resources will be determined by the City Council.

Short-term impacts due to construction can be mitigated by, but not limited to, the following:

1. Reserving some acres or percentage of property from development until reforested areas attain habitat value of oak woodlands lost, or

2. Specify open space deed restriction or donation of some property with equivalent oak resources on developable lands located outside the project area. Total area, canopy cover, woodland type and habitat value, in addition to any other pertinent resources shall be considered in determining equivalence of property.

Oak Tree Report

1. General

a. No Report Necessary

The determination of the requirement for an oak tree report will be made during the pre-application conference and will be predicated on the scope of the project and the nature of its impact on the surrounding trees. In general, the requirements for an oak tree report may be waived only in situations involving the removal of hazardous trees, subject to verification by the City's oak tree consultant. A modified oak tree report may be recommended by the City's oak

tree consultant should all of the trees on the property be a sufficient distance from the construction (no less than 200 feet), so as not to be impacted by construction or grading. Photographs, completed data sheets and protective fencing according to the standards outlined in the guidelines shall be required for those trees. Requests for pruning may also be subject to a modified report, subject to verification by the City's oak tree consultant.

b. New Report Necessary

In situations requiring the submission of an oak tree report, the document shall be certified by the applicant's oak tree preservation consultant to be true and correct and must be acceptable to the Planning Commission. Questions concerning the extent of the report's content or the acceptability of the report's preparer should be cleared with the City staff in advance.

c. Use of Existing Report

In cases where there is an existing oak tree report over two years old, on an earlier project that was not approved and/or constructed, the applicant may be required to provide a supplementary report rather than a new report. In addition to any design changes, the report will retain the original numbering system and include the current health and dripline of each oak tree on the project.

2. Format for the Report

A standard data sheet provided by the City will be completed for each tree. Additionally, the report shall discuss all grading and structures, required cutting, paving or trenching in and around the trees on the project and shall evaluate, to the extent possible, the impact of such activity on the tree, the impact on the overall canopy cover, as well as any mitigating measures proposed, including drainage modifications, and the anticipated effectiveness thereof.

In addition, the oak tree report shall be based on information requested on the data sheet, which includes the following information:

a. Location of tree
b. Tree tag number
c. Species
d. Diameter at 4 1/2 feet above natural grade
e. Height
f. Canopy cover information:
   - condition of crown canopy (% shade)
   - diameter based on actual ground measurements taken at 4 or more compass points
   - distance from natural grade to the first branch at 8 compass points
   - percentage of canopy cover

g. Health and Vigor Rating

Use the following criteria to describe the condition of the tree. Percentage (%) of canopy, trunk, branches and roots should be determined by visual inspection.

"A" = Outstanding

A healthy and vigorous tree characteristic of its species and reasonably free of any visible signs of stress, disease or pest infestation.

"B" = Above Average

A healthy and vigorous tree with less than 25% of the tree affected by visible signs of stress, disease and/or pest infestation.

"C" = Average

Although healthy in overall appearance, 25% - 75 % of the tree shows evidence of stress, disease and/or pest infestation.

"D" = Below Average/Poor

Greater than 75% of this tree shows evidence of stress, disease and/or pest infestation and appears to be in a state of rapid decline. The degree of decline may vary greatly.

"F" = Dead

This tree exhibits no signs of life at all.

h. PRC value of the tree

This value shall be calculated for each tree and will be used to determine the necessary mitigations. Refer to Appendix B for complete discussion.

TREE VALUE = (basic value) (0.1) (condition rating)

Basic value = $4,700 + $2,700 (d-7) when
(d = diameter in inches of trunk at 4 1/2' above natural grade)

Condition rating = based on visual evaluation

"A"	Outstanding	90-100%
"B"	Above Average	70-89%
"C"	Average	50-69%
"D"	Below Average	25-49%

'F' Dead 0-24%

Note: Dead trees have important wildlife value and therefore receive extra valuation in certain circumstances).

EXAMPLE: Coast Live Oak (Quercus agrifolia) in good condition having a diameter of 25'

($4,700 + $2,700(25-7)) (0.1) (0.80) = **$42,640**

i. Existing tree environment:slope grade and aspect, soil description, list of surrounding vegetation

j. Physical Structure: broken branches, unbalanced crown, water traps, etc.

k. Horticultural evaluation: disease, pest identification and extent of damage

l. Tree vigor: new shoots, leaf color, bark characteristics, deadwood, crown thinning, dieback, etc.

m. Photograph of tree taken from stated distance and direction. Must be clear enough to discern important features of the crown and trunk. Additional photos may be needed to show health problems, unusual features, extent of fire damage, etc.

n. Recommendations: Suggestions made by the applicant's oak tree consultant regarding any need for stabilizing physical structure (cabling, bracing), drainage/irrigation changes, disease and/or pest control, monitoring schedule, intended action (remain, remove, relocate).

Drawn sections shall be submitted showing the tree and all impacts to the protected zone above and below natural grade.

Each identified disease symptom shall be accompanied by a statement as to the probable effect of the disease upon the life or structure of the tree.

VIII. STANDARDS FOR PERFORMANCE OF PERMITTED WORK

1. Scope of Work

All work shall be performed as specified in the approved oak tree report and monitoring plan, oak tree permit and the requirements contained in these guidelines. Additional work such as spraying, watering, fertilization, cabling, bracing, etc. may be required as determined by the City's oak tree consultant. It must be remembered that these trees are living organisms and that the necessity for such additional work may be required due to any change in their condition after the original oak tree report is prepared.

2. Oak Tree Preservation Consultants

Generally, the services of an oak tree consultant are made necessary by the conditions of approval of various permits issued by the City of Calabasas. The importance of the consultant to the applicant/property owner is clear from the various requirements listed in this resolution.

From the City's perspective it is both necessary and critical that the applicant/property owner identify the consultant of record and allow him/her to act independently so as to be able to certify that all work was conducted according to the permit and these guidelines. Where encroachment and/or removal has been approved, the applicant/property owner must notify the City and the consultant in writing 48 hours before commencing any authorized work within the protected zone of oak trees. Moreover, it is mandatory that the applicant/property owner notify the City in writing within 5 days of any changes of their oak tree consultant of record. Monitoring of specific trees may need to begin at least 3 months prior to any encroachment or action within the protected zone.

A list of qualified oak tree consultants can be obtained by contacting the City.

3. Monitoring

A monitoring schedule for each site will be determined by the City's oak tree consultant based on the monitoring protocol (Appendix D). Monitoring will be conducted at quarterly intervals or more, during all grading and construction activities as warranted by the site conditions, for the first 3 years. Following construction, bi-annual monitoring is required for the next 5 years, or more if warranted. The specific monitoring protocol for each project will be determined based on the following:

- the number of trees to remain and their proximity to construction activities;
- the number of trees to be transplanted;
- the location and number of replacement trees required;

- the potential extent of impact to the overall canopy.

Annual reports will be submitted according to the schedule indicated in the permit.

Monitoring of relocated trees will commence at least 3 months prior to any encroachment or grading activities so as to provide important baseline information used to assess the changes in the tree following transplantation.

All monitoring will be done by a City approved agency/firm and the cost will be born by the applicant. Information provided by such monitoring will be used to establish realistic mitigation measures and to ensure the long term future of oak resources in the City.

4. Inspections

All work shall be conducted in accordance with applicable ordinances and procedures detailed in the guidelines. It is the applicant's responsibility to call for and secure all inspections required to approve such work in accordance with the schedule outlined in the permit.

5. Work within the protected zone

Because of the high sensitivity of oak trees, great care must be taken when work is being conducted within the protected zone. For this reason, the City has established specific procedures to ensure that the trees receive maximum protection. The procedures are as follows:

a. On-site Supervision

All work conducted within the protected zone of an oak tree shall be performed in the presence of the applicant's oak tree consultant, and be verified by the City's oak tree consultant.

b. Forty-eight Hour Notice

Except for deadwooding and pruning of limbs or roots under 2 inches in diameter, the applicant shall provide a 48 hour notice to the City and the appropriate oak tree consultant before beginning any work within the protected zone.

c. Hand Tools

Unless otherwise approved, all work conducted within the protected zone shall be accomplished using hand tools only. Use of tractors and other vehicles is prohibited. Roots will be severed cleanly with a saw, avoiding torn ragged or shattered ends.

d. Certification Letter

Certification letters are required for all work conducted upon oak trees. The applicant's oak tree consultant shall submit a certification letter within 10 working days after completion of such work certifying that all of the work was conducted in accordance with the appropriate permits and the requirements of these guidelines.

6. New Plants around Oak Trees

Planting is not recommended within the protected zones of oak trees. There should be nothing but a 3 inch layer of organic mulch (preferably oak leaves) within 6 feet of the trunk. Any planting within the dripline shall consist of oak associated natives of the Santa Monica Mountains. See Appendix E for the list prepared by the California Native Plant Society. These plants will not be irrigated.

Plants located at the perimeter of the protected zone shall consist only of drought tolerant species which are not susceptible to either Avocado Root Rot (Phytophthora cinnamomi) or Oak Root Fungus (Armillaria mellea). Irrigation should be limited. Spray emitters are prohibited.

7. Replacement Trees

A. Types:

In all cases, replacement trees of the following species (Quercus agrifolia, Quercus lobata, and Quercus dumosa) must be approved in advance by the City's oak tree consultant. Every attempt should be made to acquire trees grown from local acorns.

Top pruning and removal of branches on the lower two thirds of the trunk (lollypopping) destroys the natural structure of the tree and attracts boring beetle infestations. No specimens having been treated in this manner will be deemed acceptable. As the trees mature, removal of side branches may be permitted as outlined in the maintenance and care program.

Note: In some cases, where it is not possible to obtain appropriate nursery grown trees in the sizes required, an equivalent number of smaller container trees shall be planted in an amount equal to the cost of the larger unavailable trees.

B. Sizes

It is most advantageous to plant acorns and small oak trees (5 gallon), allowing them to develop in place. When larger container specimens are required, they must meet the following specifications:

Size Container*	Height'	Spread'	Caliper*
5 gallon	6-8'	12-24"	1/2"
15 gallon	6-8'	3-5'	1 1/2"
24" box	8-10'	5-6'	2"
30" box	10-12'	6-8'	2 1/2"
36" box	12-14'	8-10'	3"

C. Quality of Stock and Inspection Criteria

Nursery stock should be inspected by the applicant's oak tree consultant at the site before acceptance. The City requires that all trees be handled by their containers or root balls and not by the trunks.

At least 2% of the trees purchased should be removed from their containers and all other trees should be checked for the following:

1. Vigor: good shoot growth, large leaves and dense foliage, smooth, shiny bark, proper trunk taper, no evidence of extensive pruning.

2. Well-formed root systems: white root tips visible on perimeter of root ball, no kinked or girdling roots, firm, healthy older roots.

3. No serious disease or insect damage.

4. Well formed crown: strong central leader, no evidence of topping or lollypopping, side branches left intact.

5. No evidence of shipping damage or other injury.

6. Delivery of the exact species from the locale specified.

D. Planting Requirements

1. All holes will be no deeper than the container and at least 2 times wider than the container, with edges scarified. Check for and correct soil and drainage problems.

2. Unless otherwise directed by the oak tree consultant, backfill soil will not be amended.

3. The root crown will be level with or slightly higher than the surrounding grade.

4. Staking is not recommended. Under certain circumstances staking may be used at the direction of the City's oak tree consultant. In such cases, 2 stakes will be a minimum of 24" from the trunk and secured by the use of non-abrasive ties in a figure 8 pattern for the first 6 months. Be sure to remove the stack used for transporting the tree.

5. Watering should be by drip irrigation according to the following schedule:

WATER SHOULD NEVER BE SPRAYED ON THE TRUNK.

Year 1 - water weekly in the rainy season if needed to keep the soil moist. Slow, deep application is best. Summer watering should be spread out to every other week or more if the tree is well enough established.

Year 2 - extend the normal rainy season by supplemental watering through June, none in July or August, resuming as needed in September.

Year 3 - water only during the rainy season if necessary due to low natural rainfall.

6. Three to six inches of mulch should be applied under the dripline, but not touching the trunk.

8. Location of Replacement Trees

In determining the location for replacement tree planting, the Planning Commission shall consider, but is not limited to, the following factors:

A. The vegetative character of the surrounding area near the project site. These concerns are outlined in the California Native Plant Society guidelines for tree planting (Appendix C).

B. The number of oak trees subject to this ordinance which are proposed to be removed in relation to the total canopy existing on the site.

C. The anticipated effectiveness of the replacement oak trees in replacing lost canopy cover.

D. The development plans submitted by the applicant for the proposed construction or use of the project site.

E. The time frame of large scale, phased projects may necessitate planting over several years using oaks of

various sizes in order to promote development of a mixed age stand.

In cases where it is not possible to use the project site for planting replacement trees, the Planning Commission may consider the following options:

- providing for reforestation of equivalent sites that will not be subject to future development, or

- requiring donation of developable land for preservation.

9. Relocation of Oak Trees

In certain limited cases the City may consider the relocation of oak trees from one area of the project to another. The guidelines and limitations of this program are as follows:

A. Oak trees which are approved for relocation will be considered removals by the City and require appropriate replacement mitigation.

B. A refundable cash security deposit shall be made with the City. The amount shall be determined by the PRC value of the tree (Appendix B), plus the cost of planting and possible replacement. The deposit will be refunded upon the conclusion of the 5 year monitoring period, if in the opinion of the monitoring reports and the City's oak tree consultant, the relocated tree has survived and is in good health. If the health of the tree is unchanged or has declined, the applicant will remove the relocated tree and replace it with equivalent nursery grown tree(s) as specified.

C. The tree(s) being recommended for relocation must be approved by the City's oak tree consultant whose decision will be based upon factors including health, type, size, time of year and proposed location.

D. Inspections will occur during grading and construction according to the schedule established by the City's oak tree consultant.

E. Monitoring by an approved agency/firm will commence at least 3 months prior to any impact on the tree(s) and continue quarterly for the first 3 years, bi-annually for the next 2 years or longer as deemed necessary by the City's oak tree consultant.

Procedures for monitoring are outlined in Appendix D and may be modified to fit the needs of specific sites. However, quantitative measurements of tree health including, but not limited to, water potential and flushing growth are deemed necessary for accurate assessment and may not be deleted.

Yearly reports will be submitted to the City regarding the status of the tree(s). Cost of monitoring and inspections will be born by the applicant.

10. Establishment Criteria

In order to clarify the level of revegetation deemed satisfactory, the following criteria will be used to evaluate the success of oak tree preservation and replacement plantings:

Year 1 — 50-100% living cover on slopes, at least 80% of trees surviving.

Year 2 — 80-100% living cover on slopes, at least 90% of trees surviving on reduced irrigation as outlined in section V.1.5.

Year 3 — 100% living cover on slopes, at least 95% of trees surviving with limited watering and maintenance.

Year 4 and after — Continued growth of ground cover and trees with no supplemental water and little maintenance.

NOTE: Transplanted trees will always require more maintenance than replacement plantings. Special consideration for these trees will be given.

IX. TREE MAINTENANCE

Oak trees require little active maintenance and limited removal of deadwood. They thrive on benign neglect. The tree is growing on a given site because the necessary environmental conditions are already present. For this reason, preserving existing grade and drainage is crucial to the future of the tree.

1. Deadwooding

This activity is exempt from the requirement to obtain a permit. See definition of deadwood. If uncertain as to whether it is deadwood or not, contact the City's oak tree consultant.

2. Pruning Living Tissue

All pruning of limbs or roots over 2 inches in diameter will be done according to the Western Chapter of the International Society for Arboriculture Standards (Appendix A) after receiving a permit to alter. Sealers will not be used. All cuts will be made with sharp tools leaving no ragged or torn ends. Natural Target Pruning techniques protecting the branch bark ridge is required.

3. Unbalanced Trees

Trees that are suspected of being physically unbalanced because of broken limbs or that may become unbalanced as a result of deadwooding will require an oak tree report and an oak tree permit before any work can be performed. The report will contain an analysis of the problem and a recommendation for whatever remedial work may be necessary to correct the situation.

4. Roots

Impact to roots 2 inches in diameter or larger shall require an oak tree permit. Where structural footings are required and roots will be impacted,the footings shall be bridged and the roots protected. All roots will be cleanly cut with a saw. Shattered or ragged root ends shall be cut cleanly. Cover all roots with wet burlap for the time that they are exposed. Do not use root seals, as these have proven to aid pathogens and not the tree.

5. Fire Damaged Trees

Although fire is considered a serious threat to oak trees, many trees can survive several damaging fires. During their life span they can continue to provide wildlife enhancement, watershed protection, and physical and aesthetic value to the community. Some trees may begin to exhibit visible signs of rejuvenation within a few weeks after a fire. It is desirable to postpone the cutting of a heavily charred oak trees for at least 2 to 3 years. Most trees will recuperate. Since there are many factors that will determine the survival of fire damaged trees, a careful assessment of each individual tree must be undertaken. Burned trees shall be assessed and rated according to the standard in section VII.2.g immediately after the fire and again 1 year later. Subsequent inspections may also be required before deciding on a specific course of action.

IT IS THE POLICY OF THE CITY OF CALABASAS TO REQUIRE A COMPLETE OAK TREE REPORT ON ANY AND ALL OAK TREES THAT HAVE BEEN FIRE-DAMAGED BEFORE ANY WORK CAN BE PERMITTED.

In preparing such a report, oak tree consultants may assess the extent of the damage using visual or other techniques as necessary. If the removal of any live tissue is indicated, an exception may be made to prune the tree in such a manner so as to permit the regeneration process to proceed unhindered by dead or unhealthy tissue.

6. Diseased Trees - Pests and Insects

Generally our native oak trees are a very hardy species. However, there are a variety of diseases and pests that can severely affect trees that are in a state of general decline. Since the entire subject of diseases, pests and insects is a highly technical matter, no diseased tissue may be removed, unless it is unsafe, without submitting an oak tree report and obtaining an oak tree permit.

7. Cavities

Trees have well developed defense mechanisms which can be disrupted when natural barriers around the perimeter of a cavity is broken. Other than removing loose debris and providing a screen cover to prevent further debris build up, no action should be taken. Concrete or other similar materials shall not be used to seal or fill cavities. No holes shall be drilled to provide drainage.

8. Tree Removals

Unless otherwise expressly approved in writing, authorized removal of oak trees shall be accomplished using the following guidelines:

a. All portions of the tree shall be completely chipped for mulch and/or removed from the site, and debris shall be relocated to a permitted refuse disposal site. Additionally, the stump must be completely removed and the hole or indentation filled with soil.

b. All tree wells that were created to preserve the tree shall be completely filled with soil to the satisfaction of the City Engineer and Building Official.

X. PHASES OF CONSTRUCTION

The information contained in this section is divided into the four phases normally associated with new construction. Apart from the normal activities conducted during each phase, there are certain conditions associated with work around oak trees that are required to be completed during each of these phases. These requirements are expected to be completed for all residential, commercial and industrial projects.

PRE-CONSTRUCTION PHASE

This period is defined as the time between the approval of a development permit and the issuance of a grading permit. No work of any kind may occur on an approved project unless a stage grading permit, a grading permit or an oak tree permit has been obtained from the City of Calabasas. A grading plan for parcels with oak trees on the property will be reviewed and approved by the City's oak tree consultant before final approval. Generally, the following activities will occur before the commencement of grading operations.

A. Pre-Construction Conference

During this meeting City staff, including the City oak tree consultant will address various issues relating to the oak trees on the site. These issues shall include but not be limited to:

1. Fencing Plan

The applicant or his representative shall bring a copy of the fencing plan to the pre-construction meeting. Using the approved grading plan or the site plan, the fencing plan should be designed along the following guidelines:

a. A minimum 5 feet high chain link fence in concrete footings with posts installed every 8 feet and 2 feet deep into natural grade will be installed at the outermost edge of the protected zone of each oak tree or group of trees. Exceptions to this policy may occur in cases where oak trees are located on slopes that will not be grubbed or graded, or are located in areas where there is no activity planned or no currently approved grading plan.

The fences must be installed in accordance with the approved fencing plan and approved by City inspection prior to the commencement of any grading operations. The applicant's superintendent will be responsible for calling the City to arrange the inspection.

b. Signs must be installed on the fence at 4 cardinal points around each tree. For groups of trees signs will be placed at approximately 50 foot intervals around the grove. The signs must be a minimum of 2 feet by 2 feet square and must contain the following statement:

WARNING
THIS FENCE IS FOR THE PROTECTION OF THIS TREE AND SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF CALABASAS.

2. Monitoring Plan
In some cases it will be necessary to begin monitoring 3 months prior to any encroachment or grading activities. The appropriate contract must be in place to ensure that this is done in compliance with the standards of these guidelines and the plan outlined in the permit.

3. Parking Lots and Pedestrian Walkways
Since it is City policy to preserve all healthy oak trees unless removal, pruning or relocation is absolutely unavoidable, architects should design their projects with these requirements in mind. Therefore, for public safety reasons, parking lots and pedestrian walkways must be designed so that only healthy oak trees are proposed to remain in a high vehicular and pedestrian place. Trees whose rating are confirmed to be a "D" or less should be avoided in pre-design or proposed for removal unless it is possible to restore the tree to a safe and vigorous condition.

To the extent possible, parking spaces should not be located directly under the canopy of oak trees. When this is not possible, pervious paving material shall be used to the satisfaction of the City. The applicant's licensed engineer and oak tree consultant will be required to certify that such work was accomplished under their personal supervision and in accordance with approved plans and permits. These issues will be discussed in the pre-application conference.

4. Cut and Fill Slopes
In general, every effort should be made to avoid cut and/or fill slopes within the protected zone of any oak tree. The oak tree report should delineate any remedial measures necessary to retain positive drainage away from the tree and preserve the root system. Where fill slopes are proposed, the oak tree report must include a soils report indicating whether or not it will be necessary to cut and recompact the area prior to

moving the fill material into position. These issues will be discussed in the pre-application conference.

6. Oak Tree Removals, Deadwooding, Pruning
Unless otherwise approved, the applicant is required to complete oak tree removals as approved by the oak tree permit for the entire project phase that is currently being graded. Deadwooding and pruning is to be accomplished prior to grading phase unless otherwise approved.

GRADING OPERATIONS PHASE

This period is defined as the time between the commencement of grading operations and the commencement of construction of the building improvements. It is understood that the construction phase may begin while grading operations are continuing and that grading may begin on a subsequent phase while construction is still in progress on a previous phase.

For purposes of this section, each phase is considered separate and the conditions and monitoring associated with each phase will be required to be completed at the start or during the operations of each phase. The City inspector will make that determination in the field.

In addition to the normal grading operations conducted during this phase, the applicant will be required to comply with the following:

A. On-Site Documentation

The following information must be located and permanently retained on the construction site from the start of grading operations. The superintendent will be required to call the City to request an inspection to verify compliance with this requirement.

1. Oak tree permit - with all proposed modifications
2. Oak Tree Report
3. Oak tree location map
4. Oak tree fencing plan
5. Oak tree monitoring plan
6. Stamped set of grading plans approved by the City Engineer and City Oak tree consultant
7. Permit and Tract Conditions:

A copy of the approved permit and tract conditions, and all current and future modifications approved by the City.

8. Oak tree inspection card

9. Oak tree ordinance

10. Oak tree preservation guidelines

11. Approved planting and irrigation drawings

B. Retaining Walls Within the Protected Zone

In cases where an oak tree permit has been approved for the construction of retaining walls within the protected zone of the oak tree, the applicant will be required to complete these improvements using hand tools before completion of grading operations and before commencement of the construction phase.

C. Oak Tree Preservation Devices

If required by the oak tree report and the oak tree permit, preservation devices such as air ventilation systems, oak tree wells, drains, special paving and cabling systems will be required to be installed before the completion of the grading phase and commencement of the construction phase.

These devices must be installed under the direct supervision of the applicant's oak tree consultant who will write a letter certifying all such work and submit it to the City within 10 working days. Advance notification (48 hours) of such work shall be given to the oak tree consultant and the City.

D. Utility Trenching-Pathway Plan

In order to avoid unnecessary damage to the root system, prior to the completion of the grading operations and the commencement of the construction phase, the applicant will be required to submit a utility trenching-pathway plan to the City for review and approval. The plan shall use the best alternative to trenching within the tree's protected zone. The plan will depict all of the following systems: storm drains, sub-drains, sewers, easements, area drains, gas lines, electrical service, cable TV, water mains, irrigation mainlines, and any other underground installations.

IT IS THE POLICY OF THE CITY TO COORDINATE SUCH SERVICES TO AVOID DUPLICATE TRENCHING AND TO ENCOURAGE TUNNELING UNDER ROOTS OR AROUND THE DRIPLINE. ALL WORK WITHIN THE PROTECTED ZONE SHALL BE DONE USING HAND TOOLS.

Additionally, the plan must show all lateral lines serving the residences. The plan must also show the surveyed

locations of all oak trees and an accurate plotting of the protected zone.

The plan should be developed considering the following guidelines:

A. All systems in this subsection shall avoid the protected zone of any oak tree.

B. Where it is not possible to avoid some encroachment, the design shall minimize the extent of encroachment by coordinating services using the trench, tunneling under roots wherever feasible and conducting all work using hand tools. A report of these encroachments will be made in a supplemental oak tree report.

CONSTRUCTION PHASE

This period is defined as the time during which building improvements are under construction.

A. Ground Plane Improvements

The following improvements may be installed within the protected zone of an oak tree subject to the approval of an oak tree permit issued by the City and the limitations and guidelines contained in this section: pervious patio covers, wood decks, garden walls, fences, gazebos, and other similar improvements. The guidelines and limitations are as follows:

1. An oak tree permit shall be approved by the City.

2. Any work conducted within the dripline of the tree will be done with hand tools only.

3. Tunneling under roots or using caissons or posts is preferred.

4. No soil will be stockpiled under the dripline.

5. All work shall be conducted in the presence of an oak tree consultant, subject to verification by the City's oak tree consultant. Both will receive 48 hour notice of impending actions.

6. Pruning of limbs and roots will be done in strict accordance with ISA Pruning Standards (Appendix A) and the standards outlined in these guidelines.

7. Monitoring quarterly for the first 2 years and bi-annually for the following 3 years will be required to verify the continued health of the tree.

B. Fine Grading Permit (Oak Tree Lots Only)

On most tracts, the drainage patterns for the lots will have been designed into the original grading plan. However, this is not the case with custom lots and custom lot tracts. Therefore, in an effort to avoid establishing drainage patterns that intrude into the protected zone of oak trees, the following procedures have been established.

1. Custom Lots and Custom Lot Tracts

A fine grading permit will be obtained from the City in accordance with the oak tree permit. The landscape architect or the engineer shall design a pattern utilizing surface and/or subsurface drainage devices to avoid completely the protected zone. Additionally, the oak tree consultant will be required to submit an supplemental oak tree report to the City for review and approval prior to fine grading the lot. Supplemental monitoring may be required at that time.

Following approval of the plan and the completion of the work, the oak tree consultant will submit a letter of certification within 10 working days. Additional reports may be required as per the monitoring schedule.

2. Other Lots and Projects

On all other projects, grading plans will be designed at the outset to avoid the protected zone of the oak trees. The procedure for these lots will be as described in custom lots, above.

3. Inspections and Monitoring

The City reserves the right to inspect the project at appropriate intervals and require further monitoring if deemed necessary.

POST CONSTRUCTION PHASE

This period is defined as the time following the completion of all building improvements. In residential projects, the construction phase and the post-construction phase will overlap as houses are completed and new houses are still being constructed. For purposes of this section, certain conditions will be required to be completed prior to receiving Certificates of Occupancy.

A. Certification of Oak Tree Work

On all lots containing oak trees, the City inspector will require that all of the oak tree work required by the conditions of the development permit, the oak tree report and the oak tree permit, as applicable, have been completed and certified by the applicant's oak tree consultant prior to City approval.

B. Monitoring

The continued monitoring of oak trees according to the oak tree report and the oak tree permit shall proceed until 5 years are passed, or longer as required by the oak tree permit.

C. Oak Tree Information Packet

In cooperation with the sales agent, the applicant will be required to provide and certify that an oak tree information packet, as approved by the Planning Commission, has been provided to the buyer of the property and the homeowner's association. The information to be included in this packet is as follows:

1. Oak Trees - Care and Maintenance
2. Compatible Native Plants for Around Your Oaks
3. Oak Tree Ordinance
4. Oak Tree Preservation Guidelines
5. Development Permit: Copy of the City-approved conditions of approval of the oak tree permit.

D. Certification of Receipt

Applicant/sales agent shall prepare a letter introducing the packet. The letter and packet shall then be sent by certified mail to the property owner. The applicant shall forward a copy of the letter and the signed return receipt card to the City where it will be recorded and stored.

XI. ENFORCEMENT

A. General

The City, through its Code Enforcement Officers, shall vigorously enforce the provisions of the Oak Tree Ordinance and the Oak Tree Preservation Guidelines. Additionally, inspectors from Building and Safety and Public Works, in the course of their regular duties will monitor activities on-site on a daily basis. Any irregularities or suspected violations will be immediately reported to the Code Enforcement Section and the City's oak tree consultant for follow-up action.

B. Stop Work Orders

Whenever any construction or work is being performed contrary to the provision of the Oak Tree Ordinance, Oak Tree Preservation Guidelines, Oak Tree Permit or conditions of the appropriate development permit, the City's oak t
ree consultant or a City inspector may issue a written notice to the responsible party to "stop work" on the project on which the violation occurred or upon which the danger exists. The notice shall state the nature of the violation and no work shall be allowed until the violation has been rectified

and approved by the Code Enforcement Officer or the City's Oak Tree Consultant.

C. Additional Remedies

Any person who cuts, damages, moves or removes any oak tree within the City or encroaches into the drip line of an oak tree in violation of the City's oak tree ordinance shall be subject to the following mitigations in addition to any penalties provided by the Municipal Code:

1. A suspension of any building permits until all mitigation measures specified by the City are satisfactorily completed.

2. Completion of all mitigation measures as established by the City.

3. For removal of a non-exempt oak tree a building or improvement moratorium on the property for a period not to exceed 10 years and applying to any subsequent owner of the property until the term is completed.

4. A Notice of Non-Compliance may also be recorded on the property.

D. Restitution

It has been determined that the oak trees within the City are valuable assets to the citizens of this community and to the citizens of the State of California, and as a result of the loss or damage to any of these trees, the public should be recompensed.

Any person violating the provisions of this ordinance shall be responsible for proper restitution and may be required to replace the oak tree(s) removed or damaged. Replacement shall be made based on the PRC value (see Appendix B) or the actual replacement cost, whichever is higher, plus the cost of planting and maintaining the replacement trees. The number, size and location of said equivalent replacement oak trees shall be determined by the Planning Commission.

APPENDIX B
DETERMINING TREE VALUES - PRC METHOD

The City of Calabasas wishes to more realistically replace the value of oak woodlands and individual trees lost in the development process. Recognizing that the long-term goal of reforestation and preservation can only be accomplished with the implementation of short-term initiatives fostering tree conservation, the values of individual trees will follow the PRODUCTION REPLACEMENT COST (PRC) METHOD devised by arborist Alden Kelley. The more widely applied International Society of Arboriculture (ISA) method is biased towards undervaluing oak trees, and is therefore not applicable.

The PRC method addresses tree value in terms of universally recognized criteria, the cost of replacement. Tree value is specified as the cost of providing and establishing an equivalent specimen to that being lost. The replacement tree would be of the same species, size, condition and installed in an equivalent location to the tree being removed.

Both the PRC method and the ISA method rely on several variables in determining the value of a given tree. First, the Basic Value is based upon the size (diameter at breast height at 4 1/2 feet above grade). Second, the condition of the tree, and thirdly the species value.

Basic value will be defined as $4,600 for the first 7 inches of diameter, and $2,700 for each additional inch of size. Those trees smaller than 8 inches in diameter are valued according to local nursery prices, including installation costs. These prices will be adjusted to remain consistent with industry standards.

The condition of the tree will be evaluated according to ISA standards. The data sheet for making these determinations is included. Value will be noted as a percentage.

The City has determined that all oaks have a species value of 100%.

Since the oaks under consideration are now growing in a location having all the essential elements for survival, location will not be considered a factor in determining value.

The formula for determining value is:

PRC VALUE = Basic value x condition rating

Basic Value = $4,600 + $2,700(diameter - 7)

Condition rating = percentage based on ISA evaluation standards

DETERMINING PRC VALUES FOR OAK TREES
April 1993

When determining conditions of approval for impacting or removing oak trees, the City will use the following values. This document will be revised to reflect changes in **PRODUCTION REPLACEMENT COST** according to local nursery prices, including installation costs.

For trees under 7" in diameter 4 1/2' above grade

Size (inches)	Box/ Ball Size (inches)	Value (Dollars)
less than 0.73	5 gal.	175
0.75	15 gal.	525
1-1.5	20	700
2	24	910
2.75	30	1,275
3.25	36	1,600
4	42	1,950
4.5	48	2,300
5	54	3,000
6	60	4,700
7	72	7,600

For trees over 7" in DBH, use the following equation to determine PRC Value:

1. Determine Condition Rating for the tree using the standard ISA form.
2. Fill in values and use the formula to determine value.

A = $4,600 + $2,700 (DBH - 7)

B = Condition rating (percentage: example 95%= 0.95)

A x B = PRC Value

EXAMPLE 1: 25" diameter Coast Live Oak in good condition

A = $4,600 + $2,700 (25-7) = 53,200
B = 0.80

53,200 x 0.80 = $42,640

Value of branches and roots impacted due to alteration can be determined by calculating the PRC value, estimating how much of the tree is impacted (percentage) and using that to determine mitigation.

EXAMPLE 2: 15% of the tree in Example 1 will be lost due to construction of a driveway

$42,640 x 0.15 = $6,396

HEALTH AND VIGOR RATING

A = Outstanding: Healthy, vigorous tree, free of signs of stress, disease, pest infestation

B= Above Average: Less than 25% of the tree affected by signs of stress, disease /pest infestation

C= Average: Overall appearance healthy. 25-75% of tree shows evidence of stress, disease/pest infestation

D= Below Average/Poor: Greater than 75% of tree shows signs of stress, disease/pest infestation, appears to be in state of rapid decline. Degree of decline may vary.

F= Dead: Exhibits no sign of life at all.

GUIDE FOR JUDGING THE CONDITION OF LANDSCAPE TREES

FACTOR	VARIATION IN CONDITION FACTOR	POINTS	POINTS AWARDED
CROWN DEVELOPMENT	Characteristic of species - well balanced	(5)	
	Lacking natural or desired symmetry	(3)	
	Lacking full crown	(1)	_____
TRUNK CONDITION	Sound and solid	(5)	
	Section of bark missing:		
	less than 1/4 of circumference	(4)	
	1/4 to 1/2 missing	(3)	
	1/2 or more missing	(1)	
	Extensive decay or hollow	(0)	_____
MAJOR BRANCH STRUCTURE	No defects	(5)	
	Die back limited	(4)	
	Few structurally important dead or broken branches	(3)	
	Several structurally important dead or broken branches	(1)	_____
TWIG GROWTH RATE	Typical for species and age - usually 4-6 inches	(5)	
	Less than 1/2 normal growth rate	(3)	
	Growth rate greatly reduced - yearly decline	(1)	_____
FOLIAGE	Normal size and color for species	(5)	
	Minor deficiency/pollution symptoms	(3)	
	Major deficiency/pollution symptoms	(1)	_____
INSECTS & DISEASES	No insects or diseases apparent	(5)	
	Few controllable insects or diseases present	(3)	
	Severe infestation	(1)	_____
ROOTS	No root problems apparent	(5)	
	Minor root problems	(3)	
	Severe root problems	(1)	_____

Total Points	Condition Class	Formula % for Condition
30 - 35	Excellent	90 - 100%
24 - 29	Good	70 - 89
17 - 23	Fair	50 - 69
11 - 16	Poor	25 - 49
6 - 10	Very Poor	0 - 24

APPENDIX E

STANDARD DESIGNS FOR ENCROACHMENTS WITHIN THE PROTECTED ZONE

Understanding the basics of how oak roots work helps to prevent unnecessary damage. There are two kinds of roots. The woody roots support the tree and can extend down as much as 50 feet, in the case of Valley Oaks (Q. lobata). The non-woody roots absorb water and nutrients from the soil. They are concentrated in the upper 18 inches of soil and are potentially the most easily damaged. They require both air and water, thriving in soil that is not compacted. If damage is done to the absorbing non-woody roots, the tree will become stressed. If the woody roots are damaged, the tree could remain green and still be in danger of falling over.

Some general rules to keep in mind:

1. All work done within the protected zone of the tree shall be done with hand tools.

2. If a root is split during work, they should be cut cleanly above the injury if possible.

3. Any roots exposed during excavation should be covered with wet burlap to protect them from drying.

4. Do not pile dirt or change the soil grade around the tree trunk or dripline. This causes oxygen deprivation and the tree can suffocate.

5. Do not change the drainage systems around the trees.

6. Do not compact the soil within the dripline.

7. Do not fertilize the tree until at least one full growing season following impacts. This prevents the tree from expending energy in response to the fertilizer. A 3-6 inch layer of oak leaf mulch is the best fertilizer for the tree and should be applied immediately following completion of work.

8. Avoid any grade change within 6 feet of the trunk.

9. Irrigation and landscaping around the tree should be compatible with the standards established in the guidelines.

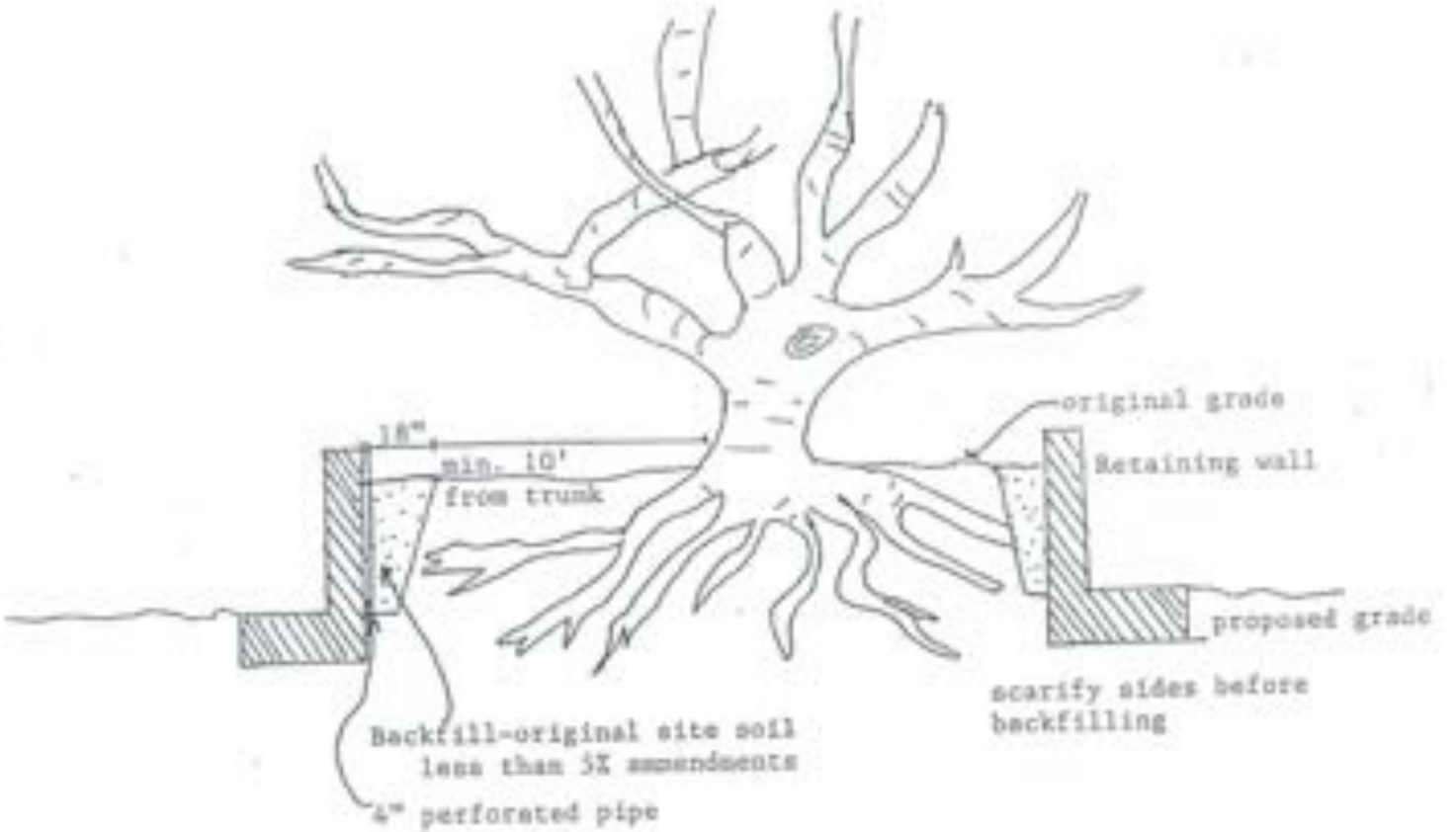
10. All work should be supervised by an Oak Tree Consultant.

CUTS DEEPER THAN 6 INCHES

1. All work in the protected zone is to be done using hand tools only.

2. All roots are to be cleanly cut. No sealer should be used.

3. Permit approval for encroachment is necessary and applies only in special circumstances.



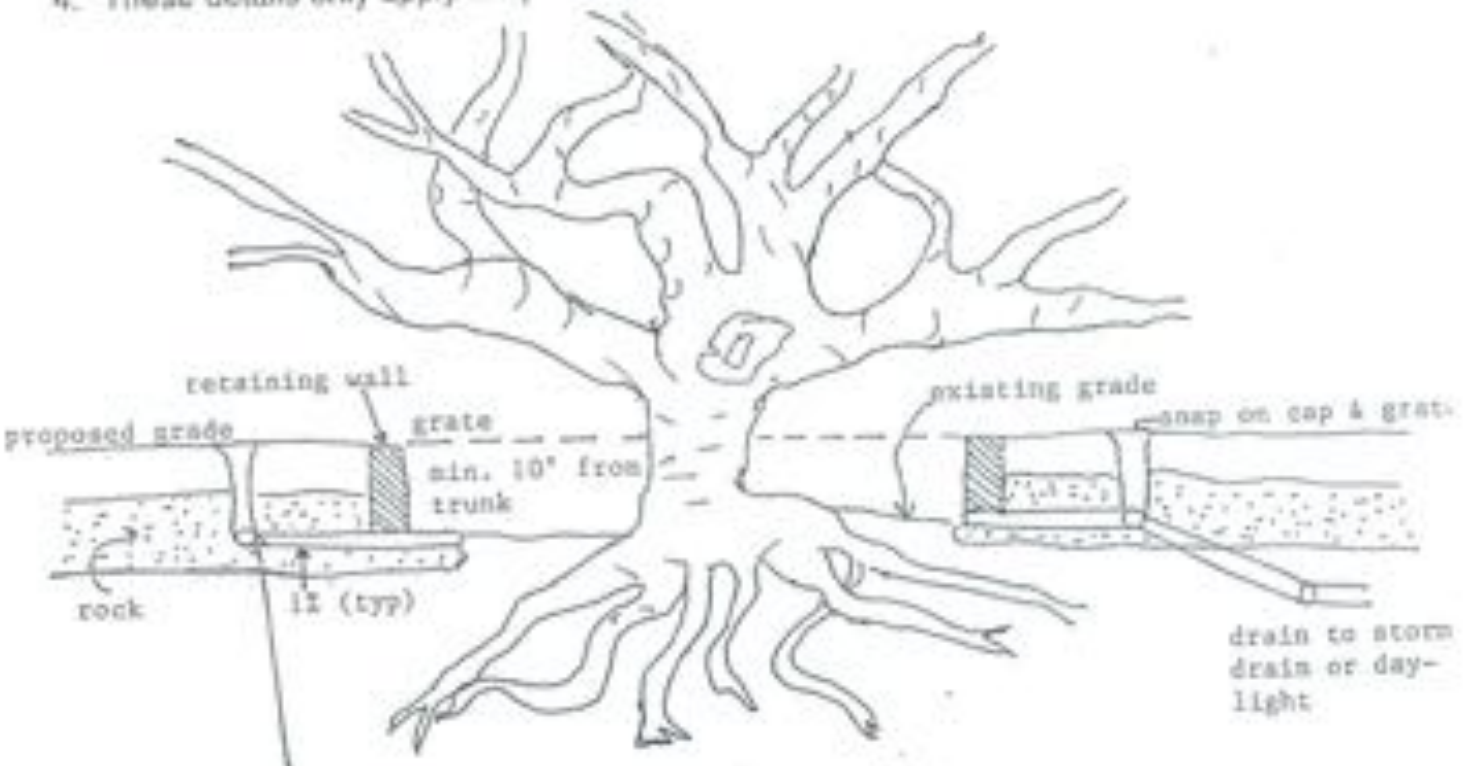
FILLS GREATER THAN 6 INCHES

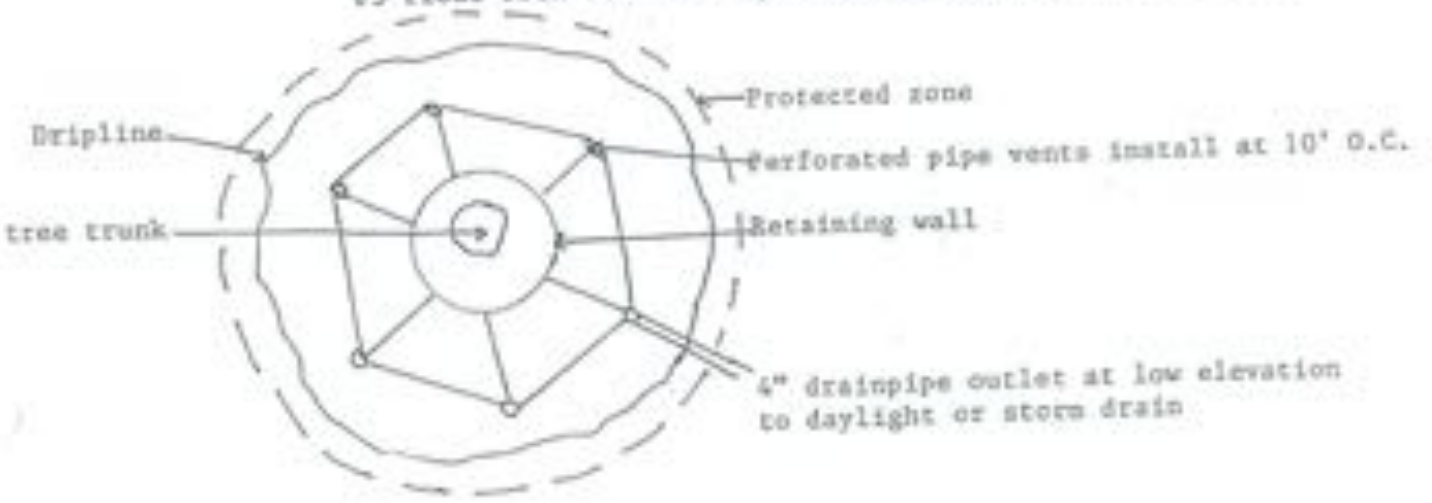
1. These diagrams apply only to fills greater than 6 inches. All other fills as directed.

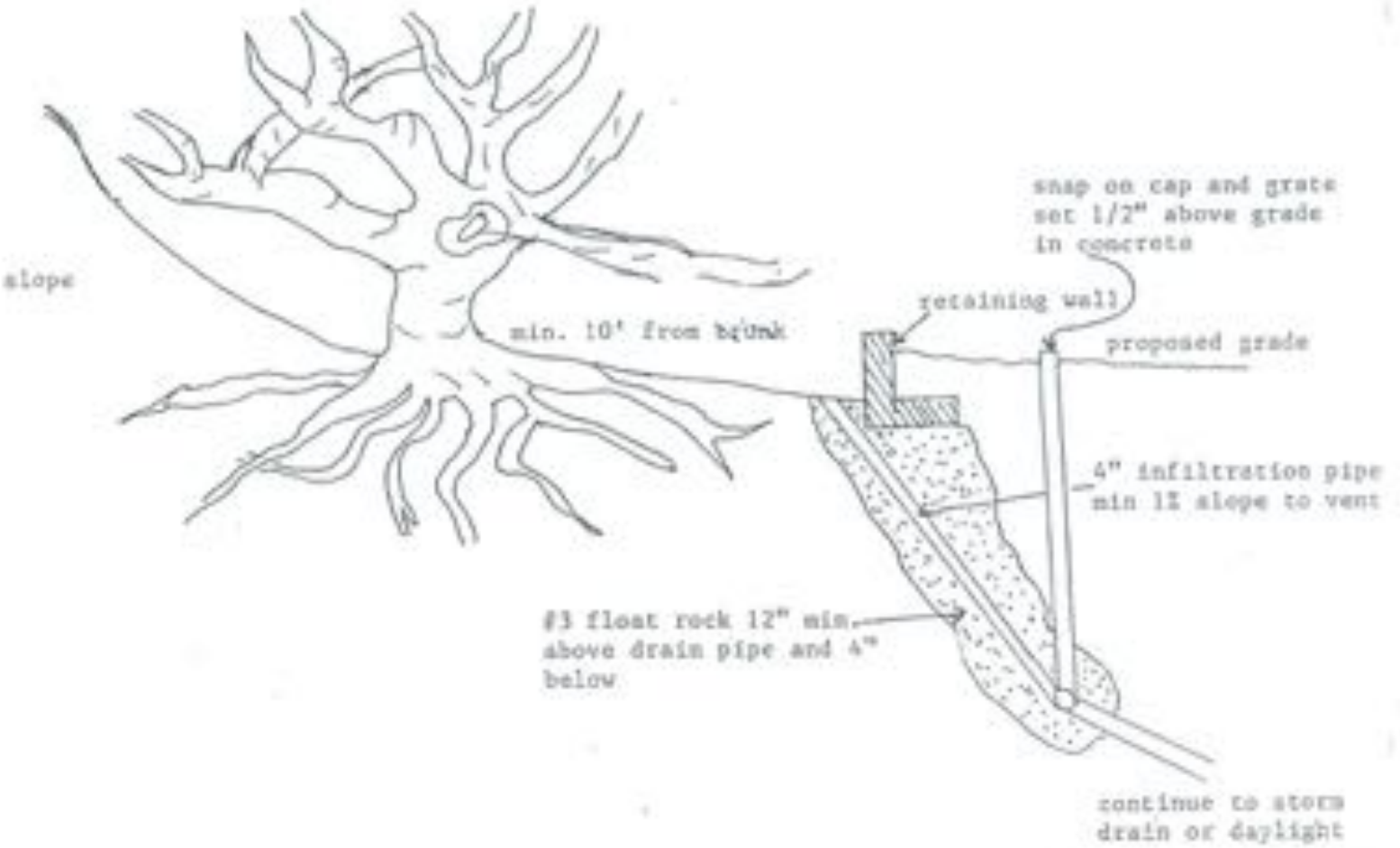
2. Clean away soil using only hand labor under the direction of an Oak Tree Consultant.

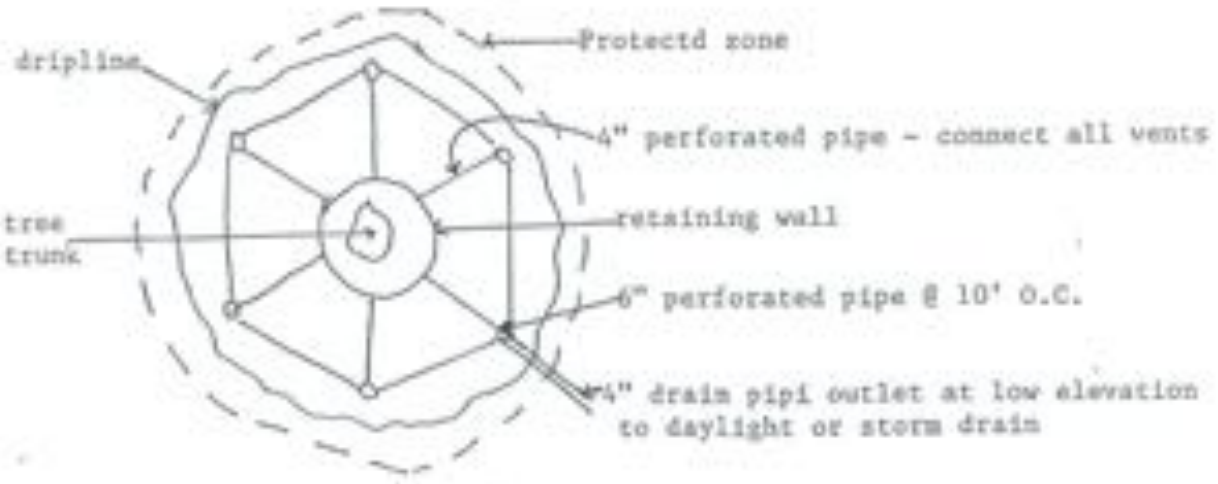
3. Do not damage roots when placing rocks.

4. These details only apply in special circumstances following permit approval.






slope
min. 10' from trunk
snap on cap and grate
set 1/2" above grade
in concrete
retaining wall
proposed grade
4" infiltration pipe
min 1% slope to vent
#3 float rock 12" min.
above drain pipe and 4"
below
continue to storm
drain or daylight


dripline
Protectd zone
4" perforated pipe - connect all vents
tree
trunk
retaining wall
6" perforated pipe @ 10' O.C.
4" drain pipi outlet at low elevation
to daylight or storm drain

GUIDE FOR JUDGING THE CONDITION OF LANDSCAPE TREES

FACTOR	VARIATION IN CONDITION FACTOR	POINTS	POINTS AWARDED
CROWN DEVELOPMENT	Characteristic of species - well balanced	(5)	
	Lacking natural or desired symmetry	(3)	
	Lacking full crown	(1)	
TRUNK CONDITION	Sound and solid	(5)	
	Section of bark missing:		
	less than 1/4 of circumference	(4)	
	1/4 to 1/2 missing	(3)	
	1/2 or more missing	(1)	
	Extensive decay or hollow	(0)	
MAJOR BRANCH STRUCTURE	No defects	(5)	
	Die back limited	(4)	
	Few structurally important dead or broken branches	(3)	
	Several structurally important dead or broken branches	(1)	
TWIG GROWTH RATE	Typical for species and age - usually 4-6 inches	(5)	
	Less than 1/2 normal growth rate	(3)	
	Growth rate greatly reduced - yearly decline	(1)	
FOLIAGE	Normal size and color for species	(5)	
	Minor deficiency/pollution symptoms	(3)	
	Major deficiency/pollution symptoms	(1)	
INSECTS & DISEASES	No insects or diseases apparent	(5)	
	Few controllable insects or diseases present	(3)	
	Severe infestation	(1)	
ROOTS	No root problems apparent	(5)	
	Minor root problems	(3)	
	Severe root problems	(1)	

Total Points	Condition Class	Formula % for Condition
30 - 35	Excellent	90 - 100%
24 - 29	Good	70 - 89
17 - 23	Fair	50 - 69
11 - 16	Poor	25 - 49
6 - 10	Very Poor	0 - 24

Appendix D:

Archaeological Investigation

Greenwood and Associates
725 Jacon Way
Pacific Palisades, California 90272
January 14, 2013

Mr. Stephen Jordan, Vice President
The New Home Company
95 Enterprise, Suite 235
Aliso Viejo, California 92656

RE: Village at Calabasas, Mixed Use Development – Archaeological Investigation

Dear Mr. Jordan:

At your request, we have compared our previous report on the archaeological investigation for the Village at Calabasas, dated March 2007, with the revised project study for The Village at Calabasas, Seniors Community Living, dated December 2012. The purpose of the review was to determine if the findings and impacts are the same compared to the approved project.

We compared the footprint of our project maps, Figure 1 (Foster 2007:2), with the proposed footprint as represented by the site plan dated January 2013. Our comparison reveals minor variations between the two graphics, but the overall intent appears to represent the same general configuration. The graphics we used in the original project were not as detailed as the ones for the current project and represent our best estimate of the boundaries of the Calabasas Inn in March 2007. We do not believe that the variations are significant and that the baseline conditions have not changed from the prior analysis.

We do not foresee the need for additional survey and analysis of the new project. If you have any questions, or your plans change significantly, please do not hesitate to call.

Sincerely,
Greenwood and Associates

John M. Foster, Vice President

Reference:

Foster, John M.
2007 **Archaeological Investigation for the Expansion of The Calabasas Inn in the City of Calabasas, California.** Greenwood and Associates. Submitted to D2 Development, Calabasas.

Appendix E:

Geotechnical Report

UPDATE
GEOTECHNICAL ENGINEERING REPORT

Proposed Mixed-Use Development
Lot 1, Tract 29325
23500 Park Sorrento
Calabasas, California
LA-01124-02

Prepared For

23500 PARK SORRENTO VENTURES, LLC.

January 29, 2013

Prepared By

Earth Systems Southern California
14550 Haynes Street, Suite 202
Van Nuys, California 91411

(818) 901-8075
FAX (818) 901-8084

Earth Systems
Southern California

14550 Haynes Street, Suite 202
Van Nuys, California 91411
(818) 901-8075
Fax (818) 901-8084
www.earthsystems.com

January 29, 2013 LA-01124-02

23500 Park Sorrento Ventures, LLC
23500 Park Sorrento
Calabasas, California 91302

Attention: Mr. Larry Dinovitz

Subject: **Update Geotechnical Engineering Report**
The Village at Calabasas
Proposed Mixed-Use Development
Lot 1, Tract 29325
23500 Park Sorrento
Calabasas, California

References: *Preliminary Geotechnical Engineering Report, Proposed Mixed-Use Development Lot 1, Tract 29325, 23500 Park Sorrento, Calabasas, California*, by Earth Systems Southern California, LA-01124-01, dated February 13, 2007.

Update Geotechnical Engineering Report, Proposed Mixed-Use Development Lot 1, Tract 29325, 23500 Park Sorrento, Calabasas, California, by Earth Systems Southern California, LA-01124-01, dated December 7, 2009.

Update Geotechnical Engineering Report, Proposed Mixed-Use Development Lot 1, Tract 29325, 23500 Park Sorrento, Calabasas, California, by Earth Systems Southern California, LA-01124-01, dated December 30, 2009.

Update Geotechnical Engineering Report, Proposed Mixed-Use Development Lot 1, Tract 29325, 23500 Park Sorrento, Calabasas, California, by Earth Systems Southern California, LA-01124-01, dated September 22, 2010.

Conceptual Grading & Site Plan - The Village At Calabasas, by Pacific Coast Civil, Inc. Project No. 12059, dated January 23, 2013.

INTRODUCTION

Earth Systems Southern California (ESSC) has prepared this Update Geotechnical Engineering Report per your request for the site of a proposed mixed-use development in Calabasas, California. This update report has been prepared to address changes in the proposed development, to summarize the geotechnical recommendations in prior reports relevant to the current project plans, and address

changes in the building code since the above referenced Geotechnical Engineering reports were prepared. Update geotechnical reports (ESSC, 12/7/2009, 12/30/2009 and September 22, 2010) were prepared for prior designs that are reflected in those reports. This update report (1/29/2013) addresses the currently proposed design. An electronic (.pdf) copy of the referenced Preliminary Geotechnical Engineering report (ESSC, 2/13/2007) and the Updates (ESSC 12/7/2009, ESSC 12/30/2009 and ESSC 9/22/2010) are included for reference on disk in a pocket at the end of this report for reference.

SITE DESCRIPTION

The approximate four-acre site is at 23500 Park Sorrento in the City of Calabasas, California. The site is approximately a quarter mile south of the Ventura (Hwy 101) freeway and approximately a quarter mile west of Mulholland Drive. The irregular-shaped project site is currently occupied by the Calabasas Inn, a one-and two-story wood-frame building. The building structure is situated in the south-central portion of the property and is currently used as a banquet hall. An asphalt parking lot occupies most of the northern portion of the site while the area behind the structure to the south is occupied by a lawn and other landscaping. McCoy Creek, a perennial stream, trends through the property along the southeast property line. Access to the property is available from Park Sorrento located at the northwest corner of the site.

Topographically, the property consists of gently sloping ground at a elevations ranging from approximately 940 to 954 feet above mean sea level (msl). Slopes along the southeast portion of the property descend approximately 15 feet at a gradient of up to approximately two horizontal to one vertical (2H:1V) to McCoy Creek. Portions of the stream course in the vicinity of the subject site have been protected against erosion and a concrete-paved ford extends from the subject site to the adjacent property to the southeast. The above-cited descriptions are intended to be illustrative, and are specifically not intended for use as a legal description of the subject property.

PROJECT DESCRIPTION

Based on the current grading plan from Pacific Coast Civil, Inc. (Project No. 12059 dated January 23, 2013), the project will be primarily residential but will include some commercial space on the ground floor at the front (north end) of the project along the street. The development concept addressed in the above-referenced Preliminary Geotechnical Engineering Report (ESSC, 2/13/2007) included multiple, four-story mixed-use buildings, constructed over two levels of subterranean parking. The lower floor of the parking garage was to extend into the bedrock zone that exhibited groundwater seepage and was to be supported entirely on the underlying bedrock.

Based on review of the current grading plan and discussions with the project owners, Earth Systems understands that the currently proposed project will be similar to that discussed in the referenced Preliminary Geotechnical Engineering report (ESSC, 2/13/2007) for the portion adjacent to Park Sorrento (i.e. several stories above two stories of subterranean parking). However, it is understood that the remainder of the development will consist of at-grade parking with three levels of residential above.

The grading plan indicates that the base of the subterranean parking level adjacent to the street on the north will extend down to a depth of 20 to 25 feet below existing grade to an elevation that will be close to or at the bedrock contact. Temporary shoring and retaining walls will be necessary to support the street and form the subterranean parking levels.

The remaining development (the southerly portion), as currently proposed, will now be situated at-grade or close to existing grade. The southern portion of the development will thus be above the underlying bedrock surface, except for the zone along the mid to southwesterly property line where bedrock is shallow or at the ground surface. Thus, the proposed at-grade structures will intersect the bedrock contact in the southwestern part of the site.

Earth Systems has not received building or foundation plans for the proposed structures as of this writing. However, based on the type of construction, estimated structural loads are not expected to exceed 4,000 pounds per linear foot (plf) for bearing walls on continuous foundations and 300 kips for columns bearing on pad footings or piers. Earth Systems has assumed that conventional cut and fill methods will be used to grade the site. Finished slopes will have gradients no steeper than 2H:1V and are not anticipated to exceed five feet in height. The existing and proposed projects are served by a public sewer system (i.e. no on-site septic systems). If the anticipated development or other site conditions vary significantly from the conditions stated herein, the conclusions and recommendations discussed herein should be reconfirmed prior to completing project plans.

DISCUSSION AND CONCLUSIONS

Seismic Design Parameters

It is recommended that any building or structure constructed on this site be designed to at least the minimum standards of the City of Calabasas Building Code (based on 2010 California Building Code - CBC).

Site Class	C
Maximum Considered Earthquake (MCE) Ground Motion	
Spectral Response Acceleration, Short Period – S_s	1.500g
Spectral Response Acceleration at 1 sec. – S_1	0.600g
Site Coefficient – F_a	1.0
Site Coefficient – F_v	1.3
Site-Modified Spectral Response Acceleration, Short Period – S_{MS}	1.500g
Site-Modified Spectral Response Acceleration at 1 sec. – S_{M1}	0.780g
Design Earthquake Ground Motion	
Short Period Spectral Response – S_{DS}	1.000g
One Second Spectral Response – S_{D1}	0.520g

Reference: USGS, 2011 Latitude: 34.155 degrees Longitude: -118.640 degrees

Foundation Design and Settlements

The various proposed structures of the project should be founded either entirely on bedrock or entirely on new engineered compacted fill. Each proposed building should be supported entirely by either bedrock or compacted fill; the structures should not transition from one material to the other.

Based on the referenced conceptual grading plans, the two-level subterranean parking structure portion of the development will bottom in or near bedrock and so should bear entirely in bedrock; some remedial grading beneath the base of the lower parking level may be necessary for uniform slab support. The buildings in the other (southerly) portions of the project may be supported by shallow spread footings that bear entirely on compacted soil (engineered fill) or foundations may be deepened to uniformly support the structure in bedrock.

If the preliminary recommendations presented in the referenced reports for site preparation and grading are followed, either conventional shallow continuous and isolated foundations or deep foundations (i.e. piers, piles, cast-in-drilled-hole CIDH piles) may be used to support the proposed structures. Because of the depth to bedrock beneath some portions of the proposed structures as discussed above, deep foundations may be necessary for some portions of buildings to be supported on bedrock. If proposed buildings in the southern part of the site are to be supported by footings bearing in compacted fill, rather than bedrock, remedial grading will be necessary in those areas to treat existing uncompacted fills and shallow bedrock so that the footings bear on a uniform thickness of new engineered compacted fill.

Refer to Sections E, F, and G of the Recommendations section of the referenced Preliminary Geotechnical Engineering Report (ESSC, 2/13/2007) for more detailed discussions and recommendations regarding design of pier foundations and conventional shallow foundations bearing in bedrock.

Refer to the Updated Recommendations section of the referenced Updated Geotechnical Engineering Reports (ESSC, 12/7/2009, 12/30/2009 and 9/22/2010) for geotechnical recommendations regarding structures supported by conventional foundations bearing in engineered compacted fill.

If the preliminary recommendations of the referenced reports for foundation design and construction are followed, settlement of the proposed structures should not exceed approximately three quarters of an inch (3/4”). Differential settlement of neighboring footings of varying loads, depths or sizes may be as high as fifty percent of the total settlement.

Excavations and Shoring

Deep excavations (up to about 25 feet below grade) must be made to form the proposed two-level subterranean parking area. Temporary shoring will be necessary to support the excavation at least along the street (north side). The remaining three sides of the excavation may be sloped back during construction, prior to backfill, if space is available. Refer to Sections B and C of the Recommendations section of the referenced Preliminary Geotechnical Engineering Report (ESSC, 2/13/2007) for more detailed discussions and recommendations regarding design and construction of shoring design for temporary excavations.

Grading

Variable thicknesses of existing non-engineered fill (as much as 10 feet thick) have been identified across the project site as shown in the referenced reports. This material may not be used for structural support of any kind and should be removed and re-compacted prior to construction where foundations or slabs-on-grade are proposed.

If the proposed buildings in the southern part of the site are to be supported by conventional shallow spread footings bearing in compacted fill, remedial grading will be necessary. All existing uncompacted fill in the building areas must be removed and native soils and shallow bedrock (where encountered) must be excavated to a depth of at least five feet (5') below the base of proposed foundations or seven feet (7') below existing grade to provide firm uniform bearing for the foundations. Excavated soil and bedrock that is free of oversize particles and deleterious materials may be used as new compacted fill. All new fill should be placed in accordance with the recommendations of the referenced Update Geotechnical Report by ESSC dated December 30, 2009.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

The conclusions and recommendations submitted in this addendum report relative to the proposed development are based, in part, upon the data obtained from the site observations during the field exploration operations, and past experience. The nature and extent of variations between the borings may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this addendum report.

This update report is intended be made part of, and incorporated with, the referenced preliminary geotechnical engineering report dated February 13, 2007 and update reports dated December 7, 2009, December 30, 2009 and September 22, 2010. All conclusions, recommendations, and limitations of those reports, except as amended in this update report, remain valid and apply to this update report.

CLOSURE

Earth Systems trusts this report is sufficient at this time and meets your current needs. Earth Systems appreciates this opportunity to provide professional geotechnical engineering services for this project. If you have any questions regarding the information contained in this report, or if you require additional geotechnical engineering services, please contact the undersigned.

Respectfully submitted,

Earth Systems
Southern California

Mark L. Russell, G.E.
Project Geotechnical Engineer

David J. Murray
Project Manager

END OF TEXT

REFERENCES

PLATES AND ATTACHMENTS
Plate 1 - Geologic Site Map

Plans from Pacific Coast Civil, Inc. dated 1/23/2013:
Conceptual Grading & Site Plan, Proposed Floor Plan, Cross Section Comparison Plan

Copy of Preliminary Geotechnical Engineering report (ESSC, 2/13/2007) and Update Geotechnical Engineering reports (ESSC, 12/7/2009; 12/30/2009; 9/22/2010) on disk - in pocket

Distribution: 4-Addressee

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PLATES AND ATTACHMENTS

Plate I - Geologic Site Map

Plans from Pacific Coast Civil, Inc. dated 1/23/2013 -
Conceptual Grading & Site Plan, Proposed Floor Plan, Cross Section Comparison Plan

Copies of Previous Geotechnical Reports by Earth Systems on disk (.pdf format) – in pocket
Reports dated 2/13/2007, 12/7/2009, 12/31/2009, and 9/22/2010.

VICINITY MAP

NOT TO SCALE

RESIDENTIAL UNITS ANALYSIS

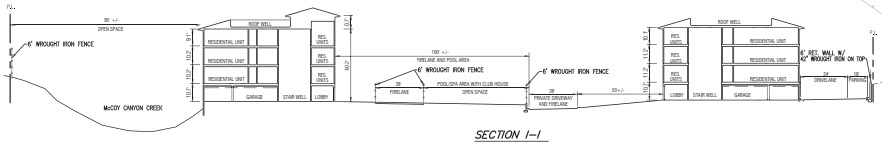
BUILDING	1-BED UNITS	2-BED UNITS	3-BED UNITS	4-BED UNITS	TOTAL UNITS	TOTAL GROSS AREA (SQ.FT.)
BUILDING #1	1	0	5	0	6	9,124
TOTAL BUILDING #1	1	0	5	0	6	9,124
BUILDING #2	4	0	0	0	4	2,997
TOTAL BUILDING #2	4	0	0	0	4	2,997
BUILDING #3	4	0	1	0	5	4,355
	4	0	1	0	5	4,355
	0	4	0	0	4	3,376
	0	4	0	0	4	3,376
TOTAL BUILDING #3	8	8	2	0	18	15,462
BUILDING #4	0	0	0	4	4	6,352
TOTAL BUILDING #4	0	0	0	4	4	6,352
BUILDING #5	0	0	4	0	4	4,295
TOTAL BUILDING #5	0	0	4	0	4	4,295
BUILDING #6	4	0	0	0	4	2,997
	4	0	0	0	4	2,997
	0	4	0	0	4	3,376
	0	4	0	0	4	3,376
TOTAL BUILDING #6	8	8	0	0	16	12,746
BUILDING #7	10	0	1	0	11	11,294
TOTAL BUILDING #7	10	0	1	0	11	11,294
BUILDING #8	0	0	3	0	3	3,355
	0	0	3	0	3	3,355
	0	0	3	0	3	3,355
	0	0	3	0	3	3,355
	0	0	3	0	3	3,355
	0	0	3	0	3	3,355
	0	0	3	0	3	3,355
	0	0	3	0	3	3,355
	0	0	3	0	3	3,355
	0	0	3	0	3	3,355
TOTAL BUILDING #8	0	0	30	0	30	33,550
BUILDING #9	0	0	0	4	4	6,352
TOTAL BUILDING #9	0	0	0	4	4	6,352
GRAND TOTALS	9 (10%) UNITS	27 (30%) UNITS	54 (60%) UNITS	90 (10%) UNITS	277,520	

PARKING & BICYCLE SPACE ANALYSIS

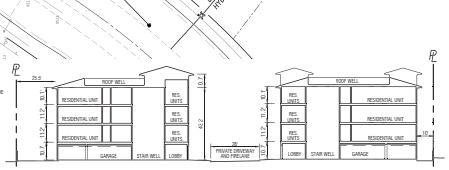
UNIT TYPE	S.F. OF COMMERCIAL or NO. UNITS OF RESIDENTIAL	PARKING RATIO REQUIRING COUNT	PARKING SPACES REQ'D	PARKING TOTAL PER UNIT	PARKING TOTALS	BICYCLE TOTALS
COMMERCIAL (Sales and Deli)	2000 S.F.	N/A	N/A	200 S.F. Unit	10.0	0.5
COMMERCIAL (Retail)	2000 S.F.	N/A	N/A	275 S.F. Unit	10.0	0.5
COMMERCIAL (Café)	2274 S.F.	N/A	N/A	200 S.F. Unit	11.4	0.6
COMMERCIAL (Art Gallery/Restaurant)	2000 S.F.	N/A	N/A	200	10.0	0.5
RESIDENTIAL (STUDIO/1-BEDROOM UNITS)	13	1.5	19.5	1.65	21.5	0.7
RESIDENTIAL (2-BEDROOM UNITS)	27	2	54.0	2.10	56.7	2.8
RESIDENTIAL (3-BEDROOM UNITS)	54	2.5	135.0	2.60	140.4	7.0
OFF-SITE RECOMMENDED (2.5 PER 1,000 S.F.)	N/A	N/A	N/A	2.5	5.0	0.3
				REQUIRED PROJECT PARKING:	295.2	97.5
				PROVIDED PROJECT PARKING:	286	98.0
				SHARED PARKING PER TRAFFIC ANALYSIS:	281.2	
				NET PROJECT PARKING:	4.8	

SECTION H–H
NOT TO SCALE

SECTION B–B
NOT TO SCALE



SECTION I–I



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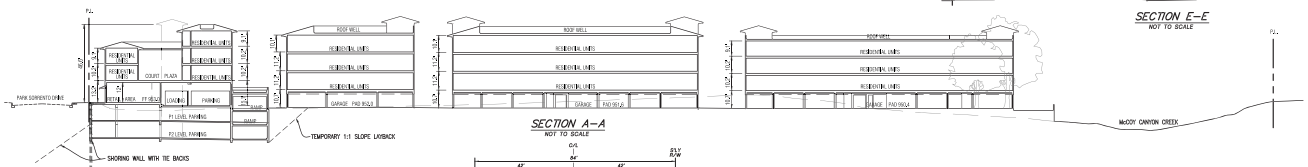

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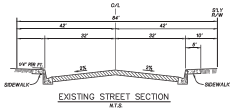


EXISTING STREET SECTION
N.T.S.
PARK SORRENTO

SECTION C–C
NOT TO SCALE

SECTION D–D
NOT TO SCALE

SECTION G–G
NOT TO SCALE

EASEMENT NOTES:

1. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT
   PURPOSE: COMMUNITY ANTENNAE TELEVISION SYSTEM
   RECORDED: FEBRUARY 23, 1968 AS INSTRUMENT NO. 3920 IN BOOK D3621, PAGE 435 OF OFFICIAL RECORDS
   AFFECTS: SAID LAND & IS BLANKET IN NATURE
2. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT
   PURPOSE: STORM DRAINS
   RECORDED: MARCH 11, 1969 AS INSTRUMENT NO. 2051 IN BOOK D4303, PAGE 422 OF OFFICIAL RECORDS & TR. NO. 29325
   AFFECTS: SAID LAND & IS
3. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT
   PURPOSE: DISTRIBUTING MASSIMPIPE HEREON
   RECORDED: AUGUST 6, 1969 AS INSTRUMENT NO. 284 IN BOOK D4456, PAGE 506 OF OFFICIAL RECORDS & TR. NO. 29325
   AFFECTS: SAID LAND & IS SHOWN HEREON
4. COVENANTS, CONDITIONS AND RESTRICTIONS AS SET FORTH IN THE DOCUMENT
   RECORDED: MARCH 16, 1970 IN BOOK M3446 PAGE 923 OF OFFICIAL RECORDS
   AFFECTS: DRAINAGE & SLOPE EASEMENTS WHICH ARE BLANKET IN NATURE
5. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT
   PURPOSE: UNDERGROUND CONDUITS
   RECORDED: APRIL 27, 1970 AS INSTRUMENT NO. 2515 IN BOOK D4897, PAGE 204 OF OFFICIAL RECORDS
   AFFECTS: SAID LAND & IS SHOWN HEREON
6. MATTERS CONTAINED IN THE DEDICATION STATEMENT OR ELSEWHERE ON THE TRACT OR PARCEL MAP SHOWN BELOW, WHICH AMONG THE THINGS PROVIDE:
   TRACT MAP: 29325
   PROVISIONS: BUILDING RESTRICTION WITHIN AREAS SUBJECT TO FLOOD HAZARD
   AFFECTS: FLOOD HAZARD AREAS SHOWN HEREON
7. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS RESERVED IN A DOCUMENT
   PURPOSE: INGRESS AND EGRESS
   RECORDED: DECEMBER 19, 1975 AS INSTRUMENT NO. 46 OF OFFICIAL RECORDS
   AFFECTS: SAID LAND & IS SHOWN HEREON

EARTHWORK:

RAW CUT:	37,600 CY
RAW FILL:	1,600 CY
RAW EXPORT:	36,000 CY

GENERAL NOTES:

1. APN 2068-005-025
2. GROSS SITE AREA: 236,636 SQ.FT. OR 5.43 ACRES
3. SITE ADDRESS: 23500 PARK SORRENTO, CALABASAS 91302
4. INTERIOR DRIVEWAY 28 FEET WIDE AND LARGER TO BE PRIVATE DRIVEWAYS AND FIRELANES, MAINTAINED BY HOMEOWNERS ASSOCIATION. LOCATION OF THE DRIVEWAY MAY CHANGE.
5. UNIT SIZES, BUILDING FOOTPRINTS AND ARCHITECTURAL FLOOR PLANS THAT ARE SHOWN ON THE SUBDIVISION MAP OR ACCOMPANYING SITE PLAN ARE FOR ILLUSTRATIVE PURPOSES, PENDING DETERMINATION OF FINAL DEVELOPMENT LAYOUT AND PLANS. APPROVAL SHALL BE GRANTED PROVIDED THE PROPOSED BUILDING SATISFIES ALL EXISTING CODES AND ORDINANCES.
6. UNIT SIZES AND ARCHITECTURAL FLOOR PLANS ARE PRELIMINARY AND SUBJECT TO REVISIONS.
7. PROPOSED SEWAGE DISPOSAL TO EXISTING SEWER IN PARK SORRENTO.
8. ALL EXISTING BUILDINGS ON SITE TO BE DEMOLISHED.
9. ZONING (EXISTING): OMU
10. PROPOSED DEVELOPMENT:
    9 BUILDINGS – 4 STORIES MIXED-USE RESIDENTIAL AND COMMERCIAL PROJECT WITH A 2-LEVEL SUBTERRANEAN GARAGE.
    TOTAL RESIDENTIAL UNITS – 90 OR 16.6 DU/Ac.
    TOTAL PARKING SPACES: 286 (232 FOR THE RESIDENTIAL, 54 FOR THE COMMERCIAL)
    5 HANDICAP SPACES, 98 BICYCLE SPACES
11. BOUNDARY LINE DIMENSIONS ARE TAKEN FROM RECORD DATA.
12. PERMISSION IS GIVEN TO ADJUST PAD ELEVATION UP TO 3 FEET.

LEGEND

- PRIVATE DRIVEWAY AND FIRE DEPARTMENT ACCESS
- FIRE DEPARTMENT ACCESS ONLY, CONC. BLOCK PAVER OVER 8" BASE
- —SD— STORM DRAIN
- DAYLIGHT LINE
- —S— PROPOSE SEWER
- —W— PROPOSE DOMESTIC WATER
- —F— PROPOSE FIRE WATER
- SHORING WALL FOR UNDERGROUND PARKING WITH TIE BACKS

TW - TOP OF WALL
FS - FINISH SURFACE
FG - FINISH GRADE
TC - TOP OF CURB
FL - FLOW LINE
FF - FINISH FLOOR

PREPARED BY:
PACIFIC COAST CIVIL, INC.
30141 AGOURA ROAD, SUITE 200
AGOURA HILLS, CA 91301
PH: (818) 865-4168
FAX: (818) 865-4198

THE VILLAGE AT CALABASAS

CALABASAS, CALIFORNIA

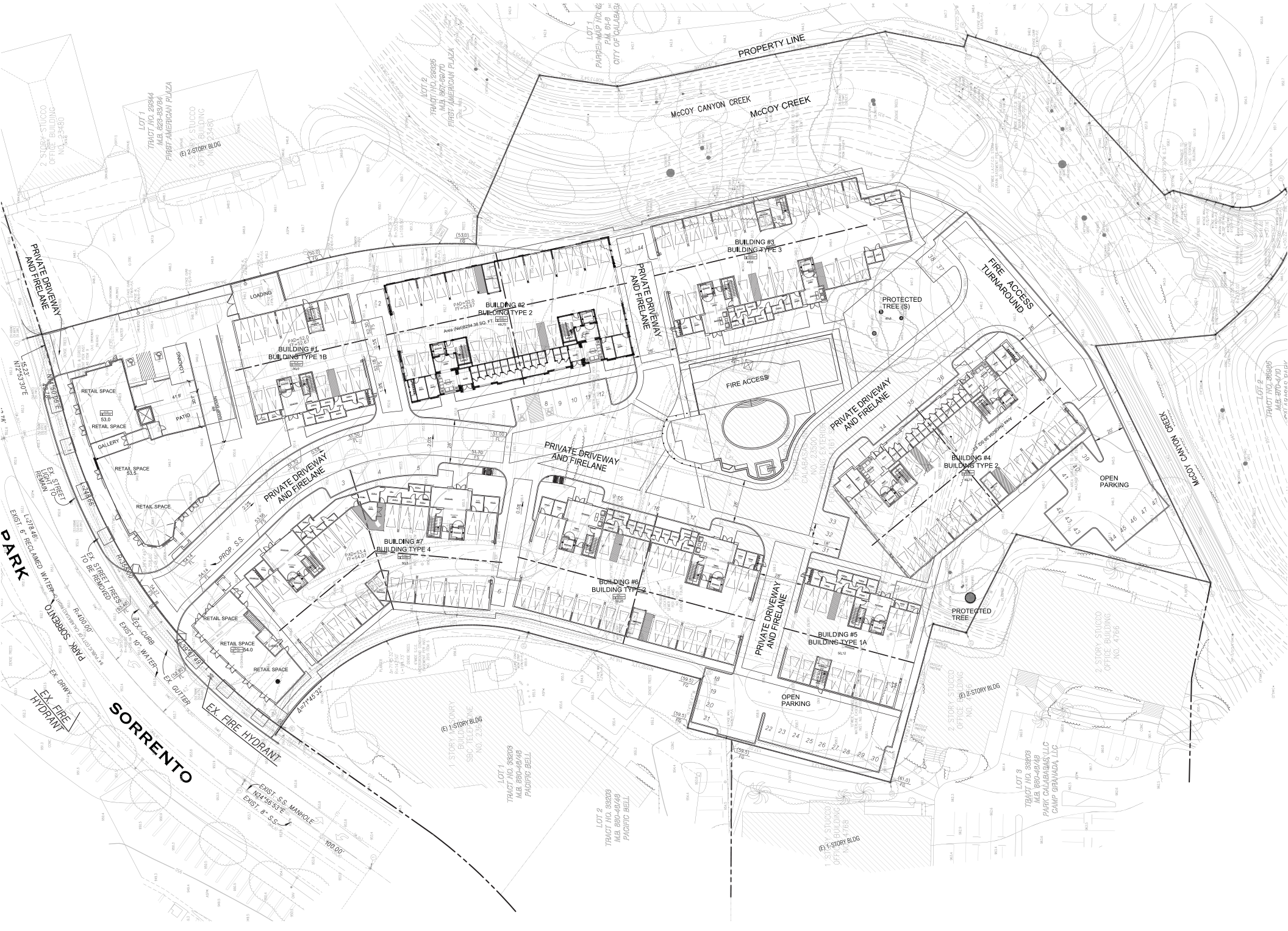
23500 PARK SORRENTO VENTURES, LLC & THE NEW HOME COMPANY

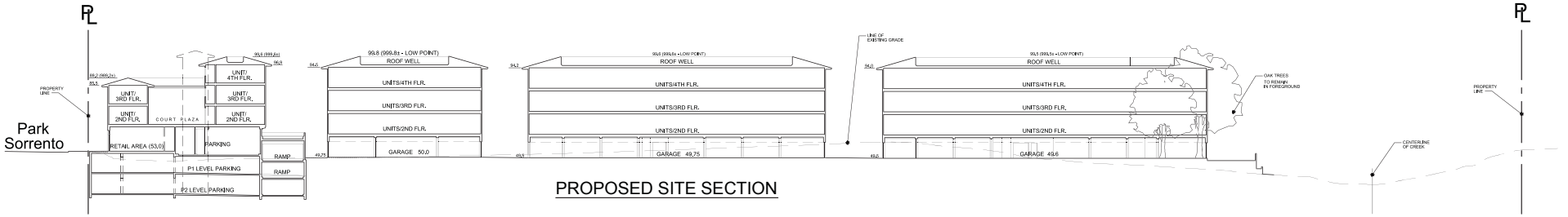
PROJECT NUMBER: 12059 01/23/2013

CONCEPTUAL GRADING AND SITE PLAN

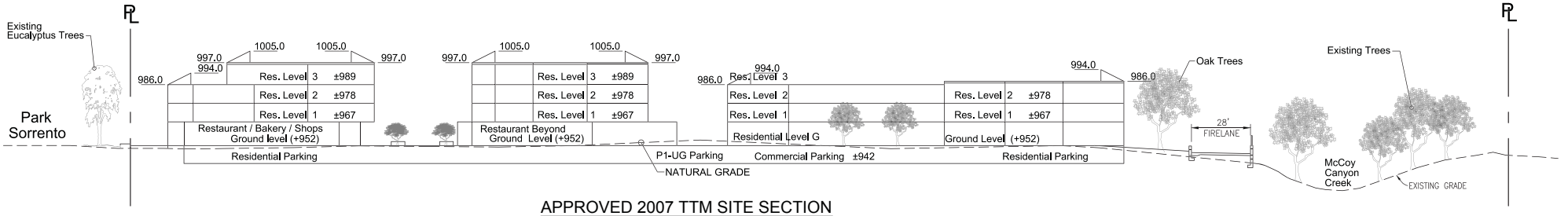
C1

CONCEPTUAL GRADING AND SITE PLAN

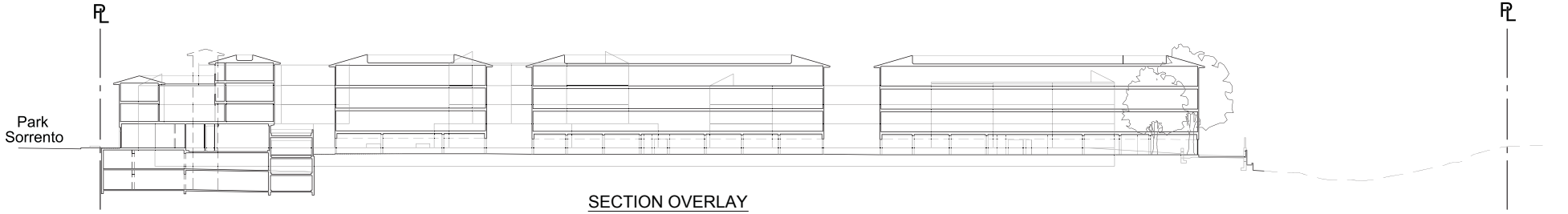

PROPERTY LINE
McCOY CANYON CREEK
McCOY CREEK
PRIVATE DRIVEWAY AND FIRELANE
BUILDING #1
BUILDING TYPE 1B
BUILDING #2
BUILDING TYPE 2
BUILDING #3
BUILDING TYPE 3
BUILDING #4
BUILDING TYPE 2
BUILDING #5
BUILDING TYPE 1A
BUILDING #6
BUILDING TYPE 2
BUILDING #7
BUILDING TYPE 4
FIRE ACCESS TURNAROUND
FIRE ACCESS
PROTECTED TREE (S)
PROTECTED TREE
OPEN PARKING
LOADING
RETAIL SPACE
GALLERY
PATIO
EX. STREET LIGHT TO REMAIN
EX. STREET TREES TO BE REMOVED
PROP. S.S.
EXIST. 10" WATER
EX. CURB
EX. GUTTER
EX. FIRE HYDRANT
EX. DRWY.
PARK SORRENTO
SORRENTO
EXIST. S.S. MANHOLE
EXIST. 8" S.S.
(E) 2-STORY BLDG
(E) 1-STORY BLDG
2 STORY STUCCO OFFICE BUILDING NO. 4766
1 STORY STUCCO OFFICE BUILDING NO. 4766
LOT 1 TRACT NO. 28944 M.B. 828-83/84 FIRST AMERICAN PLAZA
LOT 2 TRACT NO. 28936 M.B. 857-69/70 FIRST AMERICAN PLAZA
LOT 1 PARCEL MAP NO. 6 P.M. 91-6 CITY OF CALABASAS
LOT 1 TRACT NO. 33203 M.B. 880-48/49 PACIFIC BELL
LOT 2 TRACT NO. 33203 M.B. 880-48/49 PACIFIC BELL
LOT 3 TRACT NO. 33203 M.B. 880-48/49 PARK CALABASAS, LLC CAMP GRANADA, LLC
LOT 2 TRACT NO. 28936 M.B. 857-69/70
McCOY CANYON CREEK
Area (New)8294.38 SQ. FT.
Area (New)8238.38 SQ. FT.
Δ=7°45'32"
R=330.00'
R=400.00'
L=276.48'
N72°53'30"E
15.21'
100.00'



PROPOSED SITE SECTION



APPROVED 2007 TTM SITE SECTION



SECTION OVERLAY

CROSS SECTION COMPARISON PLAN

CITY of CALABASAS
PUBLIC WORKS DEPARTMENT
100 Civic Center Way
CALABASAS, CA 91302
818.224.1600
FAX 818.225.7338
WWW.CITYOFCALABASAS.COM

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PACIFIC COAST CIVIL, INC.
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PREPARED FOR:
THE NEW HOME COMPANY
95 ENTERPRISE, SUITE 325
ALISO VIEJO, CA 92656
PH: (949) 382-7800
FAX: (949) 382-7801

CROSS SECTION COMPARISON PLAN

PLANNING FILE # _____
23500 PARK SORRENTO,
CALABASAS, CA 91302
VESTING TRACT NO. 66208

DESIGNED BY: _____
CHECKED BY: _____
DRAWN BY: AK
SCALE: 1" = 20'
SHEET NO.: 1 of 1
PCC W.O.: 12-1096

Appendix F:

Hydrology Report

DRAINAGE CONCEPT / SUSMP / LID PLAN FOR VESTING TENTATIVE MAP NO. 066208 THE VILLAGE AT CALABASAS

23500 Park Sorrento

Calabasas, CA 91302

Prepared for:

D2 Development and Construction, Inc.

23500 Park Sorrento
Calabasas, CA 91302
Tel: (818) 222-2530

January 21, 2013

Prepared by:

Pacific Coast Civil, Inc.

30141 Agoura Road, Suite 200
Agoura Hills, CA 91301-4311
Tel: (818) 865-4168
Fax: (818) 865-4198

DRAINAGE CONCEPT / SUSMP / LID PLAN FOR VESTING TENTATIVE MAP NO. 066208 THE VILLAGE AT CALABASAS

23500 Park Sorrento

Calabasas, CA 91302

Prepared for:
D2 Development and Construction, Inc.
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Appendix D: Regression TC Study for Proposed Developed Condition	Page D1
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Existing Pre-developed Condition	Page G2
Proposed Developed Condition	Page G3

INTRODUCTION

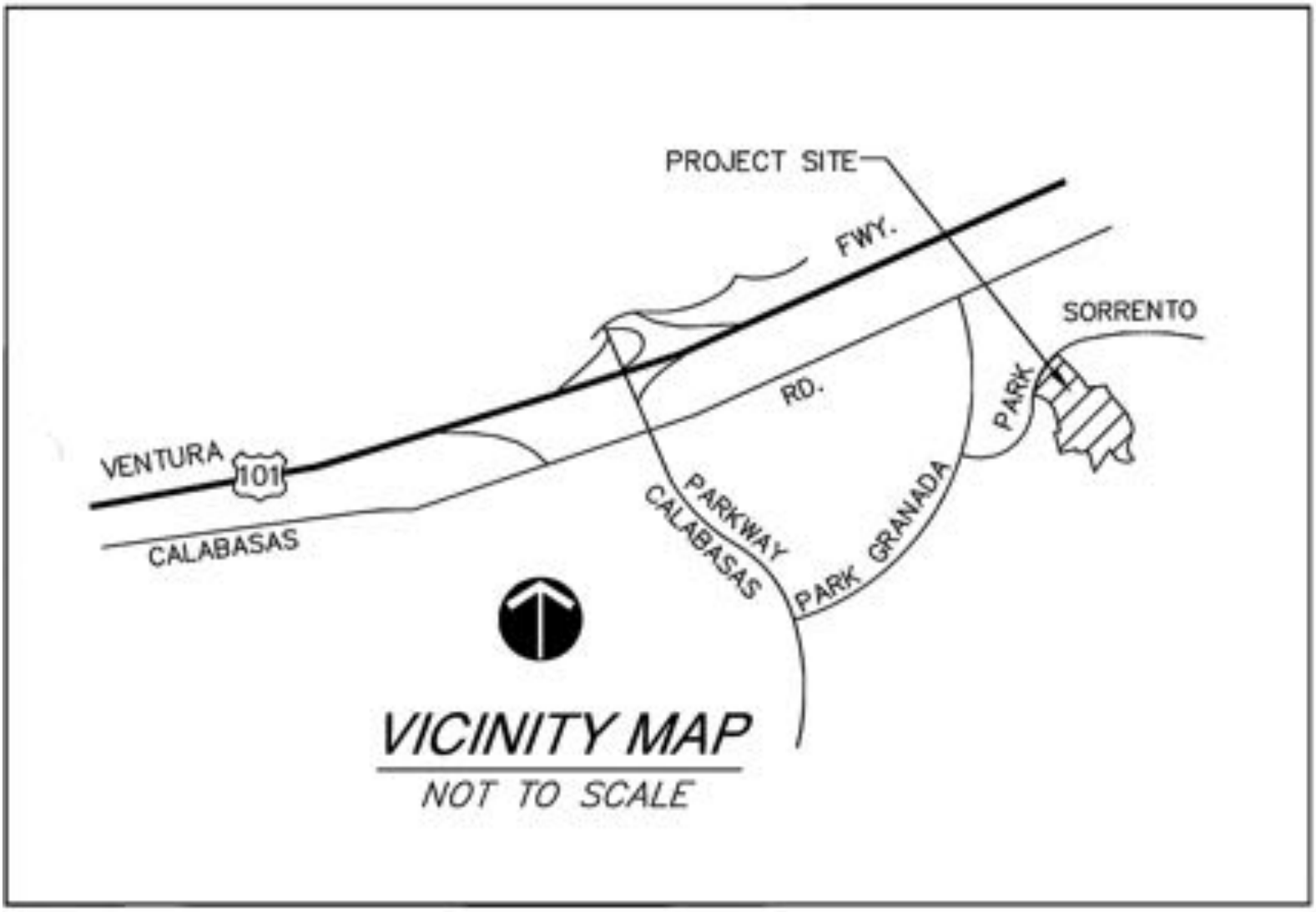
A. PROJECT LOCATION AND DESCRIPTION

The proposed project site, The Village at Calabasas, is located at 23500 Park Sorrento in the City of Calabasas, County of Los Angeles, California, as shown on the enclosed Vicinity Map on Page 2. The site is bounded by Park Sorrento to the north, by existing commercial buildings to the east and west sides, and by McCoy Canyon Creek to the south and southeasterly sides.

The 5.4 acres, irregular-shaped project site consists of the Calabasas Inn which is a hotel with restaurant, banquet hall, and parking lot area. The site is proposed for up to four stories high of mixed-use residential condominium and commercial buildings over up to two levels of underground garage as shown on the enclosed Site Development Plan on Page 3.

B. PURPOSE OF STUDY

The main purposes of this drainage concept study are 1) to determine the design peak 50-year frequency Capital flood and the corresponding peak 25-year, 10-year, 5-year, and 2-year frequencies Urban flood storm runoffs from project site in the existing pre-developed condition and in the proposed developed condition; 2) to determine the approximate weighted percent imperviousness for the watershed studied in existing pre-developed condition and in the proposed developed condition; 3) to determine the increase in runoff volume that must be infiltrated on a parcel level to comply with Los Angeles County's Low Impact Development Plan (LID) requirements; and 4) to determine the onsite Standard Urban Stormwater Mitigation Plan's (SUSMP) peak mitigation flow rates and mitigation volumes from the proposed development and to propose appropriate treatment control Best Management Practices (BMPs) to mitigate the flow rates or volumes to comply with NPDES & City's requirements before discharging the treated onsite runoff to the abutting natural watercourse McCoy Canon Creek which traversing through project site along the southeast property line.

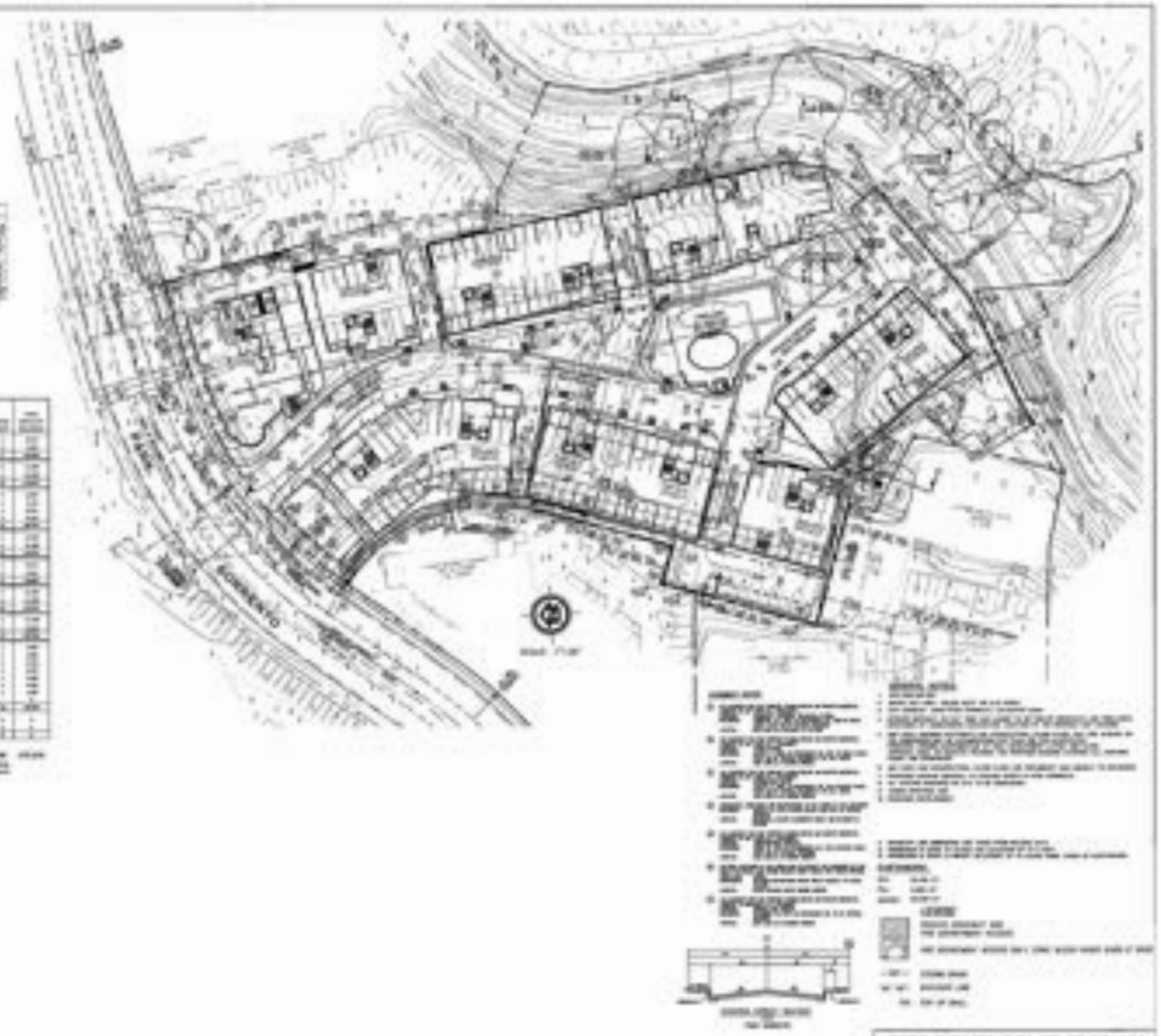


VICINITY MAP

NOT TO SCALE

F.A.R. - BUILDING AREA CALCULATION

RESIDENTIAL UNITS ANALYSIS



SITE DEVELOPMENT PLAN

CITY OF CALABASAS

VESTING
TENTATIVE TRACT
MAP NO. 066208

(MIXED USE CONDOMINIUM PROJECT)

METHODOLOGY

The drainage subareas studied (see enclosed Hydrology Maps in Appendix G), consists of proposed project site of 5.43 acres with about 0.3 acre of tributary offsite upstream drainage area, is situated within the L.A. County's 50-year 24-hour isohyet of 7.4 inches and is mostly located within Soil Type 020 Yolo Sandy Loam (See Page A2). The hydrologic map, soils identification table and runoff coefficient curve, and proportion impervious data, rainfall frequency conversion table are presented in Appendix A for references.

The proportion imperviousness for the watersheds studied were obtained from the Los Angeles County Department of Public Works (LACDPW) Hydrology Manual's Proportion Impervious Data based on the existing and proposed land uses (See Pages A6 & A7). The existing pre-developed condition of 5.73 acres of Subarea 1A (see enclosed Existing Pre-Developed Condition Hydrology Map in Appendix G) consists of about 2.70 acres of building footprints, concrete sidewalks & walkways, and asphalt pavement, and about 3.03 acres of open space, planting and landscaping areas. The calculated weighted percent imperviousness is about 47.2 percent. However, for hydrology calculation purpose a 50 percent imperviousness was used. The proposed developed condition of same 5.73 acres of Subarea 1A (see enclosed Proposed Developed Condition Hydrology Map in Appendix G) consists of about 2.32 acres of building & roof footprints, swimming pool, and concrete surfaces, and about 2.25 acres of open space, planting and landscaping areas, and about 1.16 acres of proposed permeable concrete paver pavement and walkways. The calculated weighted percent imperviousness is about 47.1 percent. However, for hydrology calculation purpose a 50 percent imperviousness was used. The weighted percent imperviousness calculations for various drainage subareas studied are presented in Appendix B.

The LACDPW's Regression TC Method, available in Excel spreadsheet format, was used to determine the approximate time of concentration (TC) for all drainage subareas studied for the design 50-year Capital Flood storm, and the corresponding 25-year, 10-year Urban Flood, 5-year and 2-year frequency storms, and the peak SUSMP mitigation flow rates (Qpm) and volumes (Vm) in both the existing pre-developed condition and the proposed developed condition.

The methodology of LACDPW's LID Hydrologic Analysis was followed and calculated for proposed development to meet County's LID requirements for large scale development where infiltration of the increase in the volume of the runoff (Delta V) from the water quality storm on the parcel level was proposed.

SUMMARY OF HYDROLOGIC CHARACTERISTICS & DESIGN CRITERIA

Runoff Calculations: LACDPW Regression TC Method

Design Storm: 50-Year Frequency Capital Flood Storm
(For Drainage Area with Sump Condition)

Design 50-Year 24-Hour Isohyet: 7.4 Inches

Corresponding 25-Year 24-Hour Isohyet: 6.5 Inches

Corresponding 10-Year 24-Hour Isohyet: 5.3 Inches

Corresponding 5-Year 24-Hour Isohyet: 4.3 Inches

Corresponding 2-Year 24-Hour Isohyet: 2.9 Inches

Soil Number: 020 (Yolo Sandy Loam)

Existing Onsite Land Use: Hotel with Restaurant, banquet Hall & Parking Lot

Proposed Onsite Development: Mixed-Use Commercial and Residential Condominium

Imperviousness: 1% for Undeveloped Open Space or Landscaped Area
25% for Permeable Concrete Paver Pavement & Walkways
86% for Apartments & Condominiums
(See Appendix B for Weighted % Imperviousness Calculations)

All Developed Runoffs shall be Intercepted and Treated by Treatment Control BMPs Installed within Proposed Site Before Outletting or Discharging to McCoy Canyon Creek.

DRAINAGE DISCUSSIONS

Appendix A present the relevant 50-year 24-hour isohyet map showing the project site and its corresponding soil classification area, soil identification table and soil runoff coefficient curve, proportion imperviousness table and rainfall frequency conversion table per LACDPW's Hydrology Manual. An aerial photo of the project site is included. Excerpts of the Update Geotechnical Engineering Report dated September 22, 2010, prepared by Earth Systems Southern California, are attached showing that "A stormwater treatment and/or detention system of some type is proposed for the southwest part of the site where bedrock and groundwater are shallow. Based on the depth to groundwater, the relatively impervious nature of the earth materials and the depth to ground water, an infiltration type system would not be feasible for this site; however a stormwater filtration/detention system should be feasible from a geotechnical standpoint."

Appendix B presents the weighted percent imperviousness calculations for drainage subareas studied. Subarea 1A with 5.73 acres of total tributary drainage area in existing pre-developed condition has a weighted imperviousness of 47.2 percent. In proposed developed condition with about 1.16 acres of proposed permeable concrete paver pavements and walkways, Subareas 1A with the same 5.73 acres of area has a weighted imperviousness of 47.1 percent. Subarea 1A1, which excludes the 1.29 acres of remaining undeveloped McCoy Canyon Creek area, has an area of 4.44 acres with a weighted imperviousness of about 59.1 percent.

Appendix C presents the results of the LACDPW's Regression TC Method hydrology study for the design 50-year Capital Flood storm event and the corresponding 25-year, 10-year, 5-year and 2-year storm events in Existing Pre-developed Condition for the 5.73 acres of Watershed 1A studied. The watershed included about 0.3 acre of tributary upstream offsite area from the sloping landscaped area and from portion of the office building located southwesterly of project site. The runoff on northerly portion of site, about 2.37 acres in size, flows northeasterly to two existing grated sump inlets in parking lot and the intercepted runoff is conveys by unknown alignment of storm drain pipes that ultimately outlet downstream to McCoy Canyon Creek. The runoff on southerly portion of site, about 3.36 acres in size, mostly sheet flow across lawn and landscaping area to the McCoy Canyon Creek. For 5.73 acres of project site with weighted imperviousness of 50%, a longest travel path of 478 feet at a slope of 2.4%, the calculated peak 50-year storm runoff (Q50) is 20.0 cfs with a short time of concentration (TC) of 5 minutes. The corresponding peak 25-year, 10-year, 5-year & 2-year storm runoffs is 15.7 cfs, 11.5 cfs, 7.9 cfs and 4.2 cfs, respectively.

Appendix D presents the results of the LACDPW's Regression TC Method hydrology study for the design 50-year Capital Flood storm event and the corresponding 25-year, 10-year, 5-year and 2-year storm events in Proposed Developed Condition for the same total 5.73 acres of Watershed studied.

Subarea 1A1, consists of the nine commercial & condominium buildings, permeable concrete paver pavement & walkways & parking lots, and some open space area, has an area of 4.44 acres with a weighted imperviousness of 60%. Catch basin, grated drop inlets are proposed along the main driveways and they will be interconnected by varying sizes of storm drain pipes that

convey runoff to discharge to the onsite treatment control BMPs before the fully treated runoff can be outlet to McCoy Canyon Creek as shown on the Developed Condition Hydrology Map in Appendix G. The calculated Q50 is 13.4 cfs with a TC of 7 minutes. The corresponding peak 25-year, 10-year, 5-year & 2-year storm runoffs is 11.6 cfs, 8.1 cfs, 6.1 cfs and 3.2 cfs, respectively.

Subarea 1A2, consists of the remaining undeveloped portion of McCoy Canyon Creek, has an area of about 1.29 acres with a weighted imperviousness of 1%. The runoff directly & quickly sheet flows across the relatively steep slope of embankments to the creek. The calculated Q50 is 3.9 cfs with a TC of 5 minutes. The corresponding peak 25-year, 10-year, 5-year & 2-year storm runoffs is 3.3 cfs, 2.5 cfs, 1.9 cfs and 1.1 cfs, respectively.

The total area of developed watershed studied is 5.73 acres and the combined Q50 is 17.3 cfs, which is about 2.7 cfs less than the 20.0 cfs determined under the existing pre-developed condition. This is due to the slightly longer travel path of proposed alignment of underground storm drain pipes at flat 0.5 percent grade and resultant slightly longer TC of 7 minutes for proposed developed condition of Subarea 1A. Hence, no onsite detention storage system is required for project site with no increased developed runoff in post-development condition.

Appendix E presents the newly adopted LACDPW's Low Impact Development (LID) hydrologic analysis based on 0.75-inch storm event. The proposed 4.44 acres of developed portion of project site falls under the Requirements for Large Scale Development category and thus is required to meet City & County's LID requirements. The goals of LID are to increase groundwater recharge, enhance water quality, and prevent degradation to downstream natural drainage courses. The first order of preference for implementing Best Management Practices (BMPs) for large scale residential development project is to select BMPs that promote infiltration. The excess volume (Delta V) determined by the LID hydrologic analysis shall be infiltrated throughout the project site whenever possible. The calculated LID peak undeveloped flow rate (Qu) is 0.09 cfs with undeveloped runoff volume (Vu) of 1,198 cu-ft from 4.44 acres of project site with an imperviousness of zero percent assumed as outlined in the LID requirements. The calculated LID peak developed flow rate (Qd) is 0.52 cfs with a developed runoff volume (Vd) of 6,940 cu-ft with a weighted imperviousness of 60%. Thus, the determined Delta V is 5,742 cu-ft that is required to be infiltrated onsite to meet the LID requirements. However, any infiltration BMPs is not recommended by the soils engineer to be installed for this project site. Hence, onsite bio-filtration BMP is proposed instead to provide treatment control for the delta LID developed runoff of 0.43 cfs. The location of the proposed LID BMP device with corresponding hydrologic info is as shown on the Proposed Developed Condition Hydrology Map in Appendix G.

Appendix F presents the typical LACDPW's Standard Urban Stormwater Mitigation Plan (SUSMP) calculations for first flush rainfall intensity of 0.75 inch. The SUSMP requires installation of permanent storm water Best Management Practices (BMPs) to capture and treat tributary onsite surface runoff from the proposed development before it can be discharged to the public right-of-ways or public maintained drainage facility. The calculated peak mitigation flow rates (Qpm) for Subarea 1A1 of 4.44 acres is 0.49 cfs and the mitigation runoff volume (Vm) is 6,970 cu-ft.

The selected LID bio-filtration BMPs proposed is the use of two units of BioClean's Modular Wetlands System (MWS) – Linear Vault Type and also as the selected structural Treatment Control BMP devices for project site. The system utilizes multi-stage treatment processes including the filter media (BioMediaGreen) for primary filtration followed by a sub-surface flow wetland for biological remediation and thus has relatively high stormwater pollutant removal efficiency. The MWS unit has well documented and high removal efficiency for pollutants of concern for project site. The 22-foot long MWS Linear Vault Type unit is a flow-based design with a peak treatment flow rate of about 0.27 cfs and has a peak internal bypass flow rate of about 7 cfs via double 10-inch PVC pipes which provide adequate capacity to convey tributary Q50 of 13.4 cfs for Subarea 1A1. The detailed layout and elevations of the MWS Linear Vault Type will be finalized when the final engineering starts in the future. The detailed description with cross sections and plan views, product specifications, performance data, & maintenance guidelines for MWS unit are included in this Appendix F for references. All the proposed BMPs are to be privately maintained by project site's owner.

In addition to the aforementioned structural BMPs proposed, grassy or vegetated swales, although has many limitations and low efficiency, are proposed throughout the planting & landscape areas of project site to provide additional biofiltration for pollutants removal.

Appendix G present the 20-scale Hydrology, SUSMP & LID Maps for proposed The Village at Calabasas project in the existing pre-developed condition and in the proposed developed condition. The maps delineate and labels the drainage subareas, drainage surface flow paths, existing and proposed storm drain pipes, computed peak runoff rates, concentration points, total design runoffs at all subareas' confluences, site's exit or discharge points.

SUMMARY OF COMPARISON BETWEEN EXISTING PRE-DEVELOPED CONDITION AND PROPOSED DEVELOPED CONDITION

FOR DESIGN 50-YEAR CAPITAL FLOOD STORM

Existing Pre-developed Condition					Proposed Developed Condition					
Hydrology Subarea Number	Drainage Area (Acres)	Proportion Impervious	Calculated Tc (min.)	Calculated Peak Flow Rate (cfs)	Hydrology Subarea Number	Drainage Area (Acres)	Proportion Impervious	Calculated Tc (min.)	Calculated Peak Flow Rate (cfs)	Delta Change in Peak Flow Rate (cfs)
1A	5.73	0.50	5	20.0	1A1	4.44	0.60	7	13.4	
					1A2	1.29	0.01	5	3.9	-2.7
Total:	**5.73**			**20.0**		**5.73**			**17.3**	

SUMMARY OF REGRESSION TC METHOD FOR PROPOSED DEVELOPED CONDITION - DESIGN 50-YR. CAPITAL FLOOD STORM

Hydrology Subarea Number	Area (Acres)	Land Use	Site's Outlet Point	Proportion Impervious	Soil Type	50-Year 24-Hour Rainfall Isohyet (inches)	Flow Path Length (feet)	Upper Elevation (feet)	Outlet Elevation (feet)	Flow Path Slope	Calculated Tc (min.)	Calculated Peak Flow Rate (cfs)
1A1	4.44	Mixed-Use Commercial & Residential Condominiums	Treated Runoff from MWS Units outlet via SD Pipes to McCoy Cyn Creek	0.60	20	7.4	650	954.1	941.0	0.0202	7	13.4
1A2	1.29	Undeveloped Portion of McCoy Canyon Creek	Flows directly to McCoy Cyn Creek	0.01	20	7.4	80	955.0	932.0	0.2875	5	3.9
TOTAL	5.73											17.3

10

SUMMARY OF REGRESSION TC METHOD FOR EXISTING PRE-DEVELOPED CONDITION - DESIGN 50-YR. CAPITAL FLOOD STORM

Hydrology Subarea Number	Area (Acres)	Land Use	Proportion Impervious	Site's Outlet Point	Soil Type	Design 50-Year 24-Hour Rainfall Isohyet (inches)	Flow Path Length (feet)	Upper Elevation (feet)	Outlet Elevation (feet)	Flow Path Slope	Calculated Tc (min.)	Calculated Peak Flow Rate (cfs)
1A	5.73	Hotel with Parking Lot and Open Space & Landscaping Areas	0.50	Northerly Portion Conveys by SD Pipe & Outlet to McCoy Cyn Creek / Southerly Portion Sheet Flows to McCoy Cyn Creek	20	7.40	478	960.2	948.6	0.0243	5	20.0
TOTAL	5.73											20.0

SUMMARY OF SUSMP PEAK MITIGATION FLOW (Qpm) & MITIGATION VOLUME (Vm) CALCULATION FOR ONSITE SUBAREAS IN PROPOSED DEVELOPED CONDITION

Hydrology Subarea Number	Total Drainage Area (Acres)	Calculated Time of Concentration, Tc (min.)	Calc. Peak SUSMP Mitigation Flow, Qpm (cfs)	Calc. SUSMP Mitigation Volume, Vm (cu-ft)	Proposed SUSMP & BMP Devices	Peak Treatment Flow Rate per Manufacturer Specs (cfs)
1A	4.44	30	0.49	6,970	Two Units of BioClean's 22' Modular Wetlands System_Linear Vault Type	0.27 x 2 = 0.54 cfs

CONCLUSION

From the Summaries and calculations performed for this Drainage Concept Study and the enclosed Hydrology, SUSMP & LID Maps, proposed The Village at Calabasas project will not contribute significant negative impact to the adjacent and downstream properties. Thus, the tributary storm water runoff from project site, if developed as proposed, area, will not adversely affect persons or properties onsite, existing drainage patterns or downstream drainage facilities and are also in conformance with the City and LACDPW's design criteria, guidelines, policies and procedures.

REFERENCES

1. County of Los Angeles Department of Public Works (2006). Hydrology Manual.

2. County of Los Angeles Department of Public Works (2006). Sedimentation Manual, 2nd Edition, March 2006.

3. County of Los Angeles Department of Public Works (2002). Development Planning for Storm Water Management - A Manual for the Standard Urban Storm Water Mitigation Plan (SUSMP), September 2002.

4. County of Los Angeles Flood Control District (1982). Design Manual Hydraulic, March 1982.

5. County of Los Angeles Department of Public Works (2004). Technical Manual for Stormwater Best Management Practices in the County of Los Angeles, February 2004.

6. County of Los Angeles Department of Public Works (2009). Low Impact Development Standards Manual, January 2009.

7. Earth Systems Southern California (2009). Update Geotechnical Engineering Report, Proposed Mixed-Use Development, Lot 1, Tract 29325, 23500 Park Sorrento, Calabasas, California. LA-01124-01, September 22, 2010.

APPENDIX A

HYDROLOGIC DATA AND

DESIGN CHARTS

SANTA SUSANA 1-H1.34
DPA - 4
DPA - 6
DPA - 7
DPA - 6
DPA - 6
DPA - 7
DPA - 6
DPA - 7
DPA - 4
DPA - 7
DPA - 6
DPA - 6
034
035
035
034
044
004
002
020
016
018
019
004
002
020
020
020

CIRCLE
101 FREEWAY
MULHOLLAND DRIVE
TENNIS
SWIM
SITE

Soil Identification Table

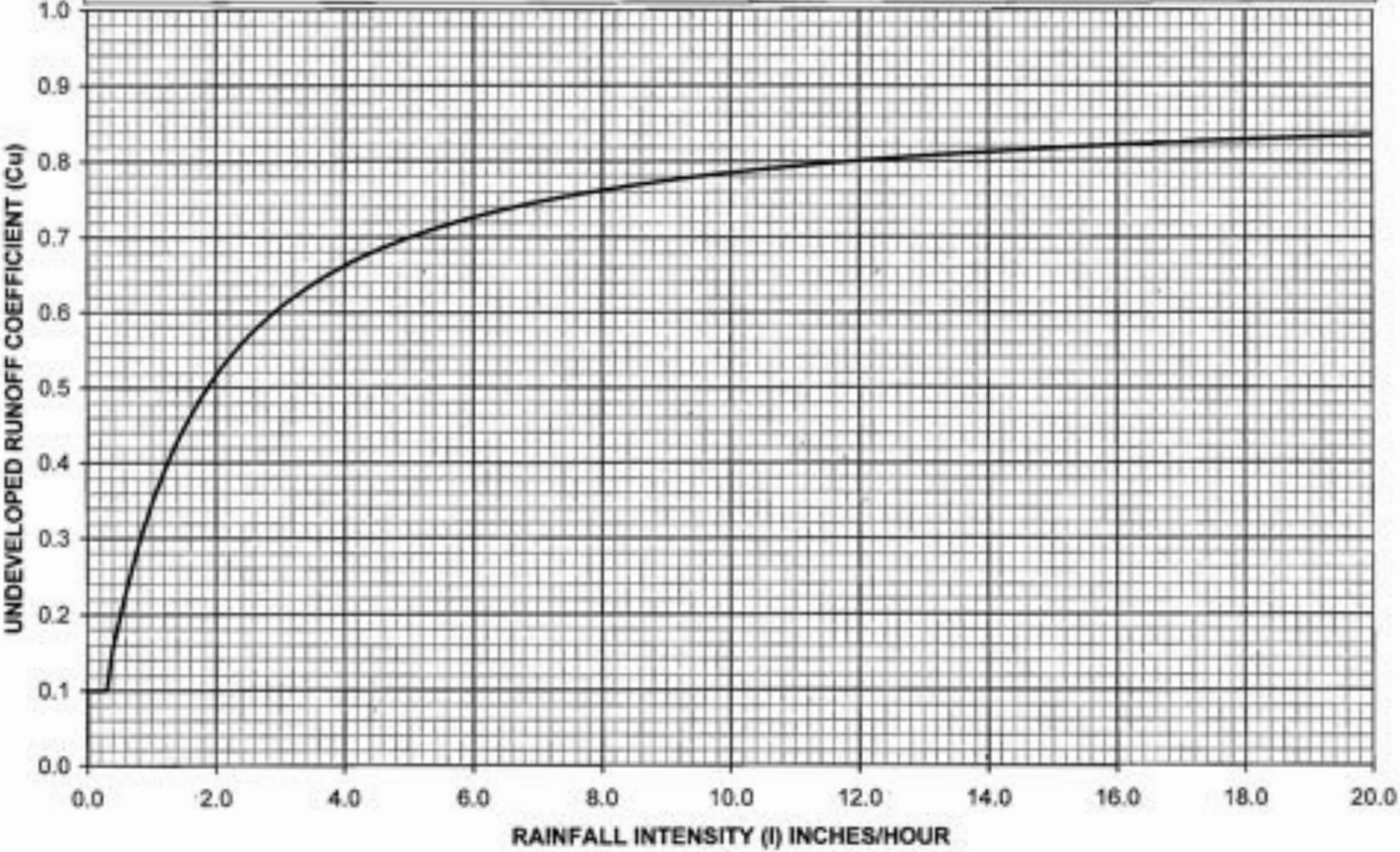
Number	Name	Original Name
2	ALTAMONT CLAY LOAM	A
3	CHINO SILT LOAM	CS-1
4	DIABLO CLAY LOAM	DY
5	HANFORD FINE SANDY LOAM	HF
6	HANFORD FINE SANDY LOAM	HF-1
7	HANFORD GRAVELLY SANDY LOAM	HG
8	HANFORD SILT LOAM	HN
9	MONTEZUMA CLAY ADOBE	M
10	OAKLEY FINE SAND	OS
11	PLACENTIA LOAM	PL
12	RAMONA CLAY LOAM	RC- 1
13	RAMONA LOAM	RO
14	RAMONA SANDY LOAM	RS
15	TUJUNGA FINE SANDY LOAM	TF
16	YOLO LOAM	Y
17	YOLO CLAY LOAM	YC
18	YOLO FINE SANDY LOAM	YF
19	YOLO GRAVELLY SANDY LOAM	YG
20	YOLO SANDY LOAM	YS
21	SANTA MONICA MOUNTAINS	SMM-1
22	SANTA MONICA MOUNTAINS	SMM-2
23	SANTA MONICA MOUNTAINS	SMM-3
24	SANTA MONICA MOUNTAINS	SMM-4
25	SANTA MONICA MOUNTAINS	SMM-5
26	SANTA MONICA MOUNTAINS	SMM-6
27	SANTA MONICA MOUNTAINS	SMM-7
28	SANTA MONICA MOUNTAINS	SMM-8
29	SANTA MONICA MOUNTAINS	SMM-9
30	SANTA MONICA MOUNTAINS	SMM-10
31	SANTA MONICA MOUNTAINS	SMM- 11
32	SANTA MONICA MOUNTAINS	SMM-12
33	SANTA MONICA MOUNTAINS	SMM-13
34	SANTA MONICA MOUNTAINS	SMM-14
35	SANTA MONICA MOUNTAINS	SMM-15
36	SANTA MONICA MOUNTAINS	SMM-16
37	SANTA MONICA MOUNTAINS	SMM- 17
38	SANTA MONICA MOUNTAINS	SMM- 18

$C_D = (0.9 * IMP) + (1.0 - IMP) * C_U$

Where: C_D = Developed Runoff Coefficient
IMP = Proportion Impervious
C_U = Undeveloped runoff coefficient

Los Angeles County Department of Public Works

RUNOFF COEFFICIENT CURVE
SOIL TYPE NO. 020



Proportion Impervious Data

Code	Land Use Description	% Impervious
1111	High-Density Single Family Residential	42
1112	Low-Density Single Family Residential	21
1121	Mixed Multi-Family Residential	74
1122	Duplexes, Triplexes and 2-or 3-Unit Condominiums and Townhouses	55
1123	Low-Rise Apartments, Condominiums, and Townhouses	86
* 1124	Medium-Rise Apartments and Condominiums	86
1125	High-Rise Apartments and Condominiums	90
1131	Trailer Parks and Mobile Home Courts, High-Density	91
1132	Mobile Home Courts and Subdivisions, Low-Density	42
1140	Mixed Residential	59
1151	Rural Residential, High-Density	15
1152	Rural Residential, Low-Density	10
1211	Low- and Medium-Rise Major Office Use	91
1212	High-Rise Major Office Use	91
1213	Skyscrapers	91
1221	Regional Shopping Center	95
1222	Retail Centers (Non-Strip With Contiguous Interconnected Off-Street	96
1223	Modern Strip Development	96
1224	Older Strip Development	97
1231	Commercial Storage	90
1232	Commercial Recreation	90
* 1233	Hotels and Motels	96
1234	Attended Pay Public Parking Facilities	91
1241	Government Offices	91
1242	Police and Sheriff Stations	91
1243	Fire Stations	91
1244	Major Medical Health Care Facilities	74
1245	Religious Facilities	82
1246	Other Public Facilities	91
1247	Non-Attended Public Parking Facilities	91
1251	Correctional Facilities	91
1252	Special Care Facilities	74
1253	Other Special Use Facilities	86
1261	Pre-Schools/Day Care Centers	68
1262	Elementary Schools	82
1263	Junior or Intermediate High Schools	82
1264	Senior High Schools	82
1265	Colleges and Universities	47
1266	Trade Schools and Professional Training Facilities	91
1271	Base (Built-up Area)	65
1271.01	Base High-Density Single Family Residential	42
1271.02	Base Duplexes, Triplexes and 2-or 3-Unit Condominiums and T	55

Code	Land Use Description	% Impervious
1431	Electrical Power Facilities	47
1431.01	Electrical Power Facilities-Powerlines (Urban)	2
1431.02	Electrical Power Facilities-Powerlines (Rural)	1
1432	Solid Waste Disposal Facilities	15
1433	Liquid Waste Disposal Facilities	96
1434	Water Storage Facilities	91
1435	Natural Gas and Petroleum Facilities	91
1435.01	Natural Gas and Petroleum Facilities-Manufacturing, Assembly, and In	91
1435.02	Natural Gas and Petroleum Facilities-Petroleum Refining and Processing	91
1435.03	Natural Gas and Petroleum Facilities-Mineral Extraction – Oil and Gas	10
1435.04	Natural Gas and Petroleum Facilities-Vacant Undifferentiated	1
1436	Water Transfer Facilities	96
1437	Improved Flood Waterways and Structures	100
1440	Maintenance Yards	91
1450	Mixed Transportation	90
1460	Mixed Transportation and Utility	91
1460.01	Mixed Utility and Transportation-Improved Flood Waterways and Structures	100
1460.02	Mixed Utility and Transportation-Railroads	15
1460.03	Mixed Utility and Transportation-Freeways and Major Roads	91
1500	Mixed Commercial and Industrial	91
1600	Mixed Urban	89
1700	Under Construction (Use appropriate value)	91
1810	Golf Courses	3
1821	Developed Local Parks and Recreation	10
1822	Undeveloped Local Parks and Recreation	2
1831	Developed Regional Parks and Recreation	2
1832	Undeveloped Regional Parks and Recreation	1
1840	Cemeteries	10
1850	Wildlife Preserves and Sanctuaries	2
1850.01	Wildlife-Commercial Recreation	90
1850.02	Wildlife-Other Special Use Facilities	86
1850.03	Wildlife-Developed Local Parks and Recreation	10
1860	Specimen Gardens and Arboreta	15
1870	Beach Parks	10
1880	Other Open Space and Recreation	10
2110	Irrigated Cropland and Improved Pasture Land	2
2120	Non-Irrigated Cropland and Improved Pasture Land	2
2200	Orchards and Vineyards	2
2300	Nurseries	15
2400	Dairy, Intensive Livestock, and Associated Facilities	42
2500	Poultry Operations	62
2600	Other Agriculture	42
2700	Horse Ranches	42

Subject: Rainfall Frequency Factors

Rainfall Frequency	Multiplication Factors
1-yr 24-hr	0.283
2-yr 24-hr	0.387
5-yr 24-hr	0.584
10-yr 24-hr	0.714
25-yr 24-hr	0.878
50-yr 24-hr	1.000
100-yr 24-hr	1.122
500-yr 24-hr	1.402

P8

Use the multiplication factors with the 50-yr 24-hr rainfall isohyetal maps developed for the hydrology manual addendum to determine the appropriate rainfall for the given frequency.

UPDATE
GEOTECHNICAL ENGINEERING REPORT
Proposed Mixed-Use Development
Lot 1, Tract 29325
23500 Park Sorrento
Calabasas, California
LA-01124-01

Prepared For

D2 DEVELOPMENT, INC.

September 22, 2010

Prepared By

Earth Systems Southern California
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September 22, 2010 LA-01124-01

D2 Development, Inc.
23622 Calabasas Road, Suite 200
Calabasas, California 91302

Attention: Mr. Larry Dinovitz

Subject: **Update Geotechnical Engineering Report**
Proposed Mixed-Use Development
Lot 1, Tract 29325
23500 Park Sorrento
Calabasas, California

References: *Preliminary Geotechnical Engineering Report, Proposed Mixed-Use Development Lot 1, Tract 29325, 23500 Park Sorrento, Calabasas, California*, by Earth Systems Southern California, LA-01124-01 dated February 13, 2007.

Preliminary Architectural Design Drawings for The Village at Calabasas, by Hochhauser Blatter Architecture and Planning, Project No. 9642, dated September, 2010.

INTRODUCTION

This Update Geotechnical Engineering Report has been prepared for the site of a proposed mixed-use development in Calabasas, California. This update report has been prepared per your request to address changes in the proposed development and to provide revised recommendations relevant to changes in the plans and changes in the building code since the referenced Preliminary Geotechnical Engineering report was prepared. Update geotechnical reports (ESSC, 12/7/2009 and 12/30/2009) were prepared last year but the designs reflected in those reports are no longer proposed. This update report (9/21/2010) addresses the currently proposed design. An electronic (.pdf) copy of the referenced Preliminary Geotechnical Engineering report (ESSC, 2/13/2007) is included for reference on disk in a pocket at the end of this report.

SITE DESCRIPTION

The approximate four-acre site is at 23500 Park Sorrento in the City of Calabasas, California. The site is approximately 1/4 mile south of the Ventura (Hwy 101) freeway and approximately 1/4 mile

west of Mulholland Drive. The irregular-shaped project site is currently occupied by a one-and two-story wood-frame structure. The structure is situated in the south-central portion of the property and is currently used as a banquet hall. An asphalt parking lot is located in the northern portion of the site and a domestic lawn is located behind the structure to the south. McCoy Creek, a perennial stream, trends through the property along the southeast property line. Access to the property is available from Park Sorrento located at the northwest corner of the site (Site Geologic Map, Plate I).

Topographically, the property consists of gently sloping ground at an elevation of approximately 950-feet above mean sea level (msl). Slopes along the southeast portion of the property descend approximately 15-feet at a gradient of up to approximately two horizontal to one vertical (2H:1V) to McCoy Creek. Portions of the stream course in the vicinity of the subject site have been protected against erosion and a concrete-paved ford extends from the subject site to the adjacent property to the southeast. The above-cited descriptions are intended to be illustrative, and are specifically not intended for use as a legal description of the subject property.

PROJECT DESCRIPTION

The project will be primarily residential (both assisted living and independent living) but will include some commercial space on the ground floor at the front (north end) of the project along the street. The development concept addressed in the above-referenced Preliminary Geotechnical Engineering Report (ESSC, 2/13/2007) included multiple, four-story mixed-use buildings, constructed over two levels of subterranean parking. The lower floor of the parking garage was to extend into the bedrock zone that has exhibited groundwater seepage and was to be supported entirely on the underlying bedrock. Based on review of the current Architectural Preliminary Design (Hochhauser Blatter, September, 2010) and discussions with the architect, Earth Systems Southern California (ESSC) understands that the currently proposed project will be very similar to that discussed the referenced Preliminary Geotechnical Engineering report (ESSC, 2/13/2007).

The currently proposed project includes multiple, three-story and four-story residential and mixed-use buildings constructed generally "at grade" with subterranean parking below the southern portion of the development. The subterranean parking will have a finished floor elevation at approximately 942 feet msl; second level of subterranean will be located in the southwesterly portion of the development with a finished floor elevation at approximately 930 feet. The primary ground floor level will be at elevation 954 feet msl and a swimming pool will be situated in a central courtyard garden area. The development will also include a storm water detention/treatment system proposed for the southwest portion of the site.

The grade will be altered with cuts, fills and retaining walls, as necessary to achieve the design grades. Based on the plans provided, cuts, fills and retaining walls should not exceed approximately eight feet in height (or depth) except for the proposed subterranean parking levels. Excavations for the subterranean parking levels will be as much as 30 feet deep. Based on the exploratory borings drilled in 2006, the westerly portion of the excavation will likely encounter perched water and groundwater seepage through some seams in the bedrock. Borings in the central and the easterly portions of the property did not encounter free groundwater at the time they were drilled, however it should be recognized that groundwater is subject to seasonal fluctuations.

Site Grading

Typical cut and fill grading will be required to create the desired finished line and grades. According to the available plans, cuts and fills of up to 5 feet deep will be necessary to create the ground level (at elevation 954). Excavations up to 30 feet deep will be necessary to create the subterranean parking levels. Remedial grading (soil removal and recompaction) will be necessary to address the effects of unsuitable soil (uncompacted fill and compressible natural soils) beneath the proposed pool, floor slabs-on-grade, and pavements.

Non-engineered and undocumented artificial fill soils are present within the project site to depths of as much as 10 feet below existing grade. To provide more firm uniform bearing for the proposed pool, slab-on-grade construction, and pavements it is recommended that all existing artificial fill be removed and recompacted. Refer to Recommendations Section A of the referenced Preliminary Geotechnical Engineering Report (ESSC, 2/13/2007) for more detailed discussions and recommendations regarding site preparation.

Stormwater

A stormwater treatment and/or detention system of some type is proposed for the southwest part of the site where bedrock and groundwater are shallow. Based on the depth to groundwater, the relatively impervious nature of the earth materials and the depth to ground water, an infiltration type system would not be feasible for this site; however a stormwater filtration/detention system should be feasible from a geotechnical standpoint.

UPDATED GEOTECHNICAL RECOMMENDATIONS

Conventional Foundations in Compacted Fill

As discussed above, foundations for all building structures, including the parking structure, should bear in competent bedrock. Relatively minor non-building structures for the project such as the swimming pool and site retaining walls may be supported by spread footings bearing in compacted fill if the architect and structural engineer elect to use that option.

1. Conventional shallow continuous (strip) foundations or isolated pad (column) foundations may be used to support non-building structures at the site provided the foundations are embedded sufficiently deep into either competent bedrock or properly compacted fill to provide adequate setback from slopes.

2. Excavations for foundations should be cleaned of all loose or unsuitable soils and debris prior to placement of concrete. Soil generated from the foundation excavations should not be placed below the floor slab unless properly moisture conditioned and compacted, and only after the area to receive fill has been properly prepared and approved.

3. Continuous (wall or strip) foundations for non-building structures founded in the recommended compacted soil pad may be proportioned for the following values:

APPENDIX B

WEIGHTED PERCENT IMPERVIOUSNESS

CALCULATIONS

WEIGHTED PERCENT IMPERVIOUSNESS CALCULATION FOR

SUBAREA 1A IN EXISTING PRE-DEVELOPED CONDITION

Hydrology Subarea Number	Total Area (Acres)	Land Use	Contributing Area (Acres)	Weighting Factor	Percent Impervious	Weighted % Imperviousness
1A	5.73	Buildings, Sidewalks, Walkways, & Street Pavement	2.70	0.471	99	46.6
		Open Space, Planting & Landscaping Areas	3.03	0.529	1	0.5
TOTAL=	5.73		5.73			47.2

Note: Use 50% imperviousness for hydrology calculation of Subarea 1A

WEIGHTED PERCENT IMPERVIOUSNESS CALCULATION FOR

SUBAREA 1A IN PROPOSED DEVELOPED CONDITION

Hydrology Subarea Number	Total Area (Acres)	Land Use	Contributing Area (Acres)	Weighting Factor	Percent Impervious	Weighted % Imperviousness
1A	5.73	Buildings & Roofs, Pool, Concrete Surfaces	2.32	0.405	99	40.1
		Open Space, Planting & Landscaping Areas	2.25	1.940	1	1.9
		Permeable Concrete Paver Pavement & Walkways	1.16	0.202	25	5.1
TOTAL=	5.73		5.73			47.1

Note: Use 50% imperviousness for hydrology calculation of Subarea 1A

WEIGHTED PERCENT IMPERVIOUSNESS CALCULATION FOR SUBAREA 1A1 IN PROPOSED DEVELOPED CONDITION

(Without Subarea 1A2 of McCoy Canyon Creek Area)

Hydrology Subarea Number	Total Area (Acres)	Land Use	Contributing Area (Acres)	Weighting Factor	Percent Impervious	Weighted % Imperviousness
1A1	4.44	Buildings & Roofs, Pool, Concrete Surfaces	2.32	0.523	99	51.7
		Open Space, Planting & Landscaping Areas	0.96	0.828	1	0.8
		Permeable Concrete Paver Pavement & Walkways	1.16	0.261	25	6.5
TOTAL=	4.44		4.44			59.1

Note: Use 60% imperviousness for hydrology calculation of Subarea 1A1

APPENDIX C

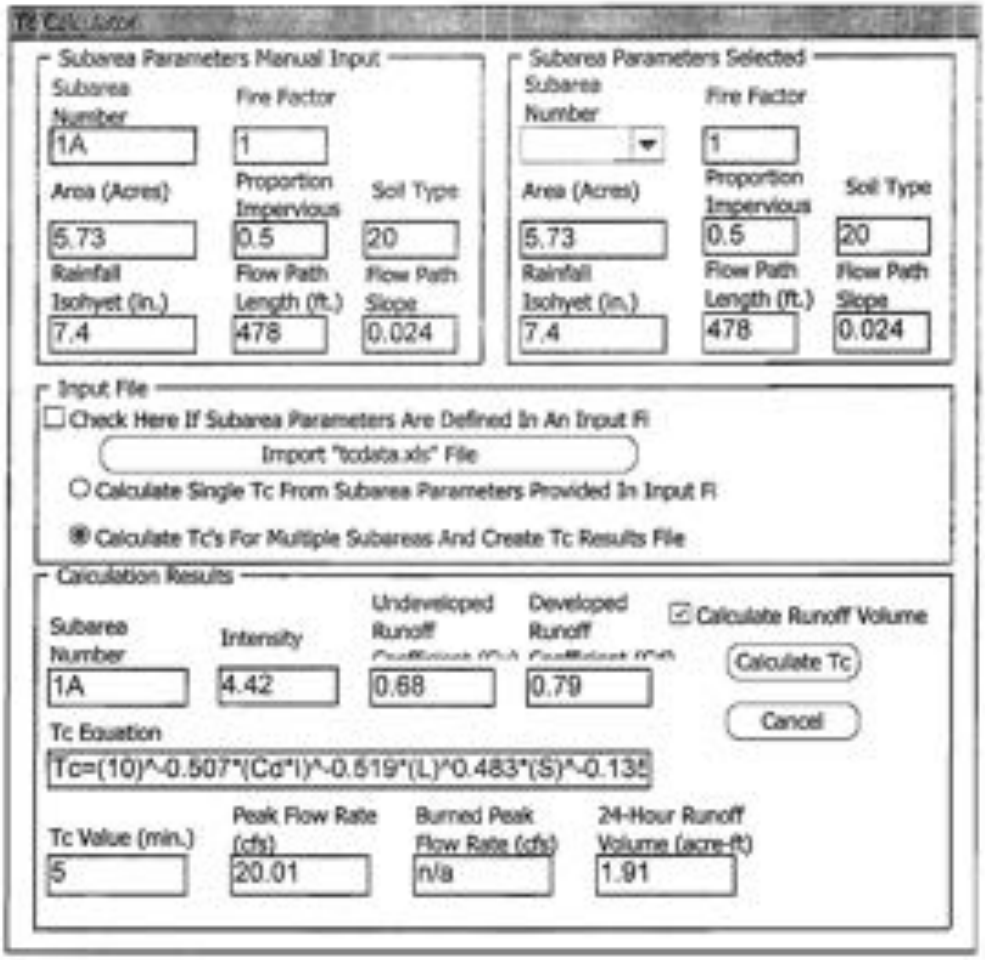
REGRESSION TC METHOD

HYDROLOGY STUDY

FOR

EXISTING UNDEVELOPED CONDITION

DESIGN 50-YEAR STORM EVENT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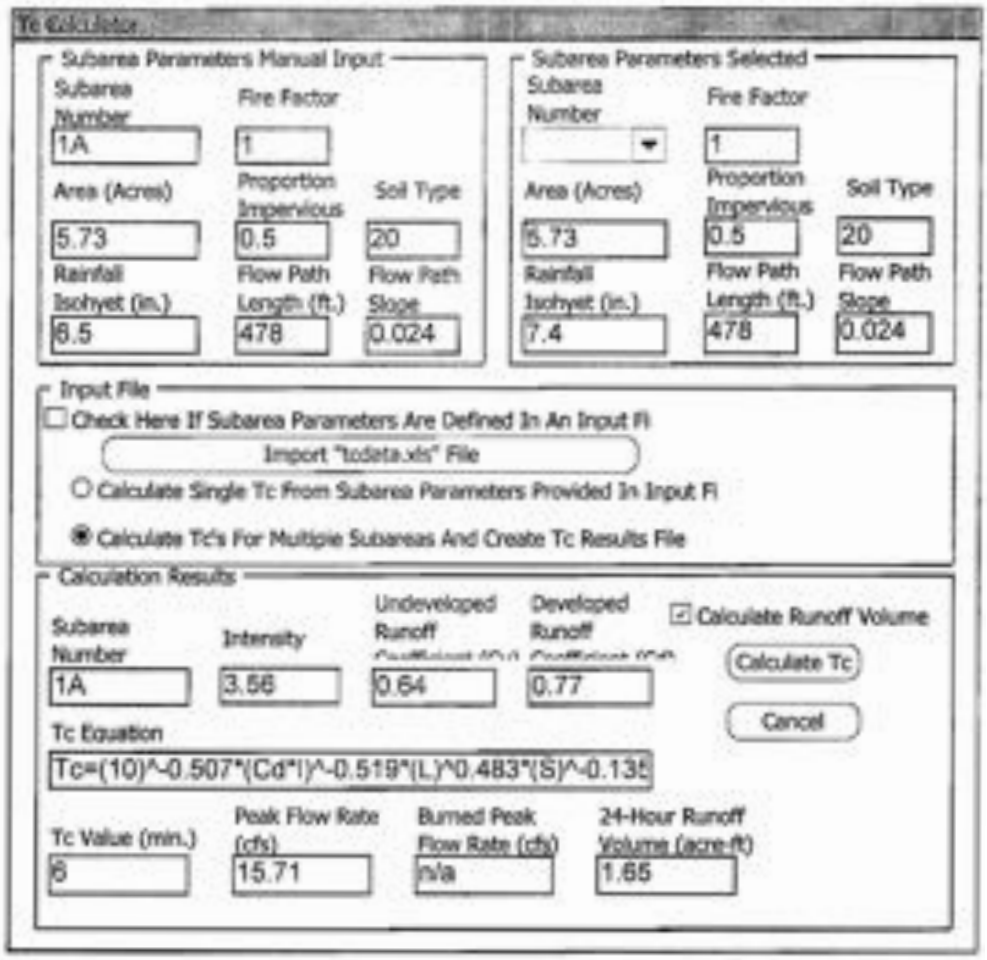
Subarea Number
1A
Fire Factor
1
Area (Acres)
5.73
Proportion Impervious
0.5
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
5.73
Proportion Impervious
0.5
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A
Intensity
4.42
Undeveloped Runoff
0.68
Developed Runoff
0.79
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.13
Tc Value (min.)
5
Peak Flow Rate (cfs)
20.01
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
1.91

25-YEAR, 10-YEAR, 5-YEAR,

& 2-YEAR STORM EVENTS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Fire Factor
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Area (Acres)
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Proportion Impervious
0.5
Soil Type
20
Rainfall Isohyet (in.)
6.5
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
5.73
Proportion Impervious
0.5
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A
Intensity
3.56
Undeveloped Runoff
0.64
Developed Runoff
0.77
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
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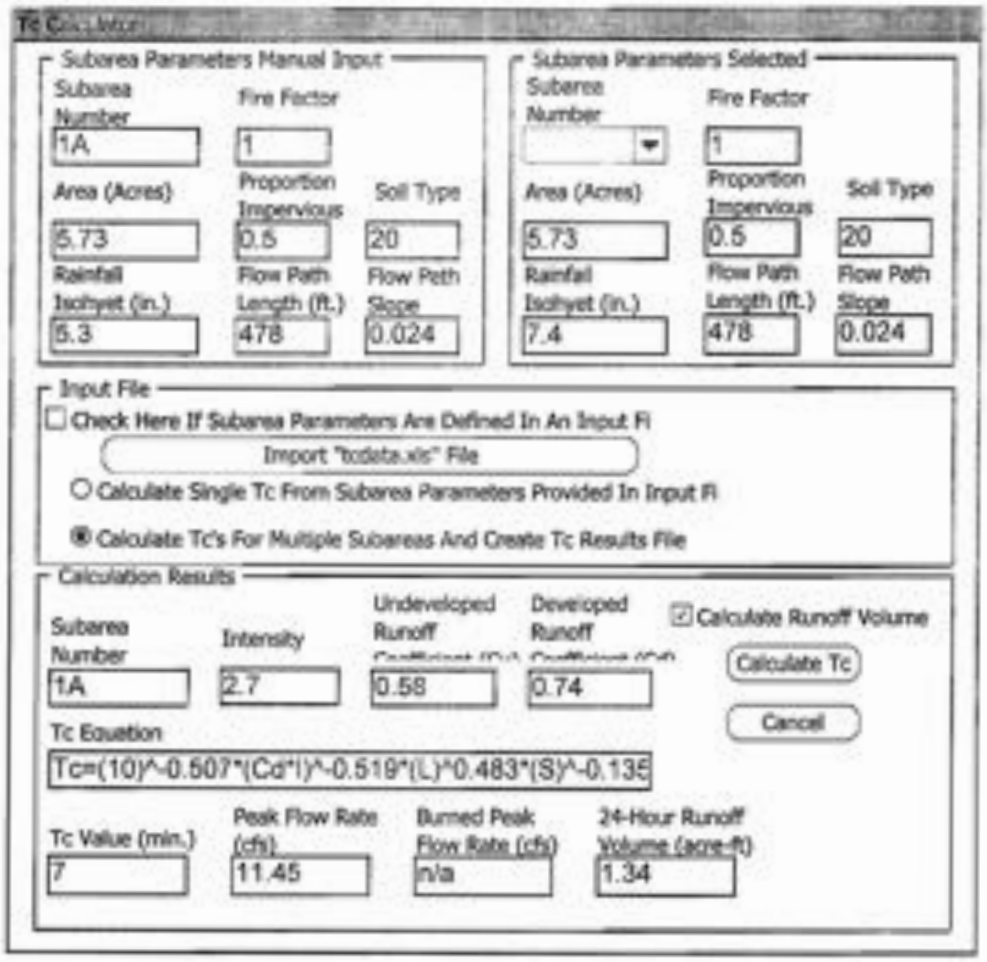
Tc Value (min.)
6
Peak Flow Rate (cfs)
15.71
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
1.65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Fire Factor
1
Area (Acres)
5.73
Proportion Impervious
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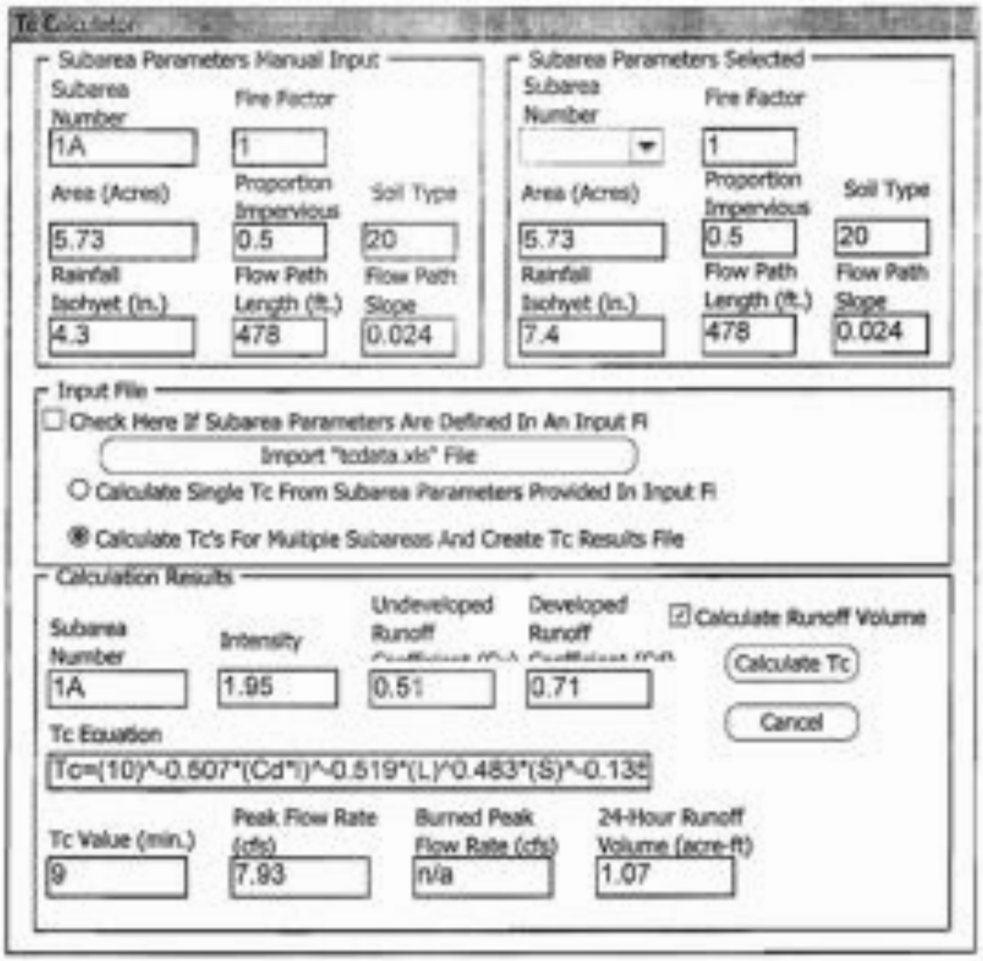
Soil Type
20
Rainfall Isohyet (in.)
5.3
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
5.73
Proportion Impervious
0.5
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A
Intensity
2.7
Undeveloped Runoff
0.58
Developed Runoff
0.74
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Tc Value (min.)
7
Peak Flow Rate (cfs)
11.45
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
1.34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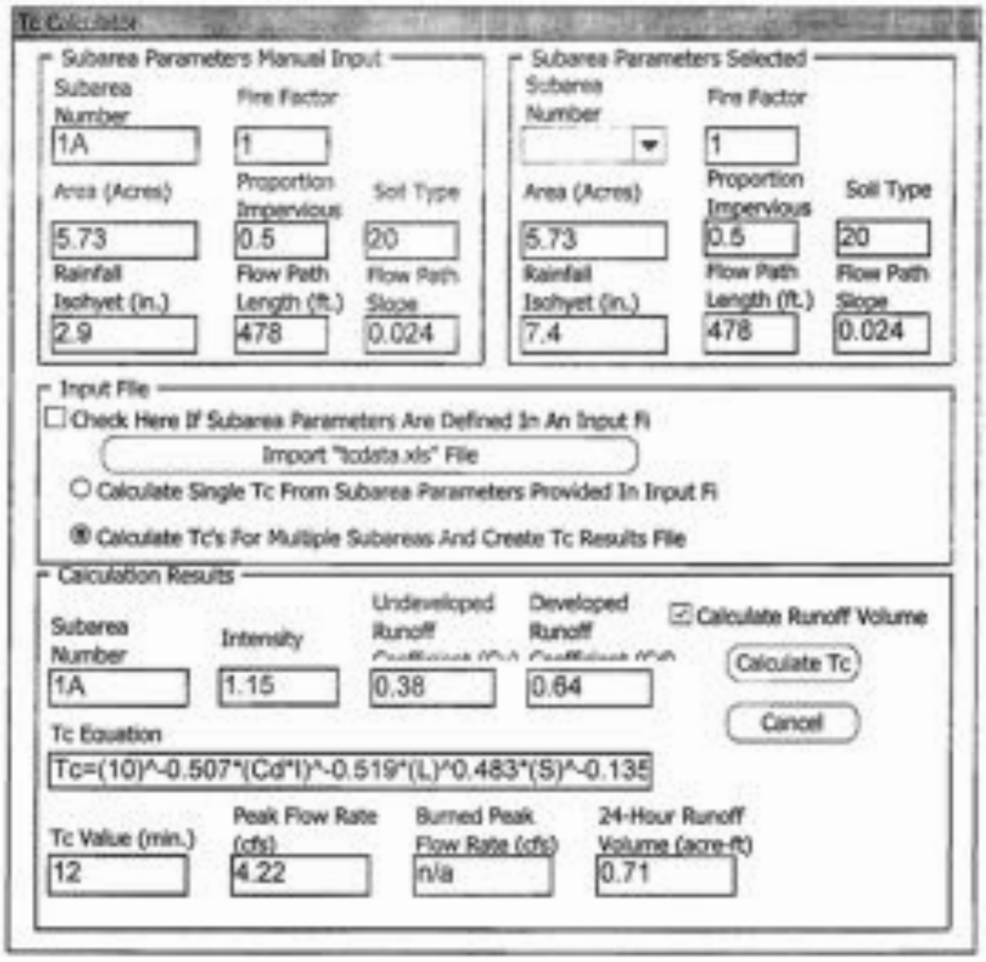
Subarea Number
1A
Fire Factor
1
Area (Acres)
5.73
Proportion Impervious
0.5
Soil Type
20
Rainfall Isohyet (in.)
4.3
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
5.73
Proportion Impervious
0.5
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A
Intensity
1.95
Undeveloped Runoff
0.51
Developed Runoff
0.71
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.13
Tc Value (min.)
9
Peak Flow Rate (cfs)
7.93
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
1.07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Subarea Number
1A
Fire Factor
1
Area (Acres)
5.73
Proportion Impervious
0.5
Soil Type
20
Rainfall Isohyet (in.)
2.9
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
5.73
Proportion Impervious
0.5
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
478
Flow Path Slope
0.024
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A
Intensity
1.15
Undeveloped Runoff
0.38
Developed Runoff
0.64
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Tc Value (min.)
12
Peak Flow Rate (cfs)
4.22
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
0.71

APPENDIX D

REGRESSION TC METHOD

HYDROLOGY STUDY

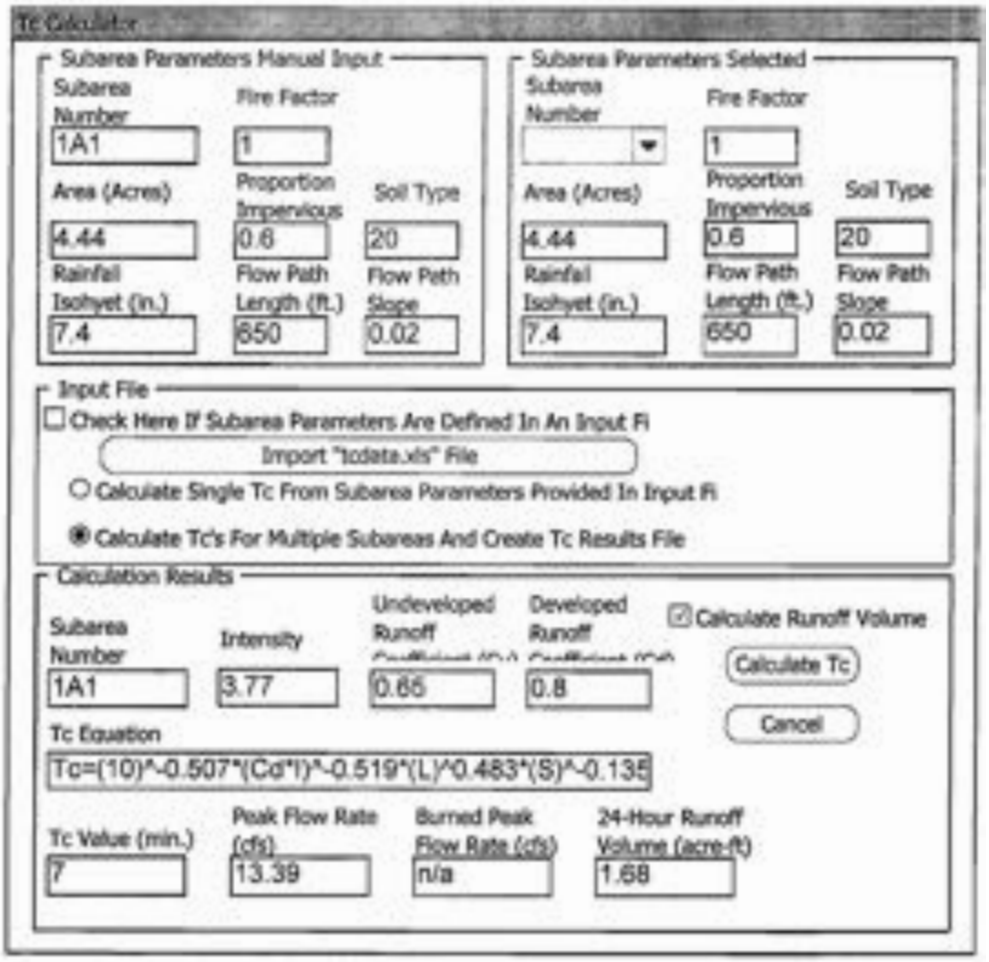
FOR

PROPOSED DEVELOPED CONDITION

SUBAREA 1A1

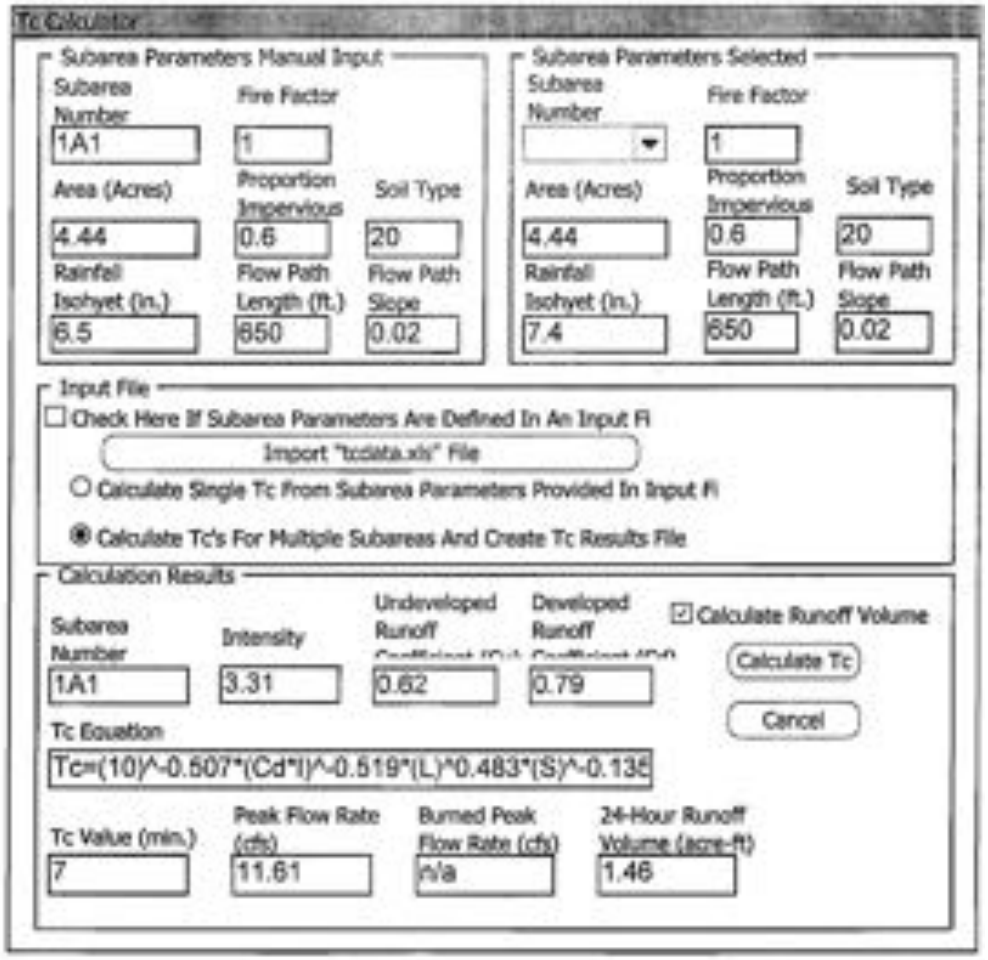
D2

DESIGN 50-YEAR STORM EVENT


Tc Calculator
Subarea Parameters Manual Input
Subarea Number
1A1
Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfal Isohyet (in.)
7.4
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfal Isohyet (in.)
7.4
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
Intensity
Undeveloped Runoff
Developed Runoff
Calculate Runoff Volume
1A1
3.77
0.65
0.8
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Tc Value (min.)
7
Peak Flow Rate (cfs)
13.39
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
1.68

25-YEAR, 10-YEAR, 5-YEAR,

& 2-YEAR STORM EVENTS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Fire Factor
1
Area (Acres)
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Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
6.5
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
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Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
Intensity
Undeveloped Runoff
Developed Runoff
Calculate Runoff Volume
1A1
3.31
0.62
0.79
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
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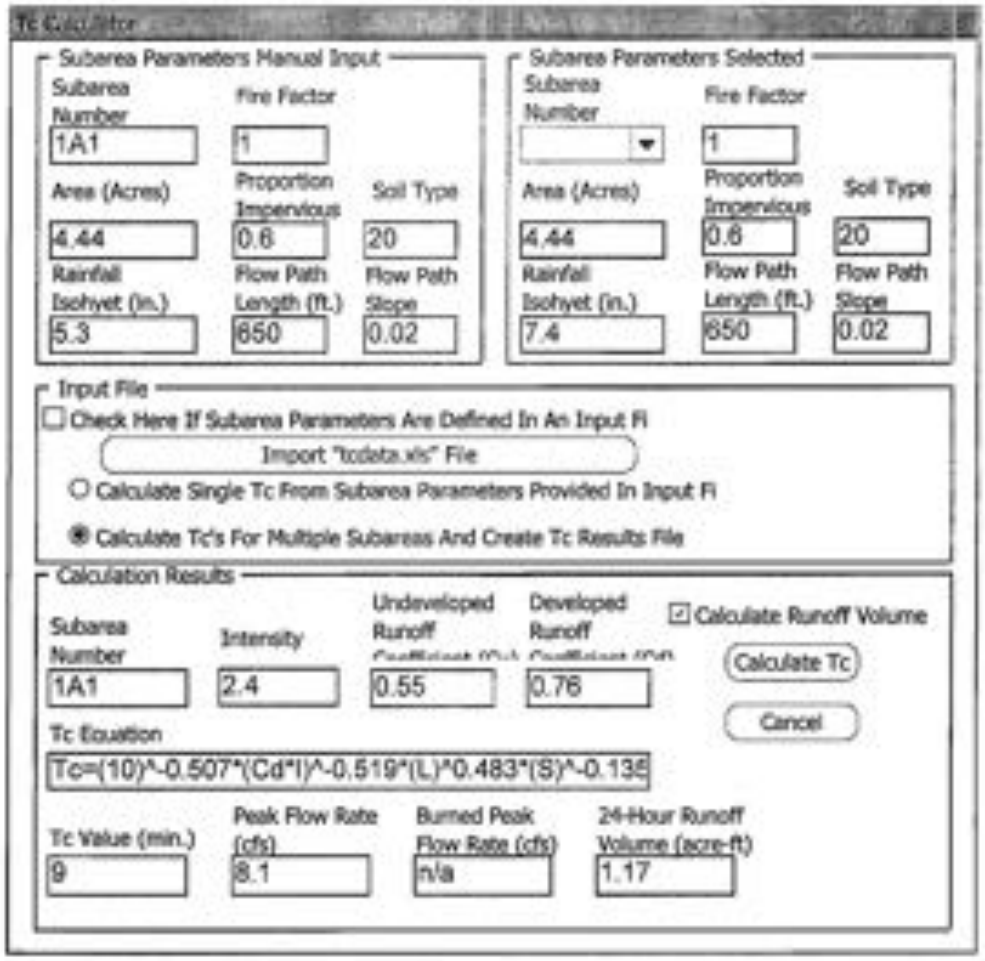
7
Peak Flow Rate (cfs)
11.61
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
1.46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Subarea Number
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Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
5.3
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A1
Intensity
2.4
Undeveloped Runoff
0.55
Developed Runoff
0.76
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
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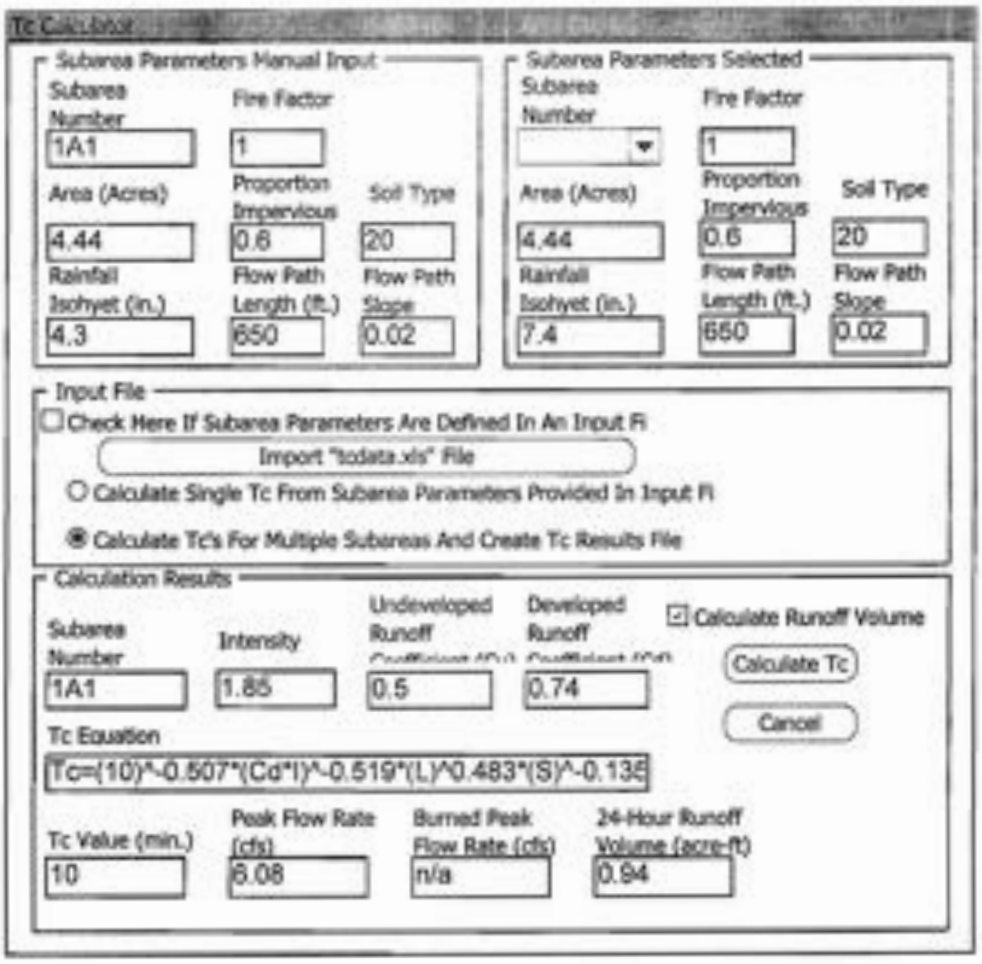
9
Peak Flow Rate (cfs)
8.1
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
1.17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Subarea Number
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Fire Factor
1
Area (Acres)
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Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
4.3
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A1
Intensity
1.85
Undeveloped Runoff
0.5
Developed Runoff
0.74
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
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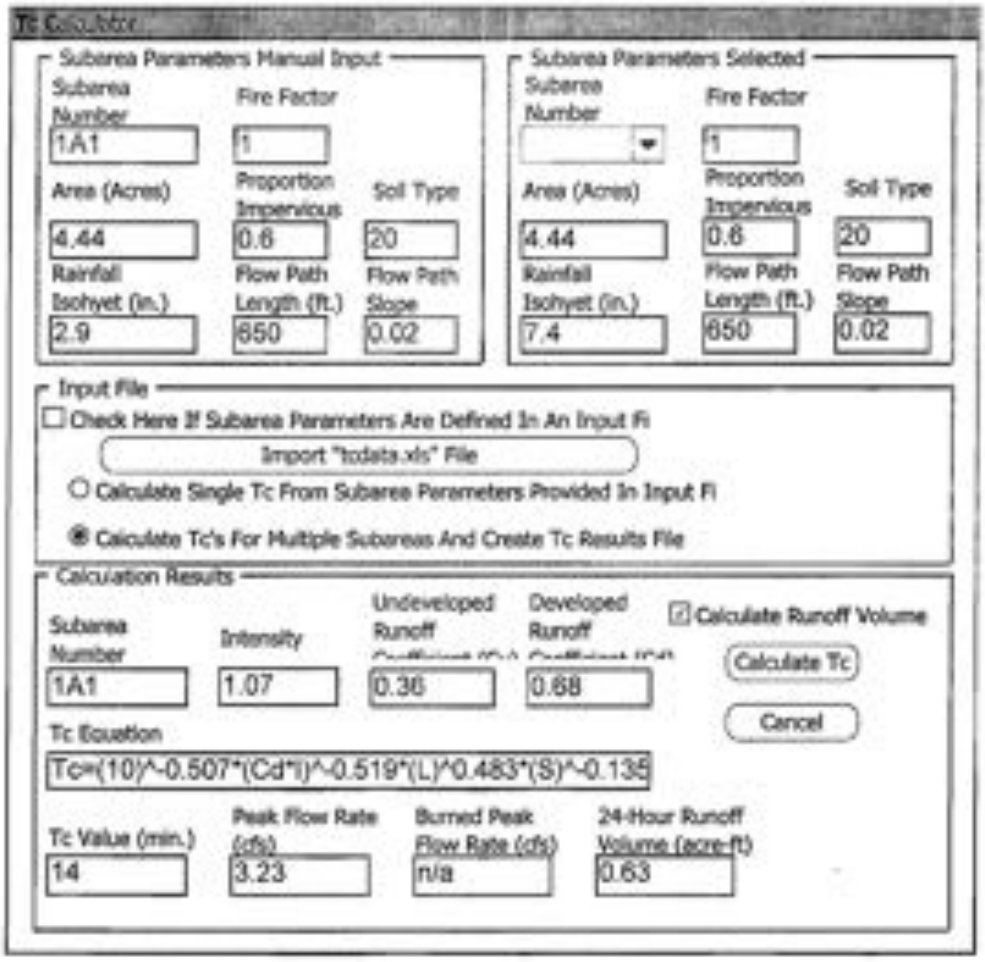
Tc Value (min.)
10
Peak Flow Rate (cfs)
6.08
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
0.94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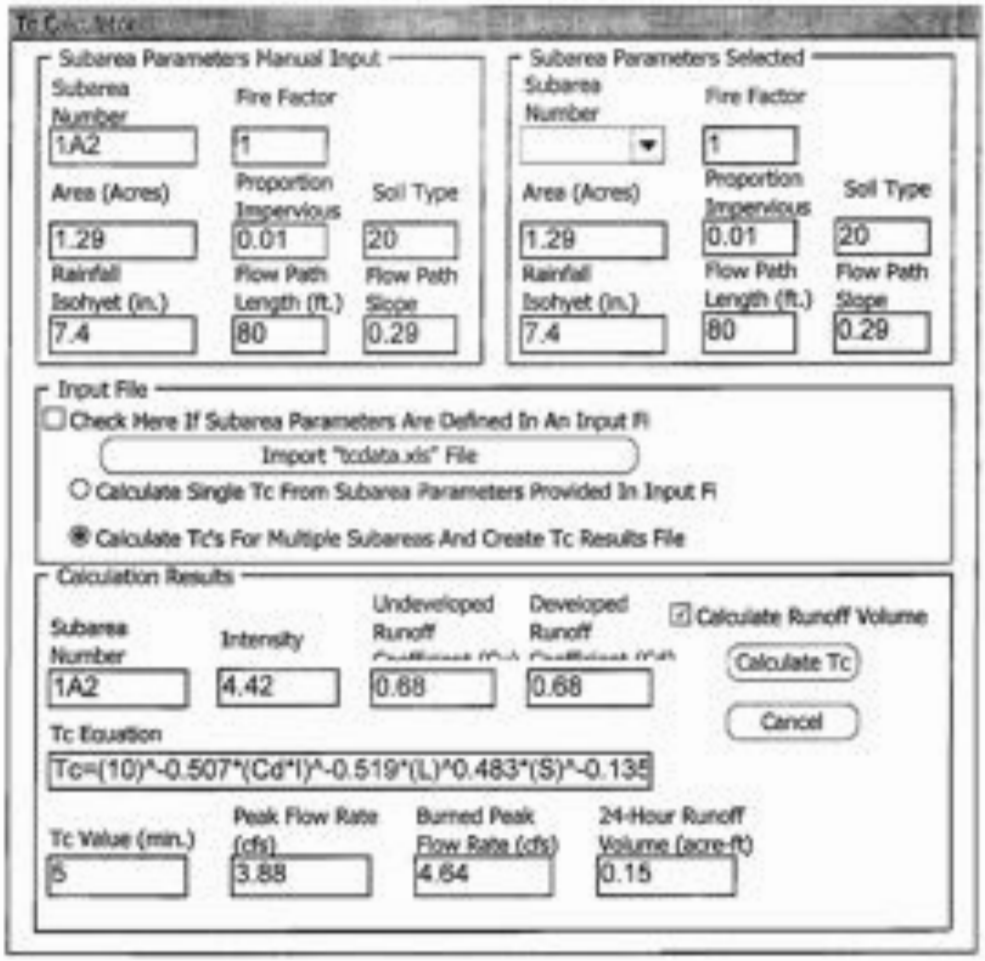
1A1
Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
2.9
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Perameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
Intensity
Undeveloped Runoff
Developed Runoff
Calculate Runoff Volume
1A1
1.07
0.36
0.68
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Tc Value (min.)
Peak Flow Rate (cfs)
Burned Peak Flow Rate (cfs)
24-Hour Runoff Volume (acre-ft)
14
3.23
n/a
0.63

SUBAREA 1A2

DIO

DESIGN 50-YEAR STORM EVENT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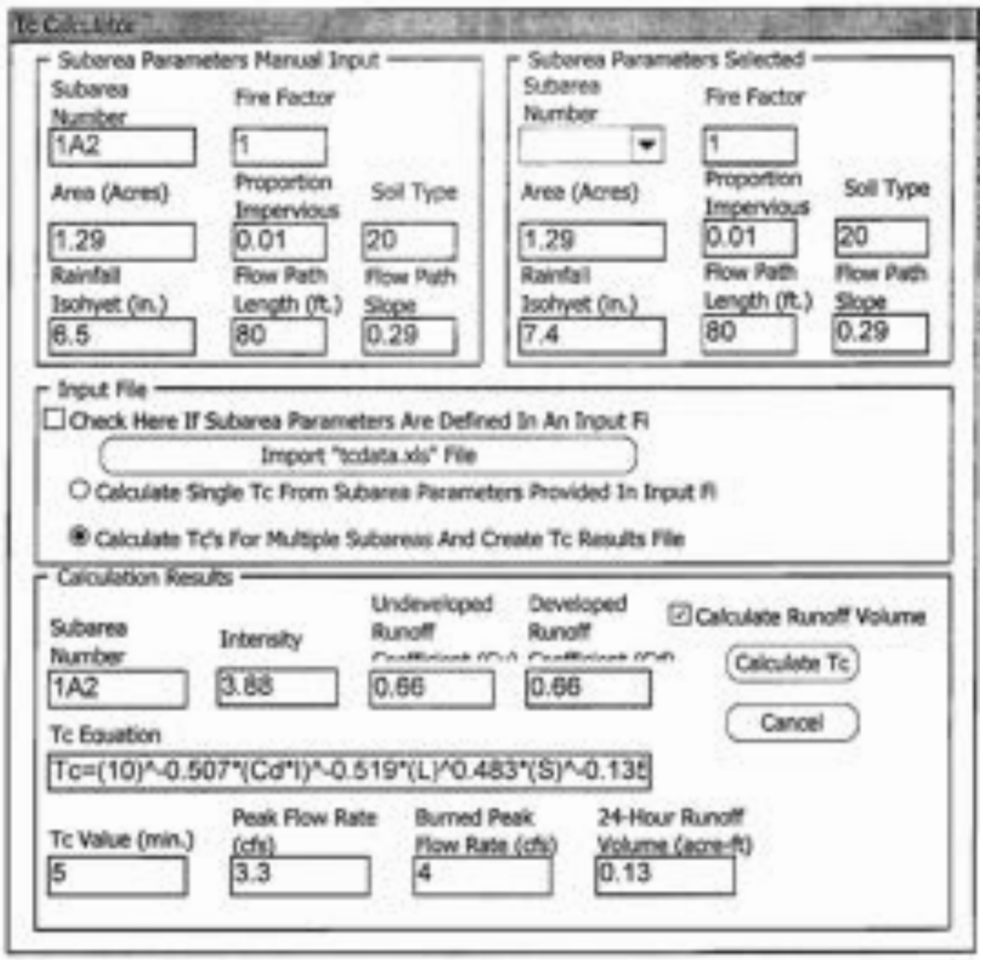
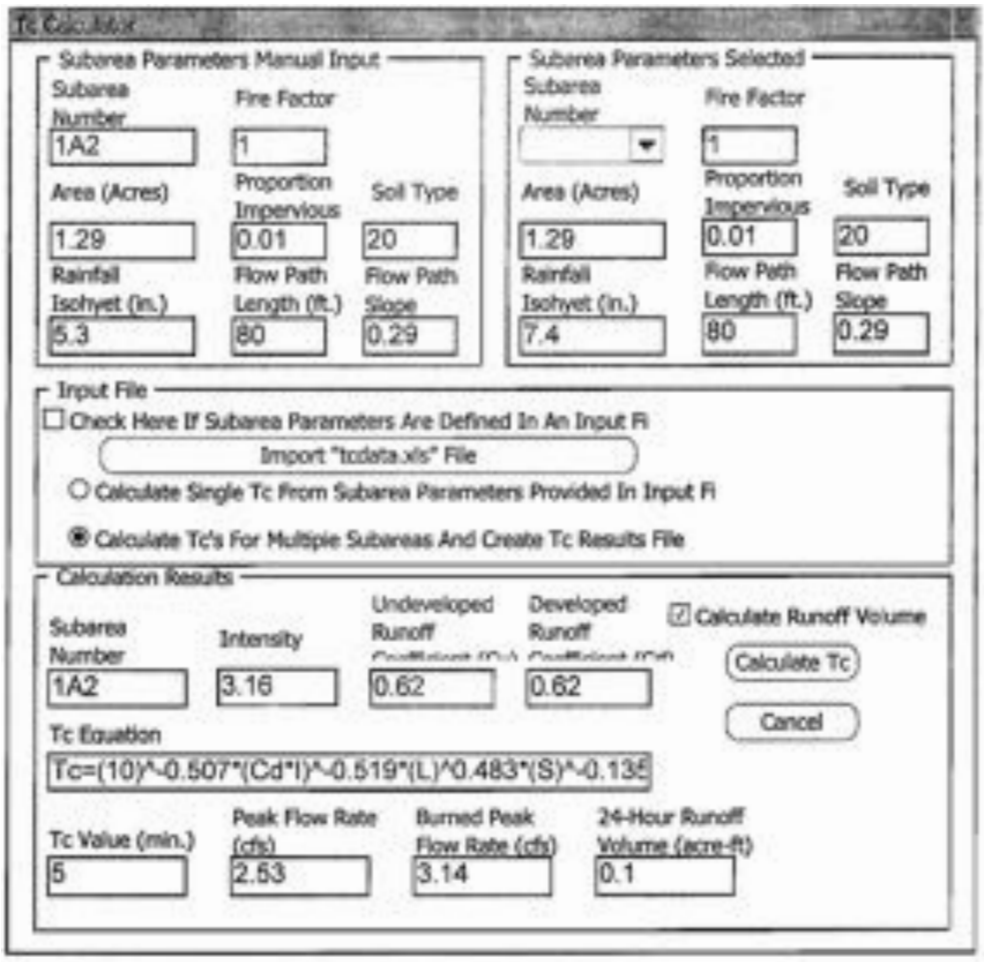
Subarea Number
1A2
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A2
Intensity
4.42
Undeveloped Runoff
0.68
Developed Runoff
0.68
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Tc Value (min.)
5
Peak Flow Rate (cfs)
3.88
Burned Peak Flow Rate (cfs)
4.64
24-Hour Runoff Volume (acre-ft)
0.15

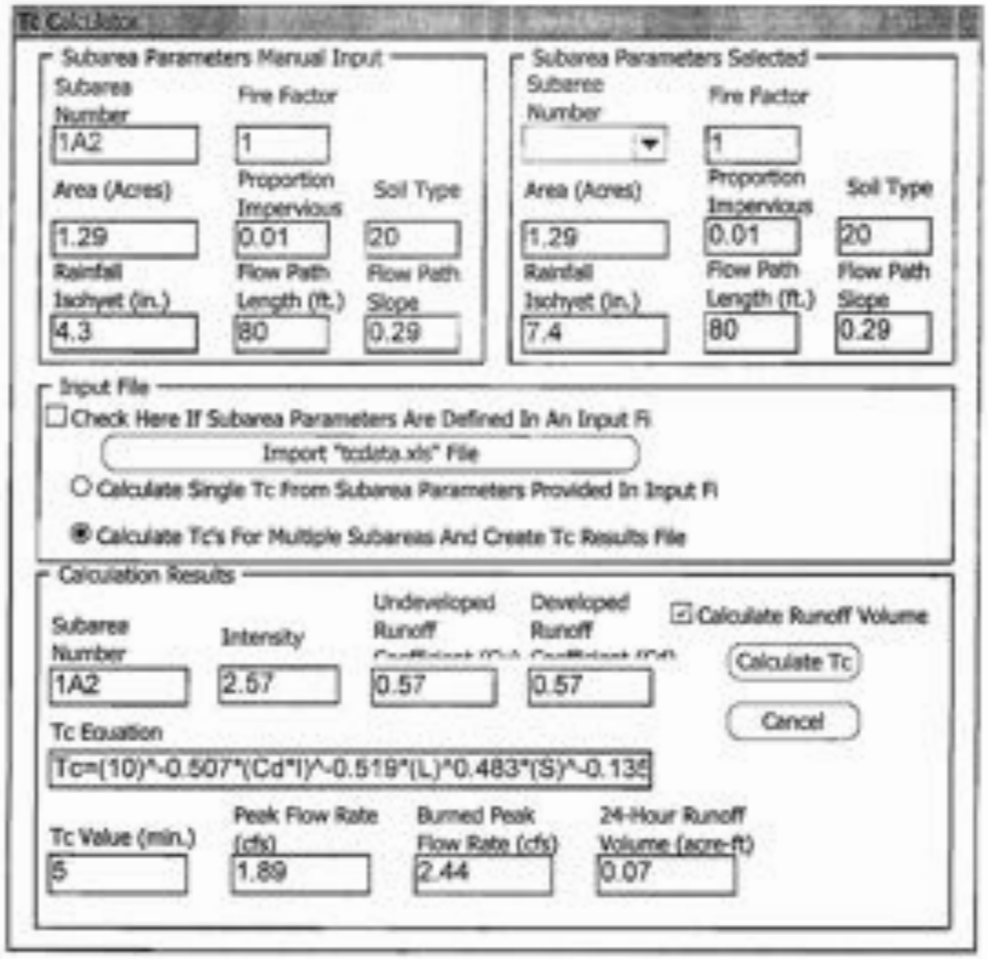
25-YEAR, 10-YEAR, 5-YEAR,

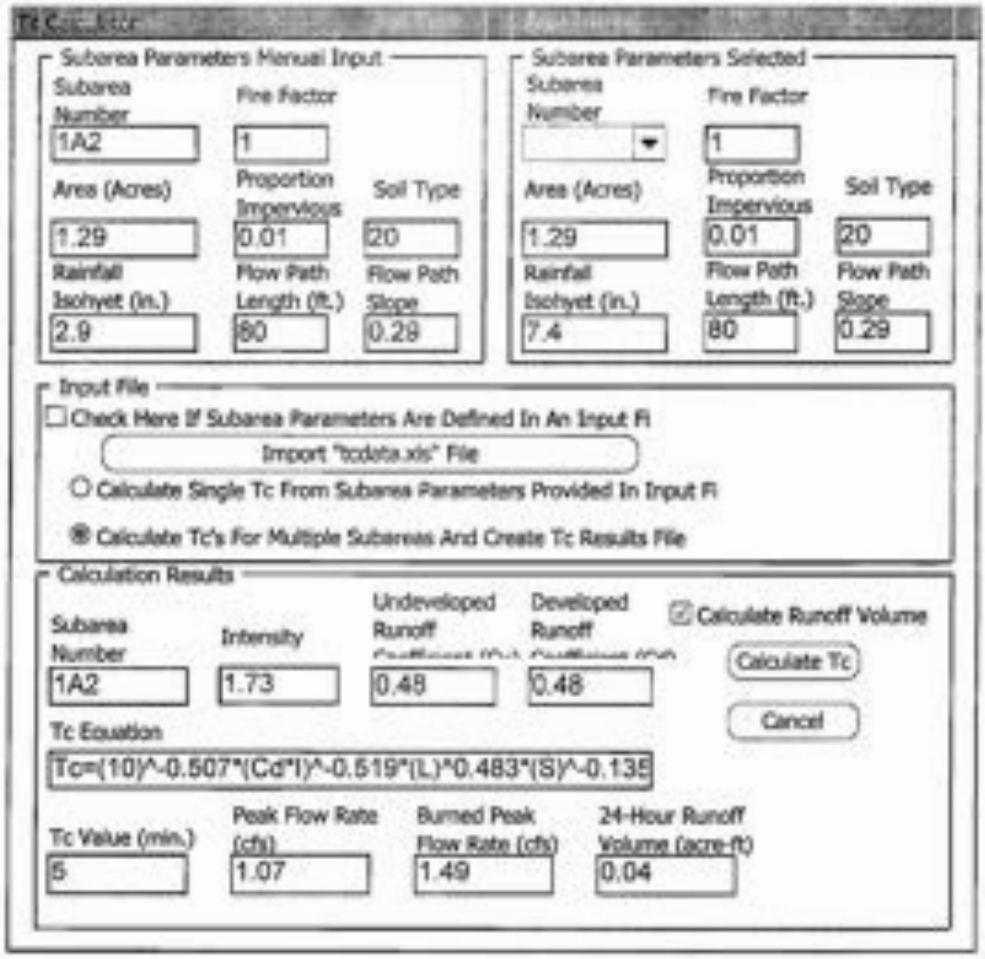
& 2-YEAR STORM EVENTS

D13


Tc Calculator
Subarea Parameters Manual Input
Subarea Number
1A2
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
6.5
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A2
Intensity
3.88
Undeveloped Runoff
0.66
Developed Runoff
0.66
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.13
Tc Value (min.)
5
Peak Flow Rate (cfs)
3.3
Burned Peak Flow Rate (cfs)
4
24-Hour Runoff Volume (acre-ft)
0.13


Tc Calculator
Subarea Parameters Manual Input
Subarea Number
1A2
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
5.3
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A2
Intensity
3.16
Undeveloped Runoff
0.62
Developed Runoff
0.62
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135
Tc Value (min.)
5
Peak Flow Rate (cfs)
2.53
Burned Peak Flow Rate (cfs)
3.14
24-Hour Runoff Volume (acre-ft)
0.1


Tc Calculator
Subarea Parameters Manual Input
Subarea Number
1A2
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
4.3
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc from Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A2
Intensity
2.57
Undeveloped Runoff
0.57
Developed Runoff
0.57
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.13
Tc Value (min.)
5
Peak Flow Rate (cfs)
1.89
Burned Peak Flow Rate (cfs)
2.44
24-Hour Runoff Volume (acre-ft)
0.07

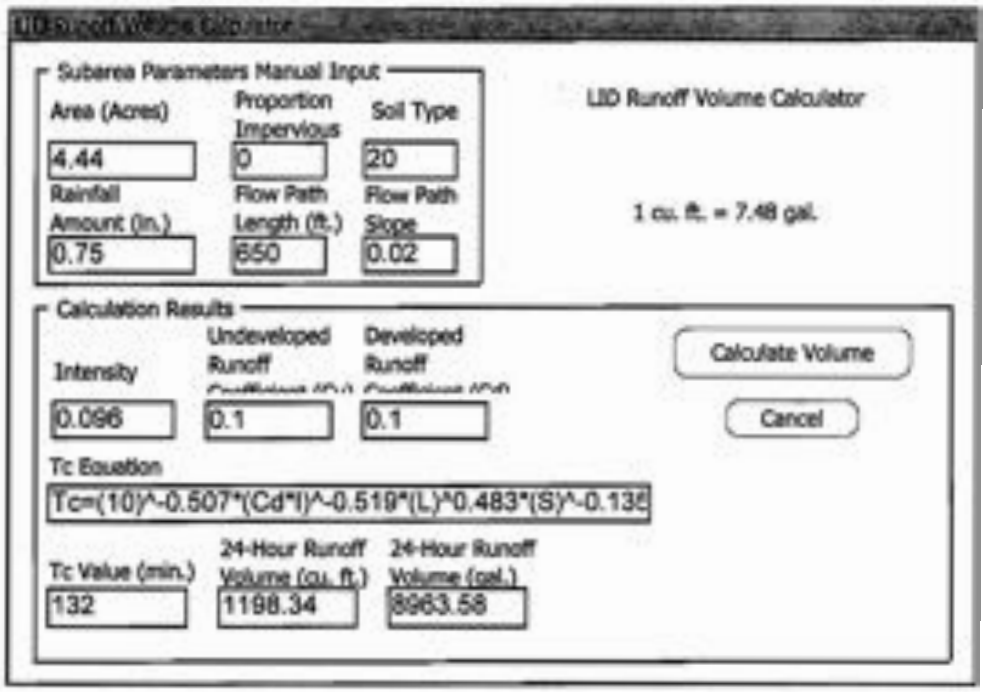

Subarea Parameters Manual Input
Subarea Number
1A2
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
2.9
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
1.29
Proportion Impervious
0.01
Soil Type
20
Rainfall Isohyet (in.)
7.4
Flow Path Length (ft.)
80
Flow Path Slope
0.29
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A2
Intensity
1.73
Undeveloped Runoff
0.48
Developed Runoff
0.48
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)*0.483*(S)^-0.135
Tc Value (min.)
5
Peak Flow Rate (cfs)
1.07
Burned Peak Flow Rate (cfs)
1.49
24-Hour Runoff Volume (acre-ft)
0.04

APPENDIX E

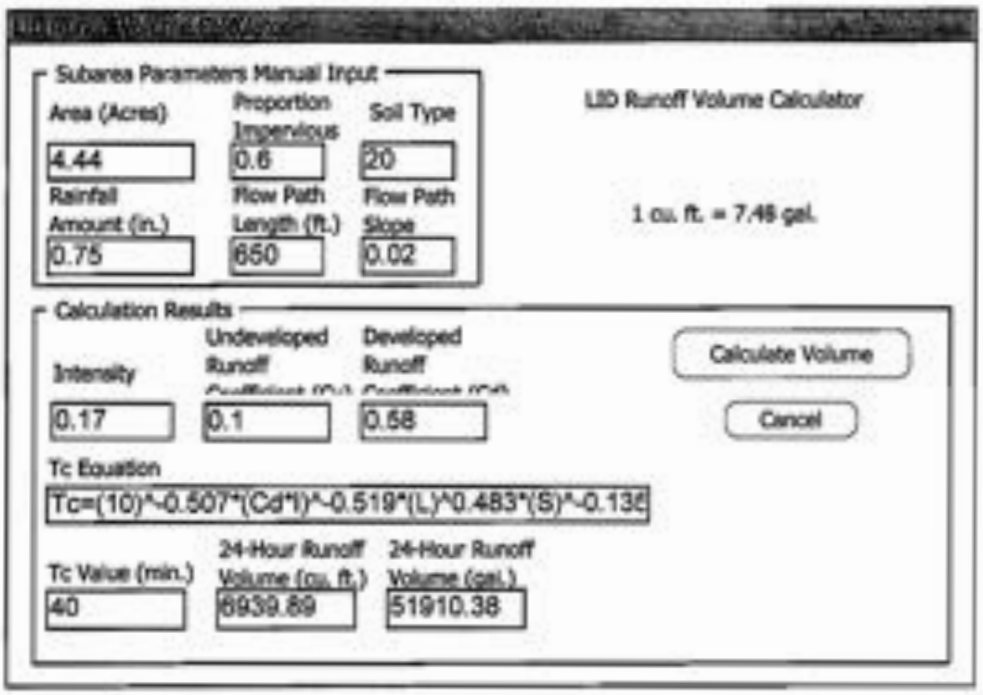
LOW IMPACT DEVELOPMENT (LID)

HYDROLOGIC ANALYSIS

SUBAREA 1A1
UNDEVELOPED L.I.D. RUNOFF VOLUME



SUBAREA 1A1
DEVELOPED L.I.D. RUNOFF VOLUME



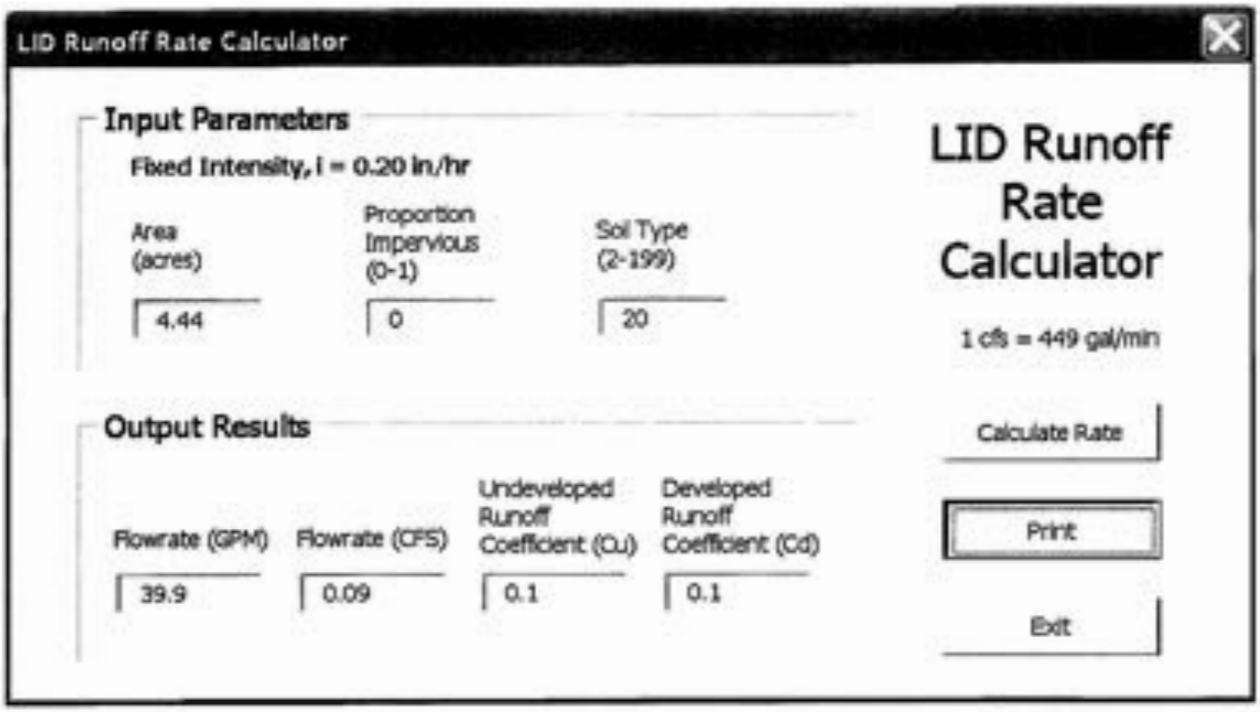
THUS, $\Delta V = V_d - V_u$

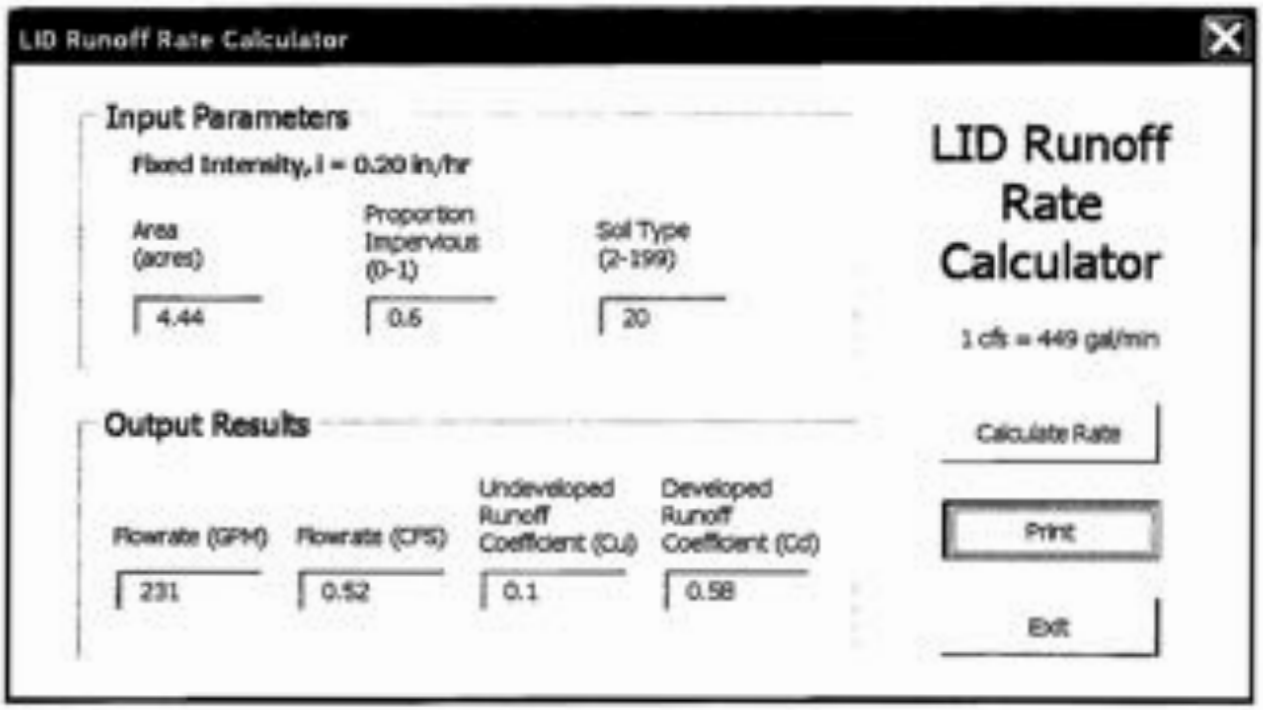
$= 6{,}940\ CF - 1{,}198\ CF$

$= \underline{5{,}742\ CF}$

THE INCREASE IN RUNOFF VOLUME ΔV IS THE AMOUNT THAT MUST BE INFILTRATED ON A PARCEL LEVEL.

SINCE PROJECT SITE IS NOT SUITABLE FOR INFILTRATION BMPs, BIO-FILTRATION DEVICE IS PROPOSED TO BE INSTALLED TO TREAT THE FLOW OF RUNOFF FROM SUSMP STORM OF 0.75" RAINFALL.


LID Runoff Rate Calculator
Input Parameters
Fixed Intensity, I = 0.20 in/hr
Area (acres)
4.44
Proportion Impervious (0-1)
0
Soil Type (2-199)
20
Output Results
Flowrate (GPM)
39.9
Flowrate (CFS)
0.09
Undeveloped Runoff Coefficient (Cu)
0.1
Developed Runoff Coefficient (Cd)
0.1
LID Runoff Rate Calculator
1 cfs = 449 gal/min
Calculate Rate
Print
Exit



THUS, $\Delta Q = Qd - Qu$

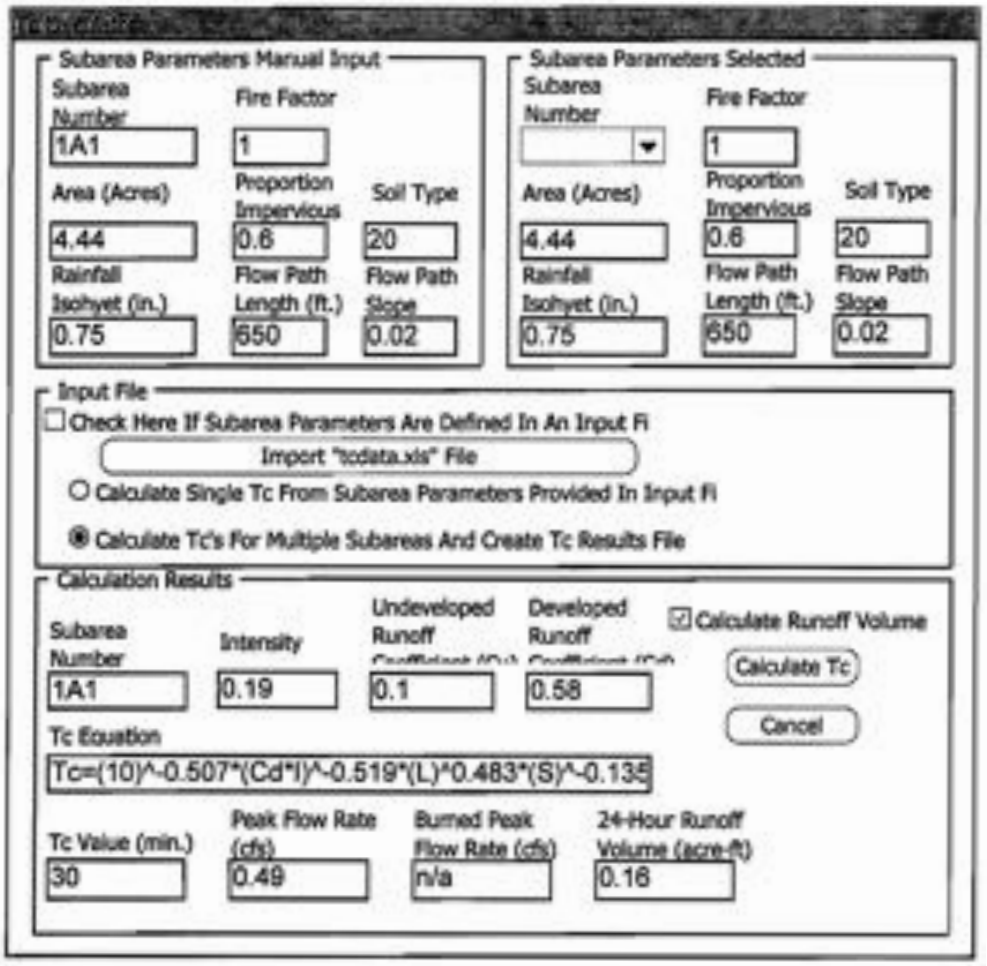
$= 0.52\ CFS - 0.09\ CFS$

$= \underline{0.43\ CFS}$

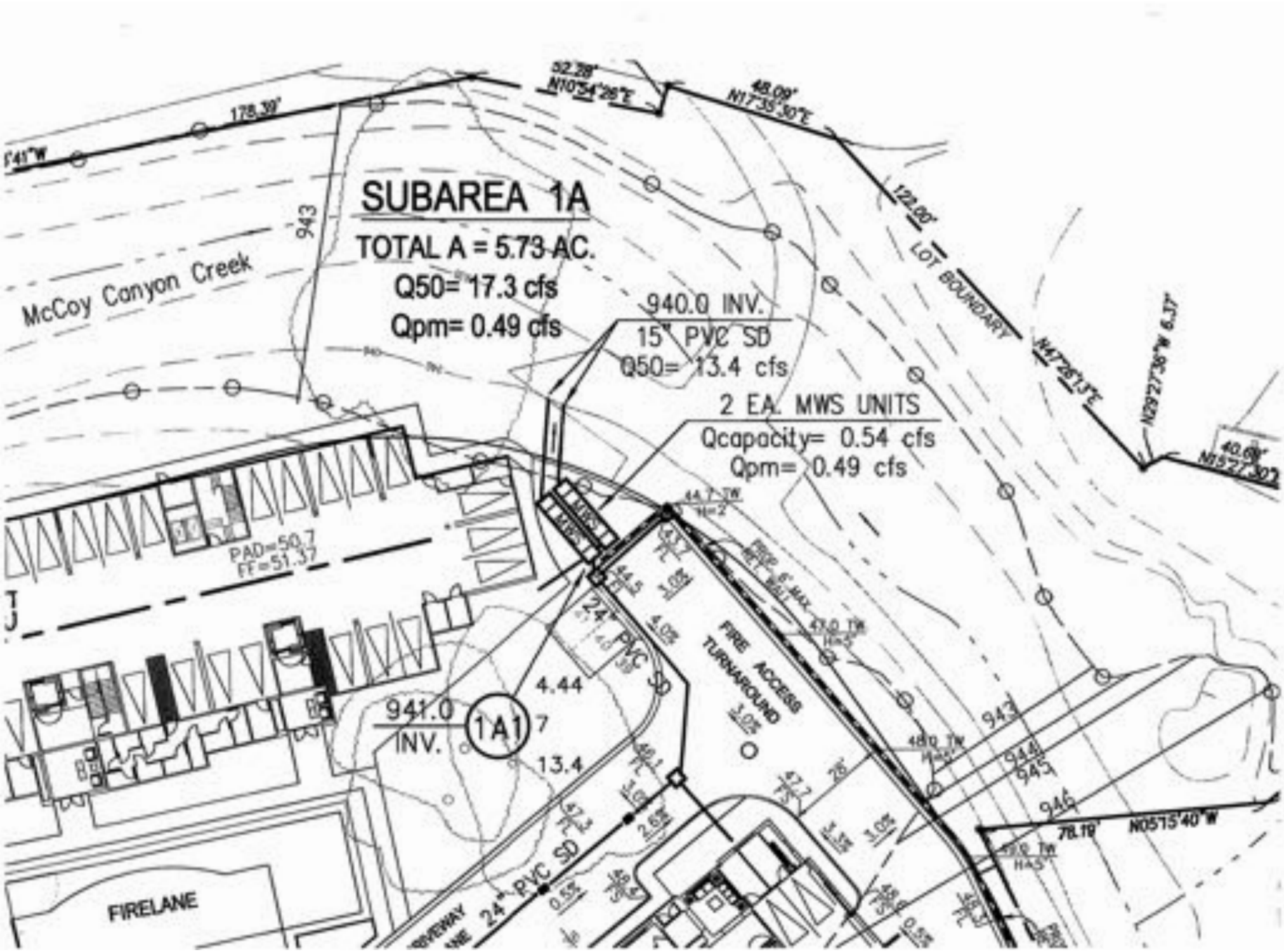
PROPOSED USE OF BIO-FILTRATION DEVICE (IE. MODULAR WETLANDS SYSTEM) TO TREAT THE ΔQ OF 0.43 CFS

APPENDIX F

SUSMP CALCULATION


Subarea Parameters Manual Input
Subarea Number
1A1
Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
0.75
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Subarea Parameters Selected
Subarea Number
Fire Factor
1
Area (Acres)
4.44
Proportion Impervious
0.6
Soil Type
20
Rainfall Isohyet (in.)
0.75
Flow Path Length (ft.)
650
Flow Path Slope
0.02
Input File
Check Here If Subarea Parameters Are Defined In An Input Fi
Import "tcdata.xls" File
Calculate Single Tc From Subarea Parameters Provided In Input Fi
Calculate Tc's For Multiple Subareas And Create Tc Results File
Calculation Results
Subarea Number
1A1
Intensity
0.19
Undeveloped Runoff
0.1
Developed Runoff
0.58
Calculate Runoff Volume
Calculate Tc
Cancel
Tc Equation
Tc=(10)^-0.507*(Cd*I)^-0.519*(L)*0.483*(S)^-0.135
Tc Value (min.)
30
Peak Flow Rate (cfs)
0.49
Burned Peak Flow Rate (cfs)
n/a
24-Hour Runoff Volume (acre-ft)
0.16

F2


SUBAREA 1A
TOTAL A = 5.73 AC.
Q50= 17.3 cfs
Qpm= 0.49 cfs
McCoy Canyon Creek
943
178.39'
52.28'
N10°54'26"E
48.09'
N17°35'30"E
120.00'
LOT BOUNDARY
940.0 INV.
15" PVC SD
Q50= 13.4 cfs
2 EA. MWS UNITS
Qcapacity= 0.54 cfs
Qpm= 0.49 cfs
PAD=50.7
FF=51.37
24" PVC SD
FIRE ACCESS TURNAROUND
941.0
INV.
1A1
4.44
13.4
FIRELANE
24" PVC SD
944
945
946
78.19'
N05°15'40"W

MWS - LINEAR FLOW BASED SIZING SHEET

The MWS - Linear

Hybrid Stormwater Treatment System

Project Location

Project Name	The Village at Calabasas
City/Town	Calabasas
State	CA
Zip Code	91302

SIZING CALCULATIONS	Inputs	Units	Notes/References
Impervious Area			
BMP Drainage Area	4.44	Acres	
Watershed Impervious Ratio	0.6		
Runoff Coefficient "C"	0.80		
WATER QUALITY FLOW	0.49	cfs (cubic feet per second)	
	Or 220.210	gpm (gallons per minute)	
MWS - Linear Sizing			
# of MWS - Linear Systems Required	2	quantity	
Discharge Rate (per system)	130	gpm	130 gpm per system recommended for High Level Treatment
Flow Treated During Event			
MWS - Linear System(s) Peak Treatment Flow	0.53	cfs	Should be equal to or greater than Water Quality Flow
	or 239.47	gpm	2 MWS - Linear Systems recommended for appropriate treatment.

Feel free to fax or email proposed sizing calculations to Modular Wetland Systems, Inc. for assistance with sizing, compliance, and design.

Phone: 760.433.7640
Fax: 760.433.3176
Email: info@modularwetlands.com

MODULAR WETLAND SYSTEMS - LINEAR UG VAULT TYPE

MODULAR WETLANDS

#FLOW BASED DESGIN

FLOW RATES

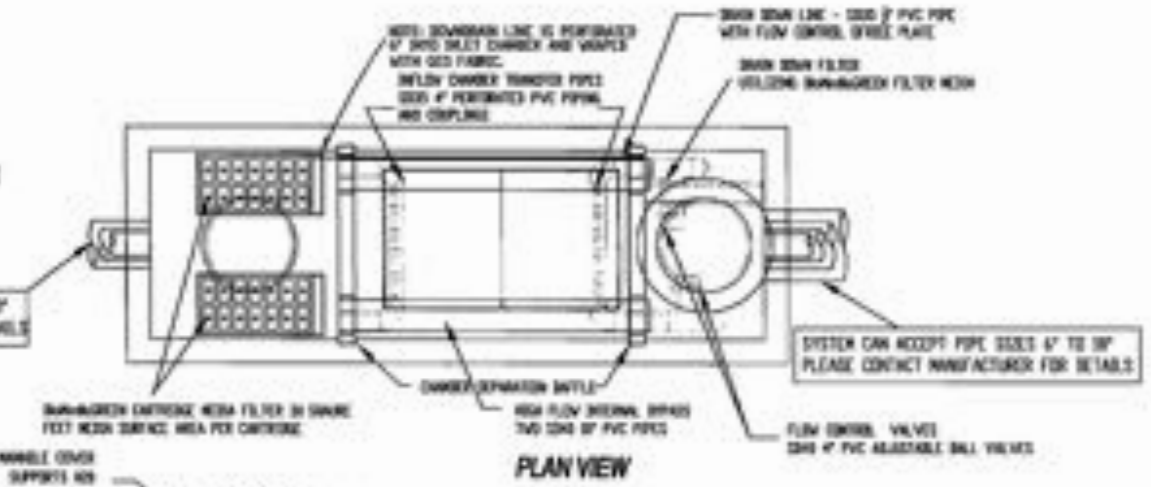
PRIMARY PEAK TREATMENT FLOW RATE
= 0.27 CFS OR 120 GPM FOR EACH MWS UNIT

PEAK INTERNAL BYPASS FLOW RATE
= 7 CFS (DEPENDING ON PIPE SIZE)

SYSTEM CAN ACCEPT PIPE SIZES 6" TO 18"
PLEASE CONTACT MANUFACTURER FOR DETAILS

DRAINAGE AREA TRIBUTARY TO
2 - MWS UNITS = 4.44 Acres

TRIBUTARY Qdmp = 0.49 CFS



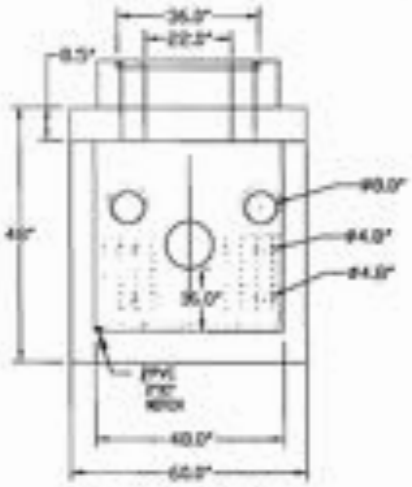
PLAN VIEW

SPECIFICATIONS

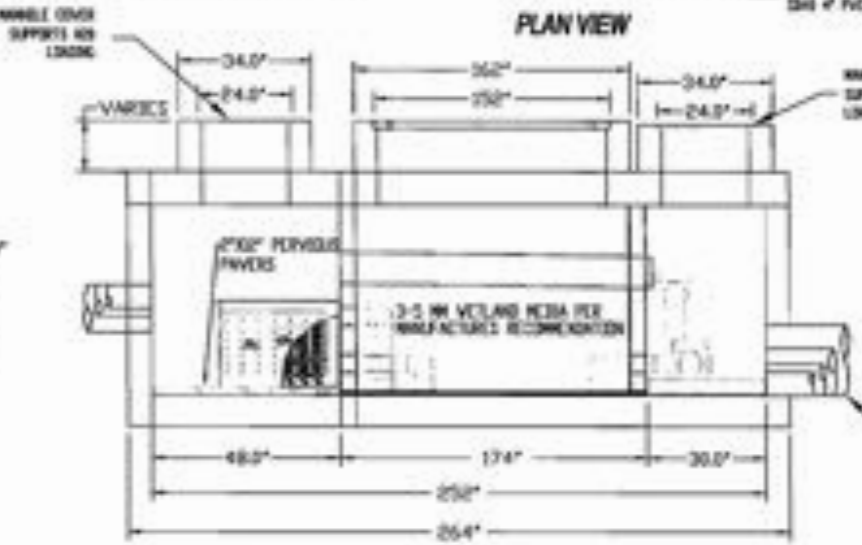
INSTALL AT SURFACE

O.D. DIMENSIONS
= 22' X 5' X 4.7'

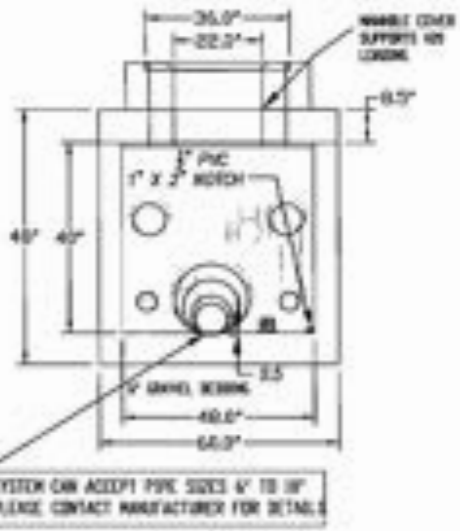
STORAGE CAPACITY
= 1000 LBS OR 23.5 CF



RIGHT END VIEW



ELEVATION VIEW



LEFT END VIEW

INSTALLATION NOTES:

1. INSTALL UNIT ON LEVEL BED OF GRAVEL OF AT LEAST 6" IN DEPTH.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH f'c=5,000 PSI.
3. REINFORCING=ASTM A-615, GRADE 60.
4. SUPPORTS AN H20 LOADING AS INDICATED BY AASHTO.
5. ALL WALLS ARE 6" THICK, BAFFLES ARE 4" THICK BOTTOM 8" THICK, TOP 18" THICK.
6. JOINT SEALANT: BUTYL RUBBER SS-S-00210

Patent No. 7,425,262

PATENT PENDING

MODULAR WETLAND SYSTEMS INC.
OCEANSIDE, CA 92049
www.ModularWetlands.com

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	NAME	DATE
DRAWN	DJTOWLER	6-03-09
CHECKED		

COMMENTS:

TITLE: MWS LINEAR UG VAULT TYPE

SIZE	DWG. NO.	REV
A	MWS-L-V	

SCALE: 3/8" | UNITS = INCHES | SHEET 1 OF 1

SPECIFICATIONS

MWS – Linear

Hybrid Stormwater Filtration System

MODULAR WETLANDS™

Modular Wetland Systems, Inc.
P.O. Box 869
Oceanside, CA 92049

www.modularwetlands.com
P 760-433-7640
F 760-433-3179

MWS – Linear

Hybrid Stormwater Filtration System

MODULAR WETLANDS

Save valuable space with small footprint for urban sites.

Improve BMP aesthetics with attractive native and tropical landscape plants.

Reduce lifetime costs with safer and less expensive maintenance

"The MWS – Linear hybrid stormwater treatment system is described as a self contained treatment train. This system utilizes an innovative combination of l treatment processes. Stormwater runoff flows into the system via pipe or curb/grate type catch basin opening. Polluted runoff first encounters a screening device to remove larger pollutants and then enters a hydrodynamic separation chamber which settles out the sediments and larger suspended solids. Next the runoff is treated by a revolutionary filter media, BioMediaGREEN that removes fines and associated pollutants, including bacteria. From there runoff enters of bioretention filter in the form of a subsurface flow vegetated gravel wetland. Within the wetland physical, chemical, and biological mechanisms remove the remaining particulate and dissolved pollutants. The purified runoff leaves the system via the discharge chamber. In the discharge chamber the rate of discharge is controlled by valves set to a desired rate".

Tested Pollutant Removal Efficiencies:

TSS Removal	Dissolved Lead Removal	Dissolved Copper Removal	TPH	E. coli Removal	Turbidity Removal
98%	81%	92%	99%	60.2%	92%

"Nature and Harmony Working Together in Perfect Harmony"

SPECIFICATIONS – MWS- LINEAR

Track Record: The MWS- Linear Hybrid Stormwater Treatment System is manufactured by a company whom is regularly engaged in the engineering design and production of treatment systems for stormwater.

Coverage: The MWS- Linear is designed to treat the water quality volume or water quality flow. For flow based design, high flow bypass is internal, for volume based design, high flow bypass is external and prior to pre-detention system. For offline volume based designs the MWS - Linear has the ability to treat the entire water quality volume when used with pre-storage and properly sized.

Non-Corrosive Materials: The MWS – Linear is designed with non-corrosive materials. All internal piping is SD35 PVC. Catch basin filter components, including mounting hardware, fasteners, support brackets, filtration material, and support frame are constructed of non-corrosive materials (316 stainless steel, and UV protected/marine grade fiberglass). Fasteners are stainless steel. Primary filter mesh is 316 stainless steel welded screens. Filtration basket screens for coarse, medium and fine filtration is ¾" x 1 ¾"expanded, 10 x 10 mesh, and 35 x 35 mesh, respectively. No polypropylene, monofilament netting or fabrics shall be used in this system. Media Protective Panels are constructed of UV protected/marine grade fiberglass. Mounts are constructed of stainless steel. BioMediaGREEN is an inert rock substrate and is non-corrosive. Perimeter filter structure is constructed of lightweight injection molded plastic. Mounting brackets are constructed of SD40 PVC and are mounted with 3/8" diameter stainless steel redheads. Drain down filter cover is constructed of UV protected/marine grade fiberglass and stainless steel hinge and mount.

Weight: Each complete unit weighs approximately 29,000 to 40,000 pounds and requires a boom crane to install. Details of this are provided in the installation section of the MWS-Linear Design Kit.

Transportation: The Modular Wetland System – Linear is designed to be transported on a standard flat bed truck. The unit easily fits on a flat bed truck without the need of special permitting.

Alternative Technology Configurations: The Modular Wetland System – Linear is modular is design. Each module will be up to 22 feet long and 5 feet wide. The system can be made in lengths varying from 13 to 100s of feet long. For lengths longer than 22 feet the system will shipped in modules and assembled on site. The Modular Wetland System – Linear has many alternative configurations. This allows the system to be adapted to many site conditions. Runoff can enter the system through a pipe, and/or a built in curb or grate type opening.

Energy Requirements: The Modular Wetland System – Linear is completely passive and requires no external energy sources.

Buoyancy Issues: Buoyancy is only a an issue when ground water levels rise above the bottom of the Modular Wetland System – Linear's concrete structure. With 8.5 cubic yards of wetland media there is no concern of floatation. As a precaution a footing can also be built into the systems concrete structure.

Durability: The structure of the box will be precast concrete. The concrete will be 28 day compressive strength fc = 5,000 psi. Steel reinforcing will be ASTM A – C857. Structure will support an H20 loading as indicted by AASHTO. The joint between the concrete sections will ship lap and joint sealed with ram-nek. Filter (excluding oil absorbent media) and support structures are of proven durability. The filter and mounting structures are of sufficient strength to support water, sediment, and debris loads when the filter is full, with no slippage, breaking, or tearing. All filters are warranted for a minimum of five (5) years.

Oil Absorbent Media: The MWS – Linear utilizes both physical and biological mechanisms to capture and filter oil and grease. A skimmer and boom system will be positioned on the internal perimeter of the catch basin insert. The primary filtration media, BioMediaGreen, utilized in the perimeter and drain down filters, has excellent hydrocarbon removal abilities. Within the wetland filter biological processes capture and

break down oil and grease. Much of the breakdown and transformation of oil and grease is performed by natural occurring bacteria.

Overflow Protection: The grate and curb type MWS – Linear are designed with an internal bypass consisting of two SD PVC pipes which direct high flows around the perimeter and wetland filter, directly into the discharge chamber. For the volume based vault type configuration, bypass should be located prior to the pre-detention system. For peak flows that exceed internal bypass capacity, external bypass is use.

Filter Bypass: Runoff will bypass filtration (BioMediaGREEN and wetland filter) components of the MWS - Linear. The system will still provide screening and settling during higher flow rates for internally bypassed flows. External bypass will bypass of treatment processes.

Pollutant Removal Efficiency: The MWS - Linear is capable of removing over 90% of the net annual total suspended solids (TSS) load based on a 20-micron particle size. Annual TSS removal efficiency models are based on documented removal efficiency performance from full-scale laboratory tests on BioMediaGreen and quarter-scale laboratory tests on the MWS – Linear flow based system.

POLLUTANT	REMOVAL EFFICIENCY
Trash & Litter	99%
TPH (mg/L)	99%
TSS (mg/L)	98%
E. Coli (MPN/100ml)	60%
Turbidity (NTU)	92%
Dissolved Metals (mg/L)	76%

Sil-Co-Sil 106. Mean particle diameter = 19 microns

Non-Scouring: During heavy storm events the runoff bypasses perimeter and wetland filter components. The system will not re-suspend solids at design flows.

Uniqueness: The Modular Wetland System – Linear is a complete self contained treatment train that incorporates capture, screening, sedimentation, filtration, bioretention, high flow bypass, and flow control into a single modular structure. This system provides four stages of treatment making it the only 4 stage treatment train stormwater filtration system, therefore making it unique to the industry. Other systems do not incorporate all the necessary attributes to make it a complete stormwater management device as with the Modular Wetland System – Linear. Therefore, no equal exists for this system.

Pretreatment & Preconditioning: Since the Modular Wetland System – Linear is a complete capture and treatment train stormwater management system no external pretreatment of preconditioning is necessary.

SPECIFICATIONS – BioMediaGREEN

BioMediaGREEN is a proprietary engineered filter media. Made of a unique combination of the inert naturally occurring material this product is non-combustible and do not pose a fire hazard, stable and non-reactive, and is also biodegradable. It is stable with no known adverse environmental effects.

This product has been tested in long-term carcinogenicity studies [inhalation and intraperitoneal injection (i.p.)] with no significant increase in lung tumors or abdominal tumors. Short-term biopersistent (inhalation and intra-tracheal injection) studies have shown that the products disappear very rapidly from the lung.

In October 2001, IARC classified this product as Group 3, "not classifiable as to its carcinogenicity to humans". The 2001 decision was based on the latest epidemiological studies and animal inhalation studies that show no relation between inhalation exposure and the development of tumors.

The product can typically be disposed of in an ordinary landfill (local regulations may apply). If you are unsure of the regulations, contact your local Public Health Department or the local office of the Environmental Protection Agency (EPA).

Coverage: When properly installed BioMediaGREEN Filter Blocks provide sufficient contact time, at rated flows, of passing contaminate water. The BioMediaGREEN material will capture and retain most pollutants that pass through it. The BioMediaGREEN material is made of a proprietary blend of inert substances. The BioMediaGREEN Filter Blocks can be used in different treatment devices, including but not limited to flume filters, trench drain filters, downspout filters, catch basin inserts, water polishing units, and hydrodynamic separators.

Non-Corrosive Materials: The BioMediaGreen material is made of non-corrosive materials.

Durability: The BioMediaGREEN material has been chosen for its proven durability, with an expected life of 2 plus years. The BioMediaGREEN material is of sufficient strength to support water, sediment, and debris loads when the media is at maximum flow; with no slippage, breaking, or tearing. The BioMediaGREEN material has been tested through rigorous flow and loading conditions.

Oil Absorbent Media: The BioMediaGREEN material has been proven to capture and retain hydrocarbons.

Pollutant Removal Efficiency: The BioMediaGREEN Filter Blocks are designed to capture high levels of Hydrocarbons including but not limited to oils & grease, gasoline, diesel, and PAHs. BioMediaGREEN Filter Blocks have the physical ability to block and filter trash and litter, grass and foliage, sediments, TSS, particulate and dissolved metals, nutrients, and bacteria.

BioMediaGREEN technology is based on a proprietary blend of synthetic inert natural substances aimed at removal of various stormwater pollutants. BioMediaGREEN was created to have a very porous structure capable of selectively removing pollutants while

allowing high flow through rates for water. As pollutants are captured by its structure, BioMediaGREEN captures most pollutants and maintains porosity and filtering capabilities.

Field and laboratory tests have confirmed the BioMediaGREEN capability to capture large percentage of TSS, hydrocarbons, nutrients, and heavy metals. Microbial reduction efficiency will vary depending on colony size, flow rates and site specific conditions.

POLLUTANT	REMOVAL EFFICIENCY
Oil & Grease (mg/L)	90%
TPH (mg/L)	99%
TSS (mg/L)	85%
Turbidity (NTU)	99%
Total Phosphorus (mg/L)	69.6%
Dissolved Metals (mg/L)	75.6%

Sil-Co-Sil 106. Mean particle diameter = 19 microns

Replacement: Removal and replacement of the blocks is simple. Remove blocks from filtration system. Replace with new block of equal size.

PERFORMANCE

MWS – Linear

Hybrid Stormwater Filtration System

MODULAR WETLANDS™

Modular Wetland Systems, Inc.
P.O. Box 869
Oceanside, CA 92049

www.modularwetlands.com
P 760-433-7640
F 760-433-3179

PERFORMANCE TESTING

Following are the summaries of laboratory testing for both BioMediaGreen and the MWS – LINEAR utilizing BioMediaGreen. For a full copy of the test reports, including the laboratory results please contact a Modular Wetland System, Inc. representative.

Note: Metals are in dissolved form. Removal of particulate metals will be significantly higher. The TSS used in these lab tests is Sil-Co-Sil 106 which has a mean particle size of 19 microns and contains 80% silt.

BIO MEDIA-GREEN

Pollutant Removal Performance Summary

Test Run	pH		TSS (mg/L)		TKN (mg/L)		Dissolved Phosphorus (mg/L)		Ortho Phosphorus (mg/L)		Dissolved Cadmium (mg/L)		Dissolved Copper (mg/L)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
1	7.07	7.01	73	<7							0.599	0.45	0.851	0.54
2	7.13	6.49	52	16			3.61	0.46			0.503	0.01	0.606	0.068
3	7.10	6.53	52	13			3.61	0.39			0.503	0.006	0.606	0.003
4	6.89	6.63	100	3	10.4	8.28	1.37	0.69	0.69	0.13	0.302	0.162	0.354	0.115
5	6.85	6.7	100	5	10.4	8.84	1.37	0.73	0.69	2.13	0.302	0.163	0.354	0.118
6	6.85	6.84	100	1	10.4	10.9	1.37	0.73	0.69	2.2	0.302	0.206	0.354	0.13
7	6.89	6.69	100	6	10.4	10.1	1.37	0.69	0.69	2.11	0.302	0.203	0.354	0.11
8	6.85	6.68	100	2	10.4	7.4	1.37	0.7	0.69	2.04	0.302	0.183	0.354	0.117
Averages	6.9725	6.79625	84.63	12.43	10.40	9.07	2.07	0.63	0.69	0.93	0.39	0.19	0.57	0.12
Average Removal Efficiency (%)			85.31%		12.83%		69.68%		-41.86%		52.18%		79.18%	

Using 84-04-04-100

Mesh particle size = 10

Test Run	Dissolved Lead (mg/L)		Dissolved Zinc (mg/L)		Dissolved Mercury (mg/L)		Oil & Grease (mg/L)		TPH (mg/L)		Turbidity (NTU)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
1	0.201	0.013	1.53	0.03	0.009	0.002	360	11				
2	0.192	0.005	1.52	0.05	0.006	0.002	87	1				
3	0.192	0.004	1.52	0.05	0.006	0.003	87	1				
4	0.402	0.006	0.4	0.06	n/d	n/d	13	7	1.4	0	36	0.3
5	0.400	0.007	0.4	0.06	n/d	n/d	13	9	1.4	0	36	0.5
6	0.402	0.005	0.4	0.05	n/d	n/d	13	7	1.4	0	36	0.3
7	0.402	0.003	0.4	0.03	n/d	n/d	13	12	1.4	0	36	0.3
8	0.402	0.005	0.4	0.05	n/d	n/d	13	12	1.4	0	36	0.3
Averages	0.33	0.01	0.73	0.16	0.01	0.00	100.88	8.00	1.40	0.00	36.00	0.33
Average Removal Efficiency (%)	96.19%		78.33%		71.43%		96.70%		100.00%		99.11%	

Test Run	Total Coliform (MPN/100 mL)		Fecal Coliform (MPN/100 mL)	
	Influent	Effluent	Influent	Effluent
1	1600000	1600000	1250000	800000
2	1600000	800000	1250000	350000
3	1600000	500000	1250000	500000
4	1600000	800000	1250000	500000
Averages	1600000	675000	1250000	487500
Average Removal Efficiency (%)	65.31%		65.20%	

*Laboratory Testing - Average Removal Efficiencies. Tested at Flow Rate of 3 GPM Per Square Foot Media Surface Area & Minimum Head

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MWS - LINEAR

Pollutant Removal Performance Summary

Test Run	pH		TSS (mg/L)		Dissolved Phosphorus (mg/L)		Dissolved Cadmium (mg/L)		Dissolved Copper (mg/L)		Dissolved Lead (mg/L)		Dissolved Mercury (mg/L)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
1	7.39	7.48	370	5	0.68	0.12	0.61	0.03	0.737	0.029	0.543	0.1	0.016	0.002
2	7.26	7.43	374	5	0.68	0.65	0.61	0.07	0.737	0.033	0.543	0.1	0.016	0.002
3	7.38	7.35	370	2	0.68	0.77	0.61	0.2	0.737	0.068	0.543	0.1	0.016	0.002
4	7.28	7.39	370	1	0.68	0.56	0.61	0.33	0.737	0.073	0.543	0.1	0.016	0.002
5														
6														
7														
8														
Averages	7.28	7.483	370	3	0.68	0.33	0.61	0.133	0.737	0.00320	0.543	0.1	0.016	0.002
Average Removal Efficiency (%)			99.20%		53.06%		74.59%		92.70%		81.59%		88.00%	

Using Si-Co-Sil 104

Mean particle size = 15 microns

Test Run	Dissolved Nickel (mg/L)		Dissolved Zinc (mg/L)		Oil & Grease (mg/L)		TPH (mg/L)		Turbidity (NTU)		Fecal Coliform (MPN/100 mL)		E.Coli (MPN/100 mL)	
	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
1	0.57	0.51	0.65	0.05	10	1	10	0	21	0.8				
2	0.57	0.29	0.65	0.05	10	1	10	0	21	1.3				
3	0.57	0.3	0.65	0.21	10	2.5	10	0	21	1.3				
4	0.57	0.34	0.65	0.43	10	2	10	0	21	2.6				
5														
6											1600	170	1600	110
7														
8											1600	800	1600	800
													1600	800
Averages	0.57	0.333	0.65	0.183	10	1.625	10	0	21	1.675	1600	535	1600	636.66667
Average Removal Efficiency (%)	39.19%		80.83%		83.75%		100.00%		92.00%		66.56%		60.21%	

Red text indicates concentrations are greater than loading limits of 1600 MPN/100mL

Testing of Quarter Scale Model - at Flow Rate of 1.8 GPM. This flow rate is equal to 121.8 GPM for full size system.

Modular Wetland System - Linear is manufactured by Modular Wetland Systems, Inc. 760-433-7640 www.modularwetlands.com

MAINTENANCE

MWS – Linear

Hybrid Stormwater Filtration System

MODULAR WETLANDS™

Modular Wetland Systems, Inc.
P.O. Box 869
Oceanside, CA 92049

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MAINTENANCE –

Maintenance Summary –

- Clean screening filter device a least twice per year (*15 minute service time*).
- Clean separation (sediment) chamber once a year (*30 minute service time*).
- Evaluate and replace primary filtration media (BioMediaGREEN blocks) as needed. Typically replacement occurs once every 12 to 18 months (*60 minute service time*).
- Evaluate condition of wetland media. Replacement of media occurs once every 5 to 20 years (*4 hours*).
- Replace drain down filter media (*BioMediaGREEN block*) once every year (*5 minute service time*).
- Trim vegetation as needed (*15 minute service time*).

Maintenance Procedures –

A. Every installed MWS – Linear unit is to be maintained by the Supplier, or a Supplier approved contractor. The cost of this service varies among providers.

B. The MWS – Linear is a multi-stage self-contained treatment train. Each stage protects subsequent stages from clogging. These stages include: screening, separation, primary filtration, and biological remediation. The biological remediation stage contains plants and therefore requires ongoing landscape maintenance, similar to that of other landscaped areas.

1. Screening is provided by Bio Clean Catch Basin Insert Filters. This screening filter has a capacity of 2 or 4 cubic feet (curb type and grate type respectively). This filter targets gross solids, including litter, and sediments greater than 200 microns. **It is recommended that this screening filter be cleaned at least two times per year.** Cleaning of this device is relatively inexpensive. *This procedure takes approximately 15 minutes.*

2. Separation is provided by a 3' x 3' settling chamber. This chamber has a capacity of approximately 21 cubic feet. This chamber targets smaller sediments, larger TSS, and particulate metals and nutrients. This chamber protects the following filtration stages from premature clogging. **It is recommended that this separation chamber be cleaned out once a year.** This procedure can be performed with a standard vac truck. *This procedure takes approximately 30 minutes.*

3. Primary filtration is provided by a horizontal flow perimeter filter utilizing BioMediaGREEN. The perimeter filter has a default media surface area of 28 square feet. This surface area can also be doubled to 56 square feet, upon request, by a simple physical modification to the media blocks. The greater the surface area, the longer the media will maintain appropriate flow rates before clogging. This perimeter filter and the revolutionary BioMediaGREEN media targets fine TSS, dissolved metals, nutrients, and bacteria. **It is recommended that the filter media be evaluated once per year and recharged if necessary.** Media life depends on local loading conditions and can easily be replaced and disposed of without any equipment. *Replacement of media takes approximately 60 minutes.*

4. Biological remediation (natural filtration) is provided by a 4th generation enhanced sub-surface flow vegetated gravel wetland. This natural filter is 14 feet long and contains 248 cubic feet of filter media and plant material. It targets the finest TSS, nutrients, dissolved metals, and bacteria. This filter provides the final polishing step of treatment. If prior treatment stages are properly maintained, the life of this media can be more than 5 years. **It is recommended the wetland and its plants be inspected once a year.** Replacement of the rock media may be needed as soon as five years or as long as 20 years. *Inspection takes approximately 15 minutes. Replacement of rock media takes approximately 4 hours and requires a vac truck.*

5. A drain down filter, similar in function to the perimeter filter is located in the discharge chamber. This filter allows standing water to be drained and filtered out

of the separation chamber. This addresses any vector issues, by eliminating all standing water within this system. It is recommended the media of the drain down filter be replaced one a year. *Replacement of media takes approximately 5 minutes and is performed without any equipment.*

The MWS – Linear catch basin filter, separation chamber, and wetland filter are designed to allow for the use of vacuum removal of captured materials in the filter screens and sediment and wetland chambers, serviceable by centrifugal compressor vacuum units without causing damage to the filter or during normal cleaning and maintenance. Filters can be cleaned and vacuumed from the standard manhole access or at grade.

Maintenance Notes:

1. Modular Wetland Systems, Inc. recommends the **catch basin filter** be inspected and cleaned a minimum of once every six months and replacement of hydrocarbon booms once a year. The procedure is easily done with the use of any standard vacuum truck.

    - Remove grate or manhole to gain access to catch basin filter insert. Remove the deflector shield (grate type only) with the hydrocarbon boom attached. Where possible the maintenance should be performed from the ground surface. Note: entry into an underground stormwater vault such as an inlet vault requires certification in confined space training.
    - Remove all trash, debris, organics, and sediments collected by the inlet filter insert. Removal of the trash and debris can be done manually or with the use of a vactor truck. The hose of the vactor truck will not damage the screen of the filter.
    - Evaluation of the hydrocarbon boom shall be performed at each cleaning. If the boom is filled with hydrocarbons and oils it should be replaced. Attach new boom to basket with plastic ties through pre-drilled holes in basket. Place the deflector shield (grate type only) back into the filter.

- Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
- The hydrocarbon boom may be classified as hazardous material and will have to be picked up and disposed of as hazardous waste. Hazardous material can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

2. Modular Wetland Systems, Inc. recommends the **separation chamber** be inspected and cleaned a minimum of once a year. The procedure is easily done with the use of any standard vacuum truck. Remove grate or manhole, remove catch basin filter, spray down pollutants accumulated on fiberglass media panels (do not spray media directly, doing so can damage the media), vacuum out separation chamber, replace catch basin filter, replace grate or manhole cover.

3. Modular Wetland Systems, Inc. recommends the **perimeter filter's** media be inspected and cleaned a minimum of once a year. The procedure will require prior maintenance of separation chamber. Remove grate, remove catch basin filter, enter separation chamber, unlatch top and bottom of each media protection panel, remove media protection panels to expose media, power wash surface, evaluate media condition, replace if necessary. New media blocks can be ordered from Modular Wetland Systems, Inc. Replace media protection panels, replace catch basin filter, replace grate or manhole cover.

4. Modular Wetland Systems, Inc. recommends the **drain down filter** be inspected and maintained a minimum of once a year. Open hatch of discharge chamber, enter chamber, unlatch fiberglass cover, remove media block, replace with new block, replace and latch cover. Exit chamber, close and lock down the hatch.

5. Modular Wetland Systems, Inc. recommends the **wetland filter** and its plants/vegetation be inspected and maintained a minimum of once a year. It is also recommended that the plants receive the same care as other landscaped areas. **Note: No fertilizer is to be used on this area.**

6. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanism. .

7. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.

8. Any person performing maintenance activities must have completed a minimum of OSHA 24-hour hazardous waste worker (hazwoper) training.

9. Remove access manhole lid or grate to gain access to filter screens and sediment chambers. Where possible the maintenance should be performed from the ground surface. Note: entry into an underground stormwater vault such as an inlet vault requires certification in confined space training.

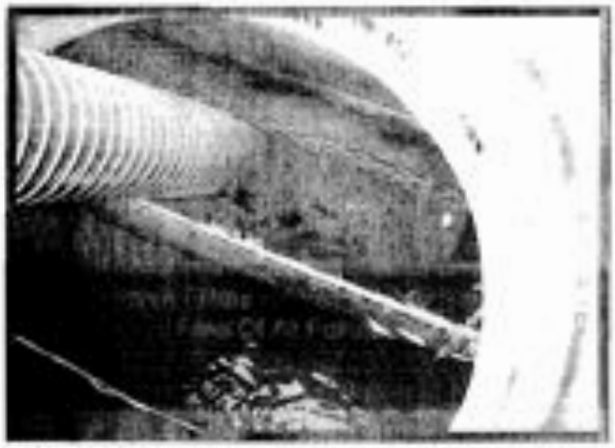
10. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.

11. The hydrocarbon boom is classified as hazardous material and will have to be picked up and disposed of as hazardous waste. Hazardous material can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

Maintenance Sequence

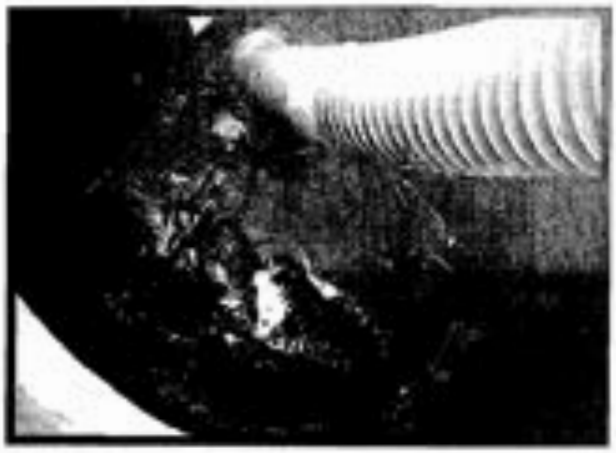
Service Crews Arrive On Site And Remove Access Manhole To Perform Maintenance Service.

Assess Condition and Pollutant Loading. A Few Gallons Of Water Are Sprayed Into Sediment Chamber To Allow Sediment To Be Vacuumed.



Catch Basin Filters Are Completely Vacuumed Free Of All Pollutants.

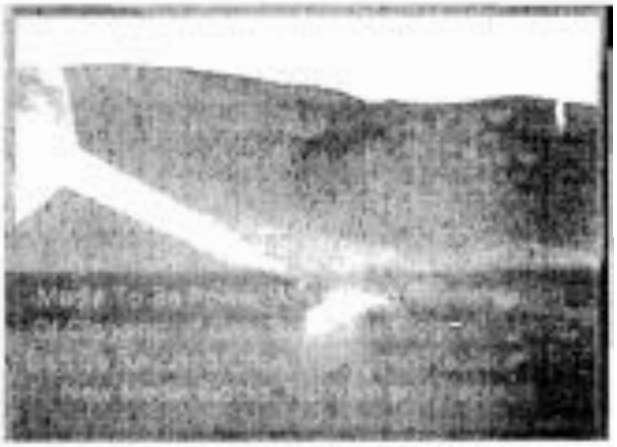
Cleaned Catch Basin Filters Are Removed Through Access Manhole To Allow For Unimpeded Access To Sediment Chamber.



Sediment Chamber Is Vacuumed Clean Of All Accumulated Sediment And Associated Pollutants.

Filter Media Shields Are Removed To Expose BioMediaGREEN Filter Media To Be Cleaned Or Replaced.

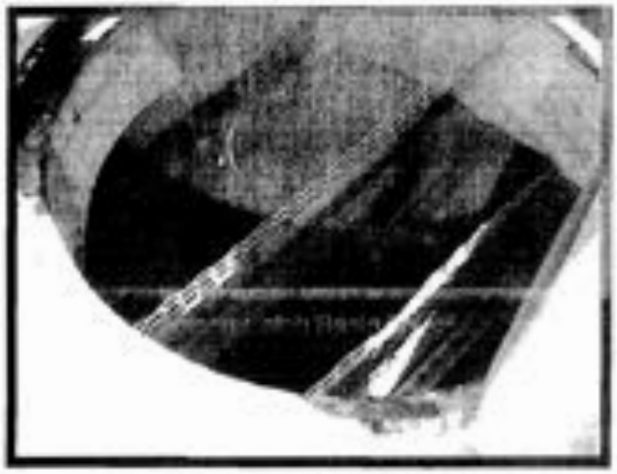
Exposed Filter Media Will Be Evaluated For Clogging And Loading Condition.



Media To Be Power Washed To Reveal Extent Of Clogging. If Only Surface Is Clogged, Media Can Be Re-Used Once. If Clogged Replace With New Media Blocks, Remove and Replace.

Washed Or New Media Is Now Ready For Use. If Media Was Replaced, Old Media Will Need To Be Properly Disposed Of Properly.

Replace Media Filter Panels And Lock Into Position.



Replace Catch Basin Filters.

Replace Access Manhole. Check Plants For Growth, Trim If Necessary. Service Is Complete. Total Service Time = 45 Minutes.

APPENDIX G

20-SCALE HYROLOGY / SUSMP

/ LID MAPS FOR

EXISTING UNDEVELOPED CONDITION

& PROPOSED DEVELOPED CONDITION

V.T.T.M. NO. 066208

EXISTING PRE-DEVELOPED CONDITION HYDROLOGY & L.I.D. MAP FOR THE VILLAGE AT CALABASAS

SUMMARY OF REGRESSION TC METHOD HYDROLOGY CALC

SUBAREA LOCATION	SUBAREA AREA (AC.)	50-YEAR INTENSITY	AVG. S (MIN/IN)	50-YEAR Tc (MIN.)	50-YEAR Q (C.F.S.)	50-YEAR P (IN/HR)	TRIBUTARY FLOW TO THIS AREA	TRIBUTARY FLOW TO AREA	NOTES
1A	5.73	7.47	50	5	39.8	7.47	8.0 CFS	5.7 CFS	Open Space & Landscaping Area at Mulch Cover Grade

VICINITY MAP

SUBAREA 1A
TOTAL A = 5.73 AC.
WEIGHTED IMP. = 40%
Tc = 5 MIN.
Q50 = 39.8 CFS
V50 = 3.91 ACRE-FT.

EXISTING CALABASAS INN

LEGEND

HYDROLOGIC DESIGN DATA

DESIGN RAINFALL FREQUENCY	— 50-YEAR CAPITAL FLOOD STORM
50-YR 24-HR DEPTH	— 7.5 INCHES
SOIL NO.	— D20
DEVELOPMENT CLASSIFICATION	— HOTEL WITH PARKING LOT & OPEN SPACE & LANDSCAPING AREA
RESISTIVE & IMPERVIOUSNESS	— D20 SLOPE & DRIVEWAYS & OPEN SPACE & LANDSCAPING & PLANTING AREAS

SCALE: 1" = 80'

OWNER/ DEVELOPER
D2 DEVELOPMENT & CONSTRUCTION INC.

PLAN PREPARED BY:
PACIFIC COAST CIVIL, INC.

SUMMARY OF REGRESSION TC METHODS HYDROLOGY, SUSMP & L.I.D. CALCS

SUBAREA LOCATION	SUBAREA AREA (ac.)	SOIL & IMPERV.	50-YEAR Tc (min.)	50-YEAR Q (cfs)	50-YEAR P (inch/hr)	SUSMP Vpost(CF)	SUSMP Vretain (ft)	L.I.D. Vpost (CF)	L.I.D. Vretain (CF)	NOTES
1A	5.73	90	7	17.3	1.99	0.49	0.473	1,196 1,196	0.00 0.00	Proposed 2 units of Modular Wetland Systems to meet SUSMP Water Quality Flow Rate & Volume of Proposed Development
1A2	1.29	7	5	3.9	2.75	-	-	-	-	Proposed SMP's are not required for Project Site
1B	0.72	50	-	11.9	1.83	-	-	-	-	

V.T.T.M. NO. 066208

PROPOSED DEVELOPED CONDITION HYDROLOGY, SUSMP & L.I.D. MAP FOR THE VILLAGE AT CALABASAS

SUBAREA 1A
TOTAL A = 5.73 AC.
Q50=17.3 cfs
Qp=0.49 cfs

SUBAREA 1A2
A = 1.29 AC.
Q50= 3.9 cfs

SUBAREA 1B1
A = 0.64 AC.
Q50= 11.9 cfs
Qp=0.49 cfs

PARK SORRENTO

SCALE: 1" = 80'

VICINITY MAP

LEGEND

HYDROLOGIC DESIGN DATA

DESIGN RAINFALL FREQUENCY	50-YEAR CAPITAL FLOOD STORM
SOIL NO.	90
DEVELOPMENT CLASSIFICATION	MIXED USE CONDOMINIUM WITH DRIVEWAYS & OPEN SPACE & LANDSCAPING AREA
ROOFTOP IMPERVIOUSNESS	100 (ROOF & DRIVEWAYS & WALK & LANDSCAPING & PERVIOUS PAVING)

OWNER/ DEVELOPER:
DZ DEVELOPMENT & CONSTRUCTION INC.

PLAN PREPARED BY:

Appendix G:

Noise Analysis

CAJA Environmental Services, LLC

11990 West San Vicente Boulevard, Suite 250
Los Angeles, CA 90049
Phone 310-469-6700 Fax 310-806-9801

May 9, 2013

Mr. Stephen T. Jordan, Vice President
The New Home Company
95 Enterprise, Suite 235
Aliso Viejo, CA 92656

RE: Noise Analysis for the Revised Village at Calabasas Project

Dear Mr. Jordan:

This letter evaluates the potential noise impacts associated with the proposed revisions ("Revised Project") to the approved Village at Calabasas Project ("Approved Project"). The Revised Project would not result in new significant noise impacts or a substantial increase in previously identified noise impacts. As such, the Revised Project's impact on noise would meet the criteria established in Section 15164 of the State CEQA Guidelines governing the preparation of an Addendum to an EIR.

Approved Project

The Approved Project contained 79 residential condominiums and 13,135 square feet of commercial space. The retail component would be located on the ground level with the residential condominiums located on levels one through four. A total of 302 parking spaces would be provided onsite through a combination of surface parking and an underground parking garage.

Revised Project

The Revised Project is a mixed-use development that includes 80 residential units and up to 11,700 square feet of neighborhood-serving commercial uses. A total of 294 parking spaces are proposed, including 90 spaces in a subterranean garage.

PROJECT IMPACTS

Construction Impacts

Approved Project

Construction of the Approved Project would entail the use of heavy equipment for demolition, excavation for subterranean parking, site grading, installation of utilities, paving, and building fabrication. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of development, there would be a different mix of equipment operating. Noise levels would vary based on the amount of equipment in operation and the location of the activity.

Noise levels associated with construction of the Approved Project would vary widely during the course of construction depending on the location and use of equipment. Typically, noise levels from construction activity would range from 75 dBA to 85 dBA at a distance of 50 feet. There would be times when construction noise would be audible at the property line; however, this would not be considered a significant impact.[1]

Revised Project

While the Revised Project increases built improvements, the Revised Project calls for a three-phase construction process that significantly reduces the scope of construction activities at any time, when compared to the Approved Project. Specifically, the proposed improvements would be built over a 32-month period starting in late 2013. Project phasing includes:

- Phase 1: 14 months of construction of Building 8 which is a mixed-use building with 11,700 sf of commercial development, 8 residential units, and 90 subterranean parking spaces; Building 2 comprising of 12 residential units over parking; and the project plaza and amenities. Total parking provided for Phase 1 is 149 spaces.
- Phase 2: 9 months of construction for Buildings 5, 6, and 7 (30 residential units), and 74 parking spaces.
- Phase 3: 9 months of construction for Buildings 1, 3, and 4 (30 residential units), and 71 parking spaces.

The phased construction schedule is over twice the duration of the Approved Project and results in much less noise-generating construction activity at any given time. Because significance thresholds are based on acute thresholds of significance, the smaller scope of construction activity at a given time will result in even fewer noise impacts when compared to the Approved Project. Although the construction activities at the project site would be phased, there may still be peak days of construction where noise levels at nearby off-site receptors can still be a nuisance due to the localized nature of noise.

Regardless, the Revised Project would still need to incorporate the same mitigation measures as the Approved Project. The Revised Project would be required to construct a four-story sound wall with specialty windows, dual glazed for sound, for the on-site residential units that would experience noise increases due to construction in later phases (see Architectural Plan G-3). These windows would provide a minimum noise reduction between exterior noise and interior noise of 30 dBA.[2] If interior noise does not exceed 55 dBA, there would be no significant impact. As exterior noise is not expected to exceed 85 dBA, interior noise would not exceed 55 dBA and construction noise would not result in a significant impact upon the any occupied building.[3]

Construction must also be restricted to daily operation between 7:00 AM and 7:00 PM Monday through Friday, and 8:00 AM to 5:00 PM on Saturdays. There should be no work on Sundays or federal holidays. All construction equipment would be properly maintained and utilize exhaust mufflers, and engine enclosure covers.

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[1] *City of Calabasas, Village at Calabasas Draft Environmental Impact Report, April 2009.*

[2] *Davy & Associates, Task 5 Acoustical Anlysis and Report The Village at Calabasas, Seniors Community Living Calabasas, California, March 2010.*

[3] *Ibid.*

Ultimately, the Revised Project would result in less construction-related noise at any given time when compared to the Approved Project. Further, any potential noise impacts for on-site sensitive receptors (e.g., residents from Phase 1 residential units) would also be considered less than the Approved Project and less than significant.

Operational Impacts

Approved Project

The Certified EIR found that the Approved Project would not result in significant noise impacts during the long-term operation of the project. For example, noise from traffic generated by the Approved Project is expected to contribute to ambient noise levels along local roadways, including Park Sorrento and Calabasas Road. The increases in ambient noise due to the Approved Project range from 0.6 dBA to 1.1 dBA. These are considered negligible, as most people cannot distinguish noise level changes of 1 or 2 dBA. A noise level of 3 dBA begins to become noticeable and a noise level change of 5 dBA is considered significant. Based on this analysis, there would be no significant noise level changes or noise level impacts due to future year traffic volumes.[4]

Revised Project

The Revised Project would generate long-term operational noise impacts primarily from traffic traveling to and from the site. Project-related traffic noise levels were estimated for existing and future years with and without the Revised Project based on increases in traffic volumes. In addition, 15-minute noise measurements were performed along three nearby locations to confirm existing traffic noise levels (see appendix to this study). These segments include:

- Park Granada from Park Sorrento to Parkway Calabasas;
- Park Sorrento from Park Granada to Park Ora; and
- Park Ora from Park Sorrento to Valmar Road.

According to the Caltrans Technical Noise Supplement, traffic volumes need to double to create an audible noise increase.[5] The largest increase in vehicle traffic along the analyzed street segments occurs during the A.M. peak hour along Park Sorrento between Park Granada and Park Ora. In the future plus project scenario, traffic at this segment increases 18 percent from existing conditions. This is 72 percent less than what is needed to cause an audible 3 dBA increase in traffic noise.[6] Additionally, the Revised Project would generate 1,399 daily trips, which is 121 fewer trips than what was estimated for the Approved Project.[7] Because the Approved Project would have produced negligible ambient noise increases of 1.1 dBA along nearby roadways, the Revised Project's even smaller traffic impacts would result in even smaller increases in ambient traffic-related noise.

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[4] *Ibid.*

[5] *California Department of Transportation, Technical Noise Supplement, Page N-168, October 1998.*

[6] *Ibid.*

[7] *Updated Traffic, Circulation, and Parking Study for the Village at Calabasas Mixed-Use Project – City of Calabasas, Associated Transportation Engineers, March 22, 2013.*

To assess the impact of ambient noise levels on future residents of the Revised Project, 24-hour noise measurements were taken. 24-hour L_{eq} values were utilized to calculate the Community Noise Equivalent Level (CNEL) and the Day Night Level (L_{dn}). The CNEL is the energy average of all 24-hour L_{eq} values with the three evening hours between 7:00 P.M. and 10:00 P.M. increased in value by 5 dB and the nine nighttime hours between 10:00 P.M. and 7:00 A.M. increased in value by 10 dB. The L_{dn} is similar to the CNEL except that there is no upward shift of the recorded L_{eq} values between the evening hours of 7:00 P.M. to 10:00 P.M.

The results of these noise measurements indicate that the north property line of the site is exposed to a CNEL 61.4 value. The exact locations of the monitored areas are included in the appendix to this analysis. These monitored noise levels are shown in Table 1 below with the monitored levels from the DEIR of the Approved Project.

TABLE 1: 24-Hour Ambient CNEL Noise Levels

Measurement Location	Approved Project DEIR (2008)	Revised Project (2013)
Northern Property Boundary	62.3	61.4

SOURCE: DKA Planning, 2013.

A noise level of between 60 to 65 dBA CNEL is considered to be conditionally acceptable by the California Office of Noise Control, Department of Health Services.[8] A detailed acoustical analysis was performed in 2009 to ensure that the structures provided as part of the Approved Project would have an interior CNEL of a maximum of 45 dBA.[9] Therefore, the Revised Project would not result in siting new receptors in an existing environment that is not compatible with residential land uses. As a result, the impact of locating future residents in an environment with noise sources would be considered a less than significant impact.

CONCLUSION

The Revised Project would result in fewer noise impacts than the Approved Project by virtue of its increased phasing of construction and reduced traffic impacts. As a result, the Revised Project would not result in new significant noise impacts or a substantial increase in previously identified noise impacts. Therefore, the Revised Project would meet the criteria established in Section 15164 of State CEQA Guidelines that govern the preparation of an Addendum to an EIR.

[8] *Guidelines for the Preparation and Content of Noise Elements of the General Plan, Office of Noise Control and Governors Office of Planning and Research, 1976*

[9] *Davy & Associates, Task 3 Acoustical Analysis and Report The Village at Calabasas, Seniors Community Living Calabasas, California, November 2009.*

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CAJA Environmental Services, LLC

Stacie Henderson
Project Manager

2
1
3
Village at Calabasas
Noise Monitoring Locations
24-Hour Noise Monitoring Location
15-Minute Noise Monitoring Locations
Project Site
0 105 210 420 630 840
Feet
N
Data Sources: U.S. Census Bureau,
Cal-Atlas: State Geospatial Clearinghouse,
CAJA Environmental Services, and DKA Planning.

Calabasas: Park Granada

12/27/2012

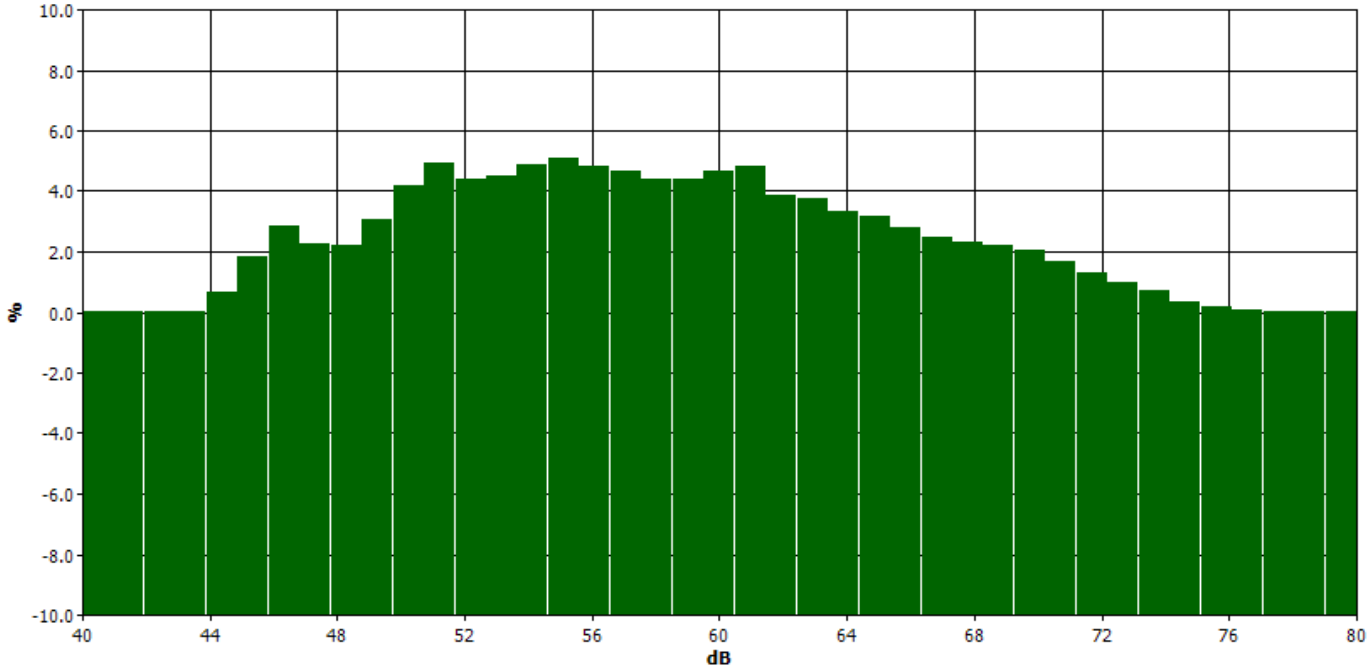
Information Panel

Name	S003_BIJ050019_19112012_174547
Start Time	Saturday, November 03, 2012 10:59:11
Stop Time	Saturday, November 03, 2012 11:14:11
Device Model Type	SoundPro DL
Comments	

General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	64.1 dB	Exchange Rate	1	3 dB
Weighting	1	A	Response	1	FAST
Bandwidth	1	1/3	Exchange Rate	2	3 dB
Weighting	2	C	Response	2	SLOW

Statistics Chart



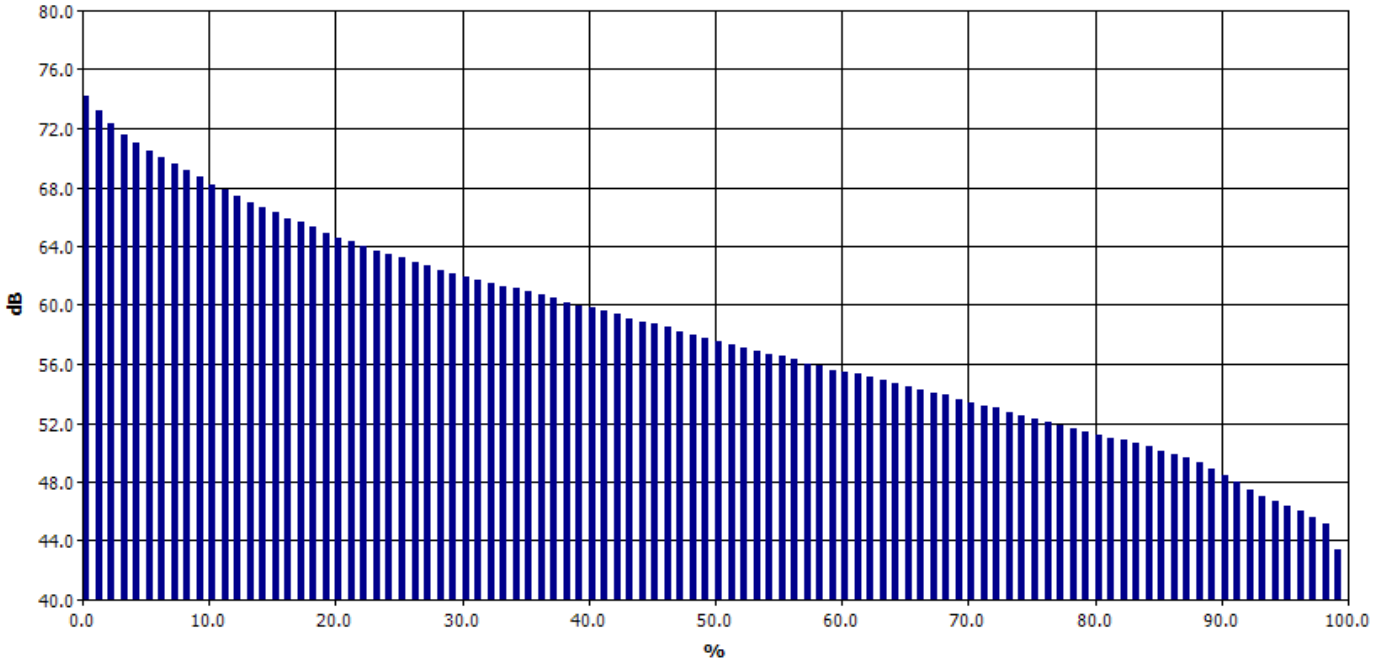
Statistics Table

dB	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.7
45.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.3	0.2	1.9
46.0	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.4	2.9
47.0	0.3	0.3	0.3	0.1	0.3	0.2	0.2	0.1	0.2	0.2	2.3
48.0	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	2.2
49.0	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.3	3.1
50.0	0.4	0.5	0.5	0.1	0.4	0.4	0.4	0.4	0.4	0.5	4.2
51.0	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.5	5.0
52.0	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	4.4
53.0	0.5	0.5	0.5	0.2	0.4	0.5	0.5	0.5	0.4	0.5	4.5
54.0	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	4.9
55.0	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.4	5.1
56.0	0.5	0.5	0.6	0.3	0.6	0.5	0.5	0.4	0.4	0.4	4.8
57.0	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.5	0.5	4.6
58.0	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	4.4
59.0	0.5	0.6	0.5	0.2	0.3	0.4	0.5	0.5	0.4	0.4	4.4
60.0	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	4.6
61.0	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.8
62.0	0.4	0.5	0.5	0.3	0.3	0.4	0.4	0.3	0.4	0.4	3.9
63.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	3.8
64.0	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.3
65.0	0.3	0.3	0.3	0.2	0.2	0.4	0.4	0.4	0.3	0.3	3.2
66.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	2.8

Statistics Table (cont'd)

dB	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
67.0	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	2.5
68.0	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	2.3
69.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.2
70.0	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.0
71.0	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	1.7
72.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.3
73.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0
74.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.7
75.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
76.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
77.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
78.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Exceedance Chart



Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		74.2	73.2	72.3	71.6	71.0	70.5	70.0	69.6	69.1
10%	68.7	68.2	67.8	67.4	67.0	66.6	66.3	65.9	65.6	65.3
20%	64.9	64.6	64.3	64.0	63.7	63.5	63.2	62.9	62.7	62.4
30%	62.1	61.9	61.7	61.5	61.3	61.1	60.9	60.7	60.5	60.2
40%	60.0	59.8	59.6	59.4	59.1	58.9	58.7	58.5	58.2	58.0
50%	57.8	57.5	57.3	57.1	56.9	56.7	56.5	56.3	56.0	55.9
60%	55.6	55.4	55.3	55.1	54.9	54.7	54.5	54.2	54.0	53.9
70%	53.6	53.4	53.2	53.0	52.7	52.5	52.3	52.0	51.8	51.6
80%	51.4	51.2	51.0	50.8	50.6	50.4	50.1	49.9	49.6	49.3
90%	48.9	48.4	48.0	47.5	47.0	46.7	46.4	46.0	45.6	45.1
100%	43.4									

Calabasas: Park Mirasol

12/27/2012

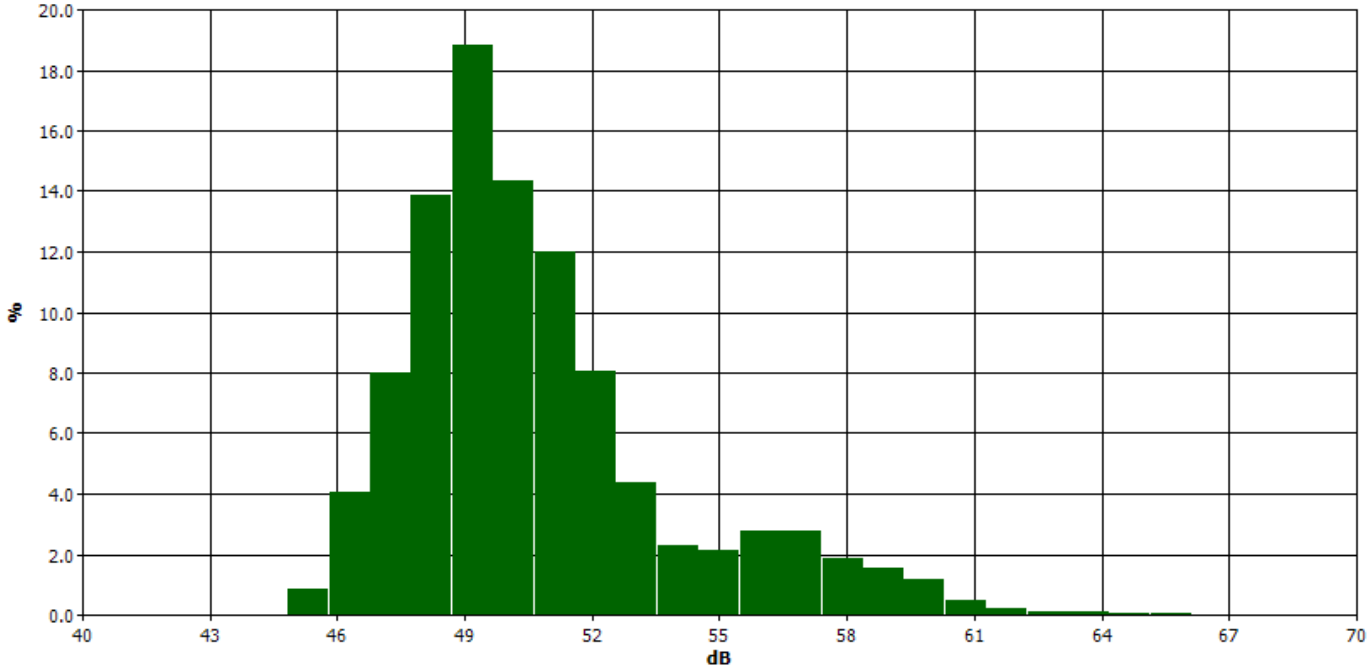
Information Panel

Name	S001_BIJ050019_19112012_174509
Start Time	Saturday, November 03, 2012 10:15:56
Stop Time	Saturday, November 03, 2012 10:30:56
Device Model Type	SoundPro DL
Comments	

General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	52.8 dB	Exchange Rate	1	3 dB
Weighting	1	A	Response	1	FAST
Bandwidth	1	1/3	Exchange Rate	2	3 dB
Weighting	2	C	Response	2	SLOW

Statistics Chart



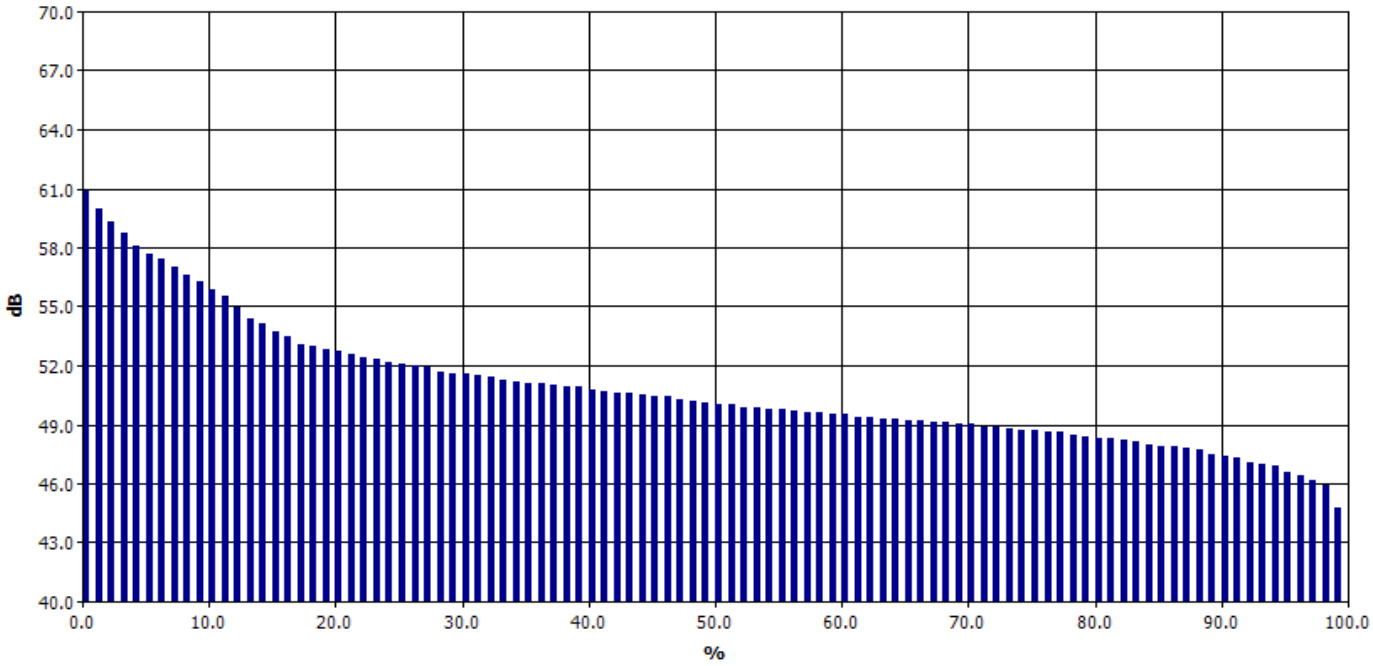
Statistics Table

dB	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.8
46.0	0.3	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.5	4.1
47.0	0.6	0.7	0.8	0.3	0.9	0.9	0.9	0.9	1.0	1.0	8.0
48.0	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	13.9
49.0	1.8	1.8	1.9	2.0	2.0	2.0	1.9	1.9	1.8	1.8	18.8
50.0	1.7	1.7	1.6	0.6	1.4	1.4	1.5	1.5	1.4	1.5	14.4
51.0	1.3	1.4	1.3	1.2	1.4	1.2	1.1	1.1	1.0	1.0	12.0
52.0	1.0	0.9	0.9	0.9	0.7	0.8	0.8	0.8	0.7	0.7	8.1
53.0	0.7	0.6	0.6	0.2	0.4	0.4	0.4	0.4	0.4	0.4	4.4
54.0	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.2	2.3
55.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	2.1
56.0	0.3	0.3	0.4	0.1	0.3	0.3	0.3	0.3	0.3	0.3	2.8
57.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	2.7
58.0	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	1.8
59.0	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	1.5
60.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.2
61.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.5
62.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
63.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
64.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
65.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
66.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Statistics Table (cont'd)

dB	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
67.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
68.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
69.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Exceedance Chart



Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		60.9	60.0	59.3	58.7	58.1	57.7	57.4	57.0	56.6
10%	56.3	55.9	55.5	55.0	54.4	54.1	53.7	53.5	53.1	53.0
20%	52.8	52.7	52.6	52.4	52.3	52.2	52.1	52.0	51.9	51.7
30%	51.6	51.6	51.5	51.4	51.3	51.2	51.1	51.1	51.0	50.9
40%	50.9	50.8	50.7	50.6	50.6	50.5	50.4	50.4	50.3	50.2
50%	50.1	50.0	50.0	49.9	49.9	49.8	49.8	49.7	49.6	49.6
60%	49.5	49.5	49.4	49.4	49.3	49.3	49.2	49.2	49.1	49.1
70%	49.0	49.0	48.9	48.9	48.8	48.7	48.7	48.6	48.6	48.5
80%	48.4	48.3	48.3	48.2	48.1	48.0	47.9	47.9	47.8	47.7
90%	47.5	47.4	47.3	47.1	47.0	46.9	46.6	46.4	46.2	45.9
100%	44.8									

Calabasas: Park Sorrento

12/27/2012

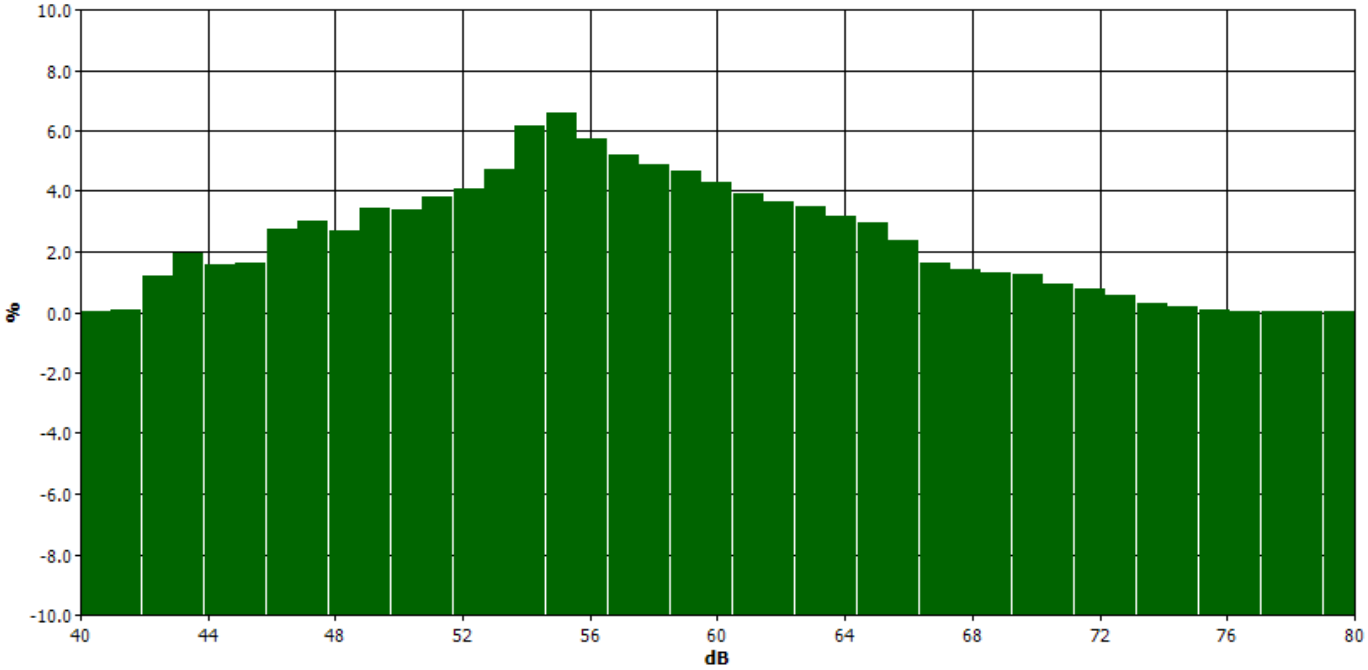
Information Panel

Name	S002_BIJ050019_19112012_174544
Start Time	Saturday, November 03, 2012 10:37:55
Stop Time	Saturday, November 03, 2012 10:52:55
Device Model Type	SoundPro DL
Comments	

General Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	62.6 dB	Exchange Rate	1	3 dB
Weighting	1	A	Response	1	FAST
Bandwidth	1	1/3	Exchange Rate	2	3 dB
Weighting	2	C	Response	2	SLOW

Statistics Chart



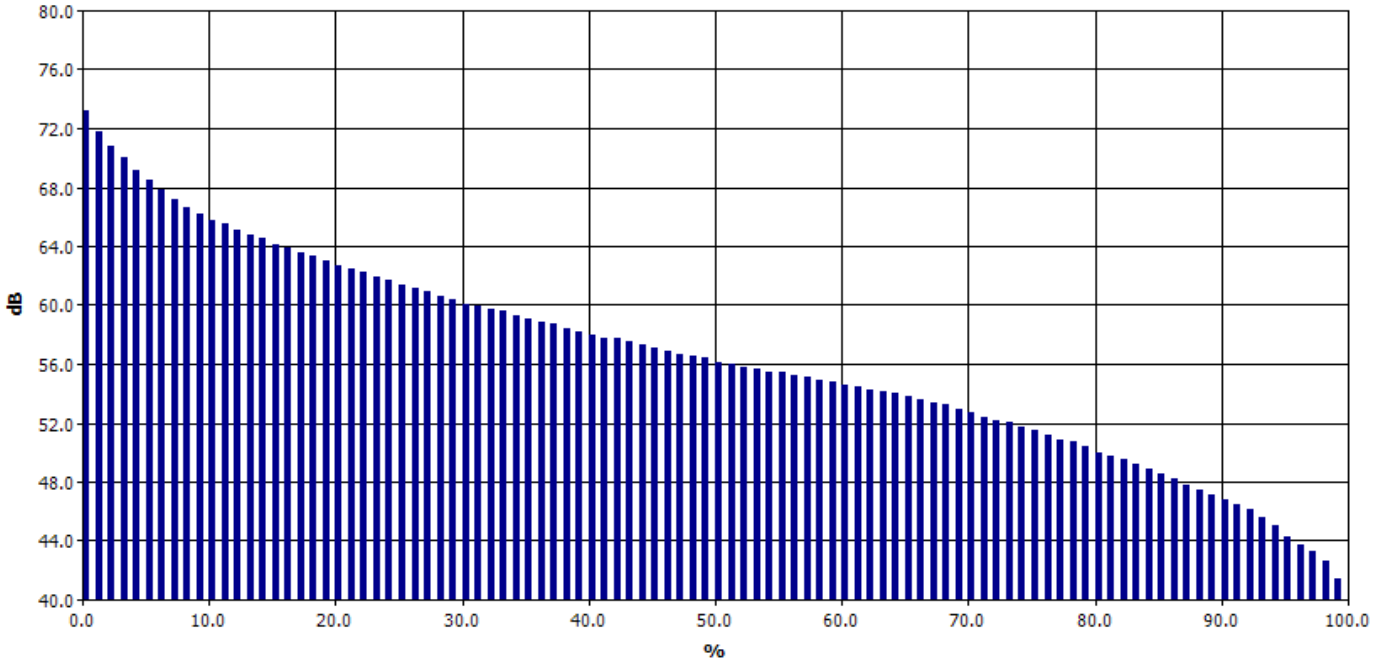
Statistics Table

dB	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
42.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	1.2
43.0	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.9
44.0	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	1.6
45.0	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	1.6
46.0	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	2.7
47.0	0.4	0.3	0.4	0.1	0.3	0.3	0.3	0.3	0.3	0.3	3.0
48.0	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.3	2.7
49.0	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.4	3.4
50.0	0.4	0.4	0.4	0.1	0.4	0.3	0.3	0.3	0.4	0.4	3.4
51.0	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	3.8
52.0	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	4.1
53.0	0.4	0.4	0.4	0.2	0.6	0.6	0.6	0.6	0.5	0.5	4.7
54.0	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.7	6.2
55.0	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	6.6
56.0	0.6	0.6	0.7	0.3	0.6	0.6	0.6	0.6	0.6	0.5	5.7
57.0	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	5.2
58.0	0.6	0.6	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	4.9
59.0	0.5	0.5	0.5	0.3	0.3	0.5	0.5	0.5	0.5	0.5	4.6
60.0	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.3
61.0	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	3.9
62.0	0.4	0.4	0.4	0.2	0.3	0.4	0.4	0.4	0.4	0.4	3.7
63.0	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	3.5
64.0	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.2
65.0	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	3.0
66.0	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	2.4

Statistics Table (cont'd)

dB	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
67.0	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2	1.6
68.0	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	1.4
69.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.3
70.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.2
71.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.9
72.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8
73.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.6
74.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
76.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
77.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Exceedance Chart



Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		73.2	71.8	70.8	70.0	69.2	68.5	67.8	67.2	66.6
10%	66.2	65.8	65.5	65.1	64.8	64.5	64.1	63.9	63.6	63.3
20%	63.0	62.7	62.5	62.2	61.9	61.7	61.4	61.1	60.9	60.6
30%	60.4	60.1	59.9	59.7	59.6	59.3	59.1	58.9	58.7	58.4
40%	58.2	58.0	57.8	57.7	57.5	57.3	57.1	56.9	56.7	56.5
50%	56.4	56.1	56.0	55.8	55.7	55.5	55.4	55.2	55.1	54.9
60%	54.8	54.6	54.5	54.3	54.1	54.0	53.8	53.6	53.4	53.3
70%	52.9	52.7	52.4	52.2	52.0	51.7	51.5	51.2	50.9	50.7
80%	50.4	50.0	49.8	49.5	49.2	48.9	48.5	48.2	47.8	47.5
90%	47.1	46.8	46.5	46.1	45.6	45.0	44.3	43.7	43.3	42.6
100%	41.4									

Results of 24-hour Noise Measurements

Project	Village at Calabasas
Date	11/3/2012 through 11/4/2012
Duration	24 Hours
LEQ	54.7
Ldn	61.1
CNEL	61.4

Results of 15-minute Noise Measurements (LEQ)

Date	3-Nov-12
Park Mirasol (1)	52.8
Park Sorrento (2)	62.6
Park Granada (3)	64.1

Calabasas Mobile Noise

Existing Conditions AM Peak

ROAD SEGMENT			TOT. # VEH.	VEHICLE TYPE % Auto %	Auto	MT %	MT	HT %	HT
	from:	to:							
Park Granada	Park Sorrento	Parkway Calabasas	984	91	895	6	59	3	30
Park Sorrento	Park Granada	Park Ora	480	91	437	6	29	3	14
Park Ora	Park Sorrento	Valmar/Old Topanga Canyon	993	91	904	6	60	3	30
				91	0	6	0	3	0
				91	0	6	0	3	0
				91	0	6	0	3	0
				91	0	6	0	3	0

Existing Plus Project AM Peak

ROAD SEGMENT			TOT. # VEH.	VEHICLE TYPE % Auto %	Auto	MT %	MT	HT %	HT	Increase from Existing
	from:	to:								
Park Granada	Park Sorrento	Parkway Calabasas	996	91	854	6	56	3	28	1.17%
Park Sorrento	Park Granada	Park Ora	528	91	480	6	32	3	16	9.90%
Park Ora	Park Sorrento	Valmar/Old Topanga Canyon	1017	91	925	6	61	3	31	2.42%
				91	0	6	0	3	0	0
				91	0	6	0	3	0	0
				91	0	6	0	3	0	0
				91	0	6	0	3	0	0

Future No Project AM Peak

ROAD SEGMENT			TOT. # VEH.	VEHICLE TYPE % Auto %	Auto	MT %	MT	HT %	HT
	from:	to:							
Park Granada	Park Sorrento	Parkway Calabasas	1063	91	967	6	64	3	32
Park Sorrento	Park Granada	Park Ora	518	91	471	6	31	3	16
Park Ora	Park Sorrento	Valmar/Old Topanga Canyon	1072	91	976	6	64	3	32
				91	0	6	0	3	0
				91	0	6	0	3	0
				91	0	6	0	3	0
				91	0	6	0	3	0

Proposed Project AM Peak

ROAD SEGMENT			TOT. # VEH.	VEHICLE TYPE % Auto %	Auto	MT %	MT	HT %	HT	Increase from Base	Increase from Existing
	from:	to:									
Park Granada	Park Sorrento	Parkway Calabasas	1074	91	977	6	64	3	32	1.08%	9.15%
Park Sorrento	Park Granada	Park Ora	567	91	516	6	34	3	17	9.46%	18.13%
Park Ora	Park Sorrento	Valmar/Old Topanga Canyon	1096	91	997	6	66	3	33	2.24%	10.37%
				91	0	6	0	3	0	0	0
				91	0	6	0	3	0	0	0
				91	0	6	0	3	0	0	0
				91	0	6	0	3	0	0	0

Calabasas Mobile Noise

Existing Conditions PM Peak

			TOT. # VEH.	Auto	VEHICLE TYPE %	MT		HT	
ROAD SEGMENT	from:	to:		%	Auto	%	MT	%	HT
Park Granada	Park Sorrento	Parkway Calabasas	938	91	854	6	56	3	28
Park Sorrento	Park Granada	Park Ora	557	91	507	6	33	3	17
Park Ora	Park Sorrento	Valmar/Old Topanga Canyon	927	91	843	6	56	3	28
				91	0	6	0	3	0
				91	0	6	0	3	0
				91	0	6	0	3	0
				91	0	6	0	3	0

Existing Plus Project PM Peak

			TOT. # VEH.	Auto	VEHICLE TYPE %	MT		HT		
ROAD SEGMENT	from:	to:		%	Auto	%	MT	%	HT	Increase from Existing
Park Granada	Park Sorrento	Parkway Calabasas	949	91	864	6	57	3	28	1.17%
Park Sorrento	Park Granada	Park Ora	609	91	554	6	37	3	18	9.34%
Park Ora	Park Sorrento	Valmar/Old Topanga Canyon	953	91	867	6	57	3	29	2.81%
				91	0	6	0	3	0	0
				91	0	6	0	3	0	0
				91	0	6	0	3	0	0
				91	0	6	0	3	0	0

Future No Project PM Peak

			TOT. # VEH.	Auto	VEHICLE TYPE %	MT		HT	
ROAD SEGMENT	from:	to:		%	Auto	%	MT	%	HT
Park Granada	Park Sorrento	Parkway Calabasas	1013	91	922	6	61	3	30
Park Sorrento	Park Granada	Park Ora	602	91	548	6	36	3	18
Park Ora	Park Sorrento	Valmar/Old Topanga Canyon	1001	91	911	6	60	3	30
				91	0	6	0	3	0
				91	0	6	0	3	0
				91	0	6	0	3	0
				91	0	6	0	3	0

Proposed Project PM Peak

			TOT. # VEH.	Auto	VEHICLE TYPE %	MT		HT			
ROAD SEGMENT	from:	to:		%	Auto	%	MT	%	HT	Increase from Base	Increase from Existing
Park Granada	Park Sorrento	Parkway Calabasas	1024	91	932	6	61	3	31	1.09%	9.17%
Park Sorrento	Park Granada	Park Ora	654	91	595	6	39	3	20	8.64%	17.41%
Park Ora	Park Sorrento	Valmar/Old Topanga Canyon	1027	91	935	6	62	3	31	2.60%	10.85%
				91	0	6	0	3	0	0	0
				91	0	6	0	3	0	0	0
				91	0	6	0	3	0	0	0
				91	0	6	0	3	0	0	0

Appendix H:

Fire Department Letter

Attachment D

COUNTY OF LOS
FIRE DEPART

5823 Rickenbacker Road
Commerce, California 90040

CONDITIONS OF APPROVAL FOR SUBDIVISIONS - INCORPORATED

Subdivision No: TR 66208
23500 Park Sorrento

Map Date January 28, 2013

C.U.P

City Calabasas

☐ **FIRE DEPARTMENT HOLD** on the tentative map shall remain until verification from the Los Angeles County Fire Dept. Planning Section is received, stating adequacy of service. Contact (323) 881–2404.

☒ Access shall comply with Section 503 of the Fire Code, which requires all weather access. All weather access may require paving.

☐ Fire Department Access shall be extended to within 150 feet distance of any exterior portion of all structures.

☐ Where driveways extend further than 150 feet and are of single access design, turnarounds suitable for fire protection equipment use shall be provided and shown on the final map. Turnarounds shall be designed, constructed and maintained to insure there integrity for Fire Department use. Where topography dictates, turnarounds shall be provided for driveways that extend over 150 feet in length.

☒ Private driveways shall be indicated on the final map as "Private Driveway and Firelane" with the widths clearly depicted and shall be maintained in accordance with the Fire Code. All required fire hydrants shall be installed, tested and accepted prior to construction.

☒ Vehicular access must be provided and maintained serviceable throughout construction to all required fire hydrants. All required fire hydrants shall be installed, tested and accepted prior to construction.

☒ This property is located within the area described by the Fire Department as "Very High Fire Hazard Severity Zone" (formerly Fire Zone 4). A "Fuel Modification Plan" shall be submitted and approved prior to final map clearance. (Contact Fuel Modification Unit, Fire Station #32, 605 North Angeleno Avenue, Azusa, CA 91702-2904, Phone (626) 969-5205, for details).

☒ Provide Fire Department or City approved street signs and building access numbers prior to occupancy.

☐ Additional fire protection systems shall be installed in lieu of suitable access and/or fire protection water.

☐ The final concept map, which has been submitted to this department for review, has fulfilled the conditions of approval recommended by this department for access only.

☐ These conditions shall be secured by a C.U.P. and/or Covenant and Agreement approved by the County of Los Angeles Fire Department prior to final map clearance.

☐ The Fire Department has no additional requirements for this division of land.

Comments: Access is adequate as shown on the Tentative Tract Map dated January 28, 2013 on file in this office.
This project is cleared for public hearing.

Submit architectural drawings to Fire Prevention Engineering, Calabasas, Contact (818-880-0341) for additional Fire Department requirements for the building plan check.
SUBMIT TWO COPIES OF THE FINAL MAP TO LACoFD, LAND DEVELOPMENT FOR REVIEW AND APPROVAL PRIOR TO RECORDATION.

INSPECTOR Nancy Rodeheffer DATE February 8, 2013

Land Development Unit – Fire Prevention Division – (323) 890-4243, Fax (323) 890-9783

Form 266 9/01

COUNTY OF LOS ANGELES FIRE DEPARTMENT

5823 Rickenbacker Road
Commerce, California 90040

WATER SYSTEM REQUIREMENTS – INCORPORATED

Subdivision No: TR 66208
23500 Park Sorrento

Map Date January 28, 2013

Revised Yes

City Calabasas

☒ Provide water mains, fire hydrants and fire flows as required by the County of Los Angeles Fire Department, for all land shown on map which shall be recorded.

☒ The required fire flow for public fire hydrants at this location is **2250** gallons per minute at 20 psi for a duration of 2 hours, over and above maximum daily domestic demand. 2 Hydrant(s) flowing simultaneously may be used to achieve the required fire flow.

☒ The required fire flow for private on-site hydrants is **2250** gallons per minute at 20 psi. Each private on-site hydrant must be capable of flowing **1250** gallons per minute at 20 psi with two hydrants flowing simultaneously, one of which must be the furthest from the public water source.

☒ Fire hydrant requirements are as follows:

Install 1 public fire hydrant(s). Upgrade / Verify ____ existing Public fire hydrant(s).
Install 2 private on-site fire hydrant(s). Relocate ____ public fire hydrant(s).

☒ All hydrants shall measure 6"x 4"x 2-1/2" brass or bronze, conforming to current AWWA standard C503 or approved equal. All on-site hydrants shall be installed a minimum of 25' feet from a structure or protected by a two (2) hour rated firewall.

☒ Location: As per map on file with this office.
☒ Other location: **Install 1 new public fire hydrant as indicated on the Tentative Tract Map markup dated January 28, 2013.**
Install 2 new on-site fire hydrants as indicated on the Tentative Tract Map markup dated January 28, 2013.

☒ All required fire hydrants shall be installed, tested and accepted or bonded for prior to Final Map approval. Vehicular access must be provided and maintained serviceable throughout construction.

☐ The County of Los Angeles Fire Department is not setting requirements for water mains, fire hydrants and fire flows as a condition of approval for this division of land as presently zoned and/or submitted.

☒ Additional water system requirements may be required when this land is further subdivided and/or during the building permit process.

☐ Hydrants and fire flows are adequate to meet current Fire Department requirements.

☐ Upgrade not necessary, if existing hydrant(s) meet(s) fire flow requirements.

SUBMIT COMPLETED (ORIGINAL ONLY) FIRE FLOW AVAILABILITY FORM TO THIS OFFICE FOR REVIEW.

COMMENTS: **Per Las Virgenes Municipal Water District, the Fire Flow Availability form dated January 15, 2013, hydrants and flows for existing public fire hydrants meet the current Fire Department requirements.**
Additional on-site fire hydrants required.
Submit two sets of fire hydrant improvement plans for the public fire hydrant that is to be relocated, to this office for review and approval prior to clearance of the final map.
Submit two sets of plans for the required On-Site Fire Hydrant(s) to Fire Prevention Sprinkler Unit, 5823 Rickenbacker Rd., Commerce, CA 90040 for review and approval.

All hydrants shall be installed in conformance with Title 20, County of Los Angeles Government Code and County of Los Angeles Fire Code, or appropriate City regulations. This shall include minimum six-inch diameter mains. Arrangements to meet these requirements must be made with the water purveyor serving the area.

By Inspector [signature] Date February 8, 2013

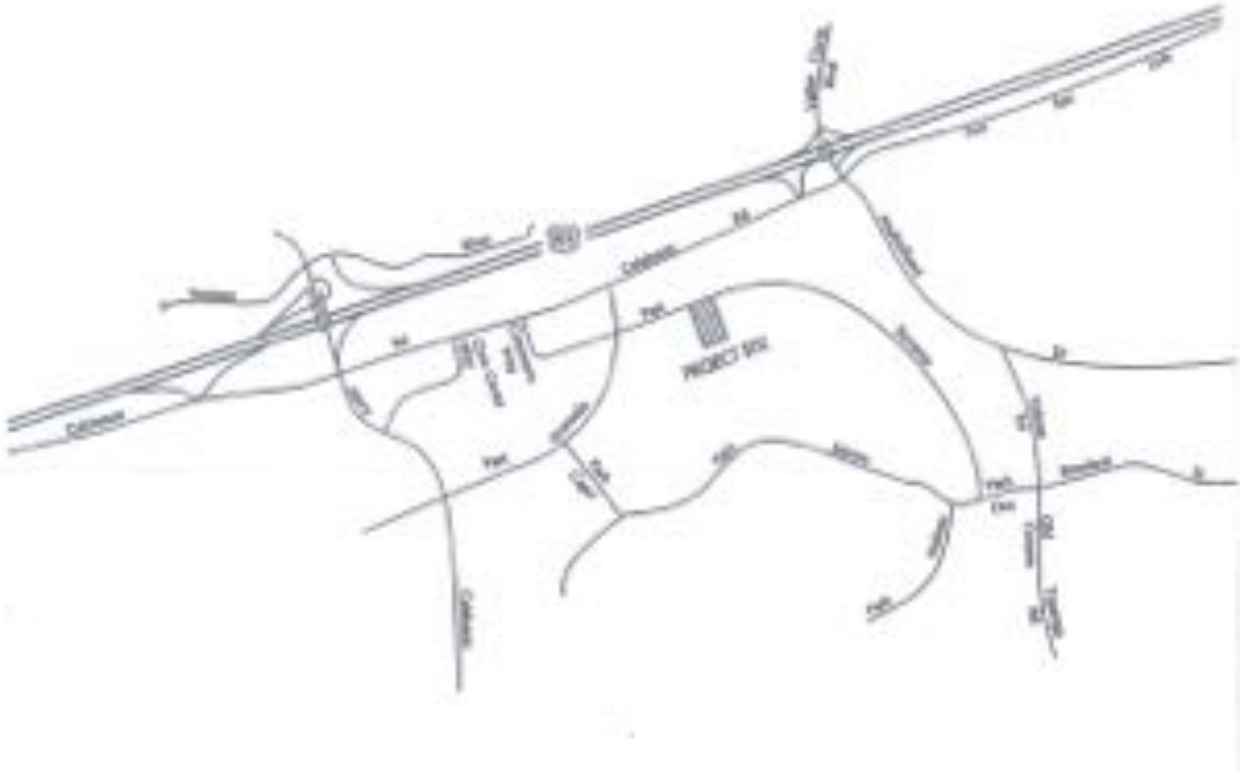
Land Development Unit – Fire Prevention Division – (323) 890-4243, Fax (323) 890-9783

Appendix I:

Traffic and Parking Study

THE VILLAGE AT CALABASAS MIXED-USE PROJECT
CITY OF CALABASAS, CALIFORNIA

UPDATED TRAFFIC, CIRCULATION, AND PARKING STUDY



June 11, 2013

ATE #12088

Prepared For:

Larry Dinovitz
D2 Construction, Inc.
23500 Park Sorrento
Calabasas, CA 91302

ASSOCIATED TRANSPORTATION ENGINEERS

100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110-1686 • (805) 687-4418 • FAX (805) 682-8509

ASSOCIATED TRANSPORTATION ENGINEERS
100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805) 687-4418 • FAX (805) 682-8509
Since 1979

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

June 11, 2013

12088R04.wpd

Larry Dinovitz
D2 Construction, Inc.
23500 Park Sorrento
Calabasas, CA 91302

UPDATED TRAFFIC, CIRCULATION, AND PARKING STUDY FOR THE VILLAGE AT CALABASAS MIXED-USE PROJECT, CITY OF CALABASAS, CALIFORNIA

Associated Transportation Engineers (ATE) has prepared the following updated traffic, circulation, and parking study for The Village at Calabasas Mixed-Use Project, located in the City of Calabasas. ATE prepared and submitted the original study for the project to the City in 2007. This study has been updated to reflect the current project description, and addresses the comments made by the City of Calabasas Development Review Committee in their letter dated February 12, 2013 and the comments included in the peer review of the Technical Studies for the Revised Village at Calabasas Project completed by ESA on April 23, 2013.

We appreciate the opportunity to assist you with this project.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Principal Transportation Planner

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INTRODUCTION

The following updated traffic, circulation, and parking study contains an analysis of the potential traffic and circulation impacts associated with The Village at Calabasas Mixed-Use Project, located on Park Sorrento in the City of Calabasas, California. The report provides information relative to existing and future traffic conditions within the study-area and reviews the project's site access, circulation, and parking plans.

PROJECT DESCRIPTION

The project site is located on 23500 Park Sorrento, approximately 500 feet east of the Park Granada/Park Sorrento intersection. The project's location within the City of Calabasas is shown in Figure 1. The site was previously occupied by the Calabasas Inn, which operated as an event facility that accommodated both private and corporate events such as weddings and conferences. The site is currently leased as office space.

The Village at Calabasas Project was approved by the City in 2008 as a mixed-use development with 79 residential condominiums and 13,135 SF of commercial space, including two restaurants with indoor and outdoor seating areas (Approved Project). The applicant is proposing to modify the approved project and construct a mixed-use development consisting of 80 residential condominiums, 3,700 SF of commercial/retail space, and a sit-down restaurant with 7,000 SF of indoor dining area and an additional 1,000 SF of outdoor patio seating (8,000 SF total). Access to the site would be provided via two driveways on Park Sorrento. A total of 294 parking spaces are proposed for the project with 90 spaces located in a subterranean garage, 60 surface level spaces and 144 enclosed parking spaces reserved for residents. Figure 2 presents the project site plan.

STUDY METHODOLOGY

The intersections analyzed in this study are located in three jurisdictions: the City of Calabasas, the City of Los Angeles and the County of Los Angeles. The traffic analysis scenarios required by each jurisdiction are outlined below.

City of Calabasas, City of Los Angeles and County of Los Angeles Traffic Scenarios:

1. Existing traffic;
2. Existing plus project;
3. Existing traffic plus growth to the year the project will be completed (Year 2016);
4. Traffic in (3) plus project;
5. Traffic in (4) with the proposed mitigation measures (if necessary).

City of Calabasas and County of Los Angeles Cumulative Traffic Scenarios:

6. Traffic in (3) plus the cumulative traffic from other known developments; and
7. Traffic in (6) with the proposed mitigation measures (if necessary).

ASSOCIATED
TRANSPORTATION
ENGINEERS

PROJECT SITE LOCATION/EXISTING STREET NETWORK

FIGURE 1

PROJECT SITE PLAN

FIGURE 2

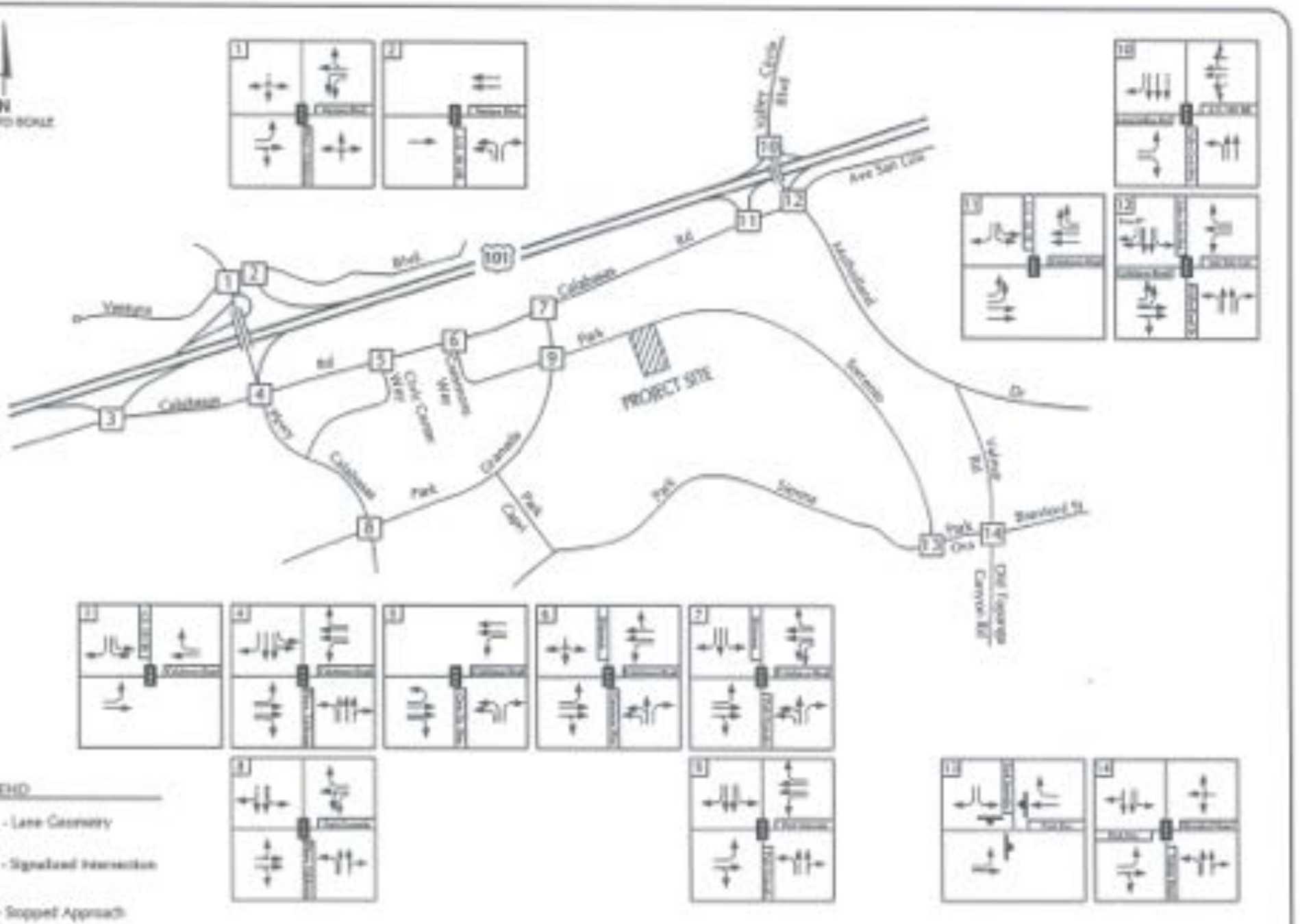
EXISTING CONDITIONS

Street Network

As shown on Figure 1, the study-area street network extends from Parkway Calabasas on the west to Mullholland Drive on the east, and from Ventura Boulevard on the north to Park Sienna on the south. Regional access to the area from the north is provided by U.S. Highway 101 via the interchanges at Parkway Calabasas and Mullholland Drive-Valley Circle Boulevard. Regional access from the south is provided via Old Topanga Canyon Road and Mullholland Highway. The primary arterials in the study-area include Calabasas Road, Parkway Calabasas and Mullholland Drive. Park Sorrento, located adjacent to the project site, is a collector road that serves the predominately residential areas between Park Granada and Park Ora.

Existing Intersection Operations

Because traffic flow on urban street networks is most restricted at intersections, a detailed analysis of traffic conditions must examine the operational characteristics of critical intersections during peak flow periods. In rating an intersection's operating condition, "Levels of Service" (LOS) A through F are used, with LOS A indicating very good operations and LOS F indicating poor operations (more complete definitions are contained in the Technical Appendix for reference). The City of Calabasas has adopted LOS C as the minimum operating standard for intersections and LOS D as the minimum acceptable operating standard for freeway interchanges within the City. Table 1 lists the study-area intersections and corresponding jurisdiction. Figure 3 presents the existing lane geometries and traffic controls for the study-area intersections.



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EXISTING LANE GEOMETRIES AND TRAFFIC CONTROLS

FIGURE 3

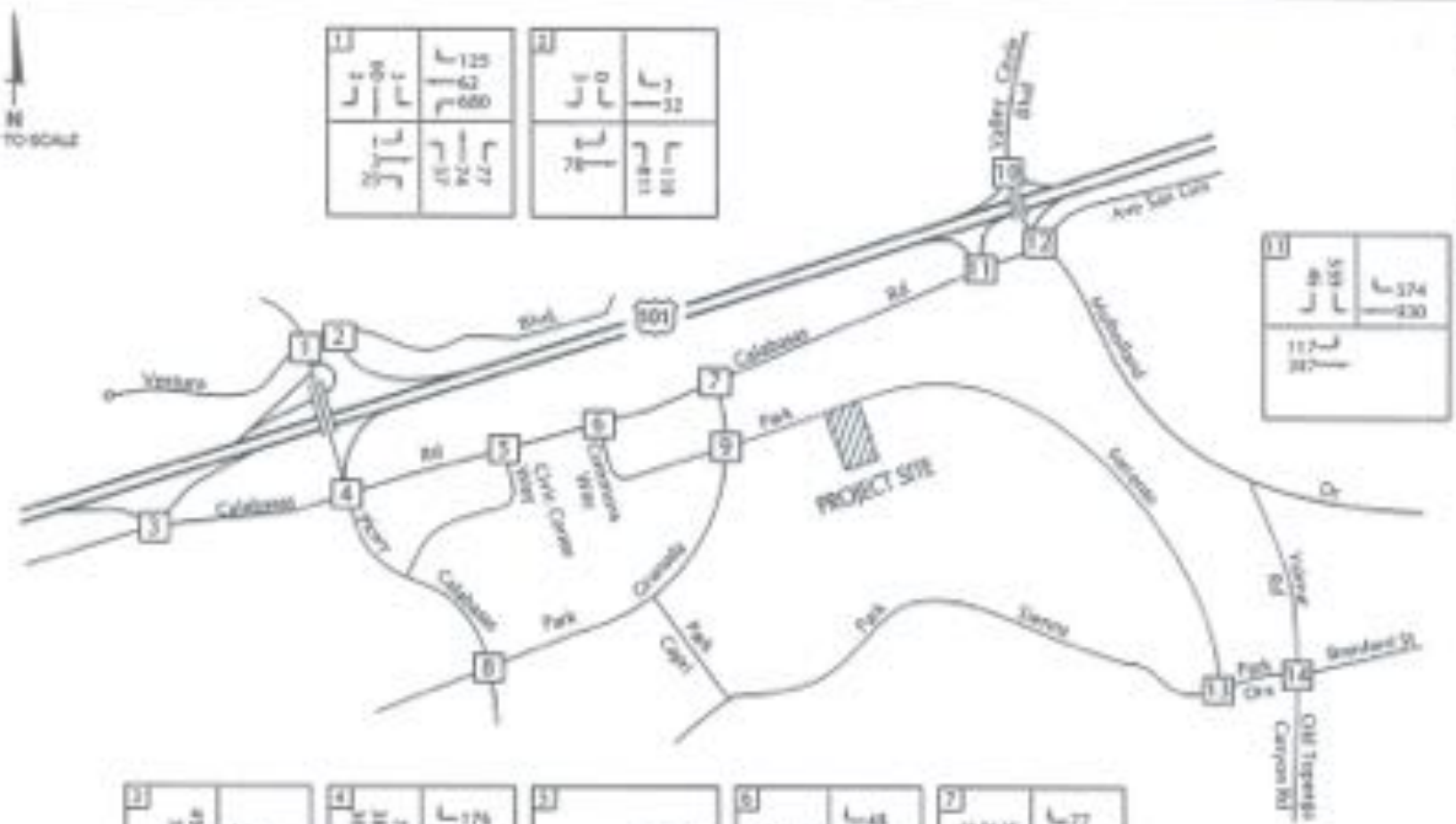
Table 1
Study-Area Intersections

Intersection	Jurisdiction
1. Ventura Boulevard/Parkway Calabasas	Los Angles County
2. Ventura Boulevard/U.S. Highway 101 Northbound Ramps	Los Angles County
3. Calabasas Road (W)/U.S. Highway 101 Southbound Ramps	City of Calabasas
4. Calabasas Road/Parkway Calabasas	City of Calabasas
5. Calabasas Road/Park Centre	City of Calabasas
6. Calabasas Road/Commons Way	City of Calabasas
7. Calabasas Road/Park Granada	City of Calabasas
8. Park Granada/Parkway Calabasas	City of Calabasas
9. Park Sorrento/Park Granada	City of Calabasas
10. Valley Circle Boulevard/U.S. Highway 101 Northbound Ramps	City of Los Angeles
11. Calabasas Road (E)/U.S. Highway 101 Southbound Ramps	City of Los Angeles
12. Calabasas Road/Mulholland Drive	City of Los Angeles
13. Park Sorrento/Park Ora	City of Calabasas
14. Valmar Road/Park Ora	City of Calabasas

Existing A.M. and P.M. peak hour traffic counts were collected at the study-area intersections in October of 2012 (traffic count data is contained in the Technical Appendix for reference). Figures 4 and 5 present the existing peak hour traffic volumes for the study-area intersections.

Levels of service for the signalized study-area intersections within the City of Calabasas and the County of Los Angeles were calculated using the Intersection Capacity Utilization (ICU) methodology, as required by County and City policies as well as the Los Angeles County Congestion Management Program (CMP). Signalized intersections within the City of Los Angeles were calculated using the planning method outlined in Transportation Research Board (TRB) Circular #212[1], as required by the City of Los Angeles. Levels of service for the Park Sorrento/Park Ora intersection, which is controlled by stop signs on all approaches, were calculated using the unsignalized intersection methodology outlined in the Highway Capacity

[1] Interim Materials on Highway Capacity, Transportation Circular #212, Transportation Research Board, National Academy of Sciences, 1980.



EXISTING A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 4

LEGEND

└XX - P.M. Peak Hour Volume

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EXISTING P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 5

Manual (HCM).[2] Table 2 presents the existing levels of service for the study-area intersections (calculation worksheets are contained in the Technical Appendix).

Table 2
Existing Intersection Operations

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	ICU/Delay	LOS	ICU/Delay	LOS
Ventura Boulevard/Parkway Calabasas	0.50	LOS A	0.65	LOS B
Ventura Boulevard/U.S. 101 NB Ramps	0.45	LOS A	0.43	LOS A
Calabasas Road (W)/U.S. 101 SB Ramps	0.66	LOS B	0.63	LOS B
Calabasas Road/Parkway Calabasas	0.41	LOS A	0.60	LOS A
Calabasas Road/Park Centre	0.26	LOS A	0.41	LOS A
Calabasas Road/Commons Way	0.27	LOS A	0.48	LOS A
Calabasas Road/Park Granada	0.42	LOS A	0.68	LOS B
Park Granada/Parkway Calabasas	0.69	LOS B	0.54	LOS A
Park Sorrento/Park Granada	0.19	LOS A	0.48	LOS A
Valley Circle Boulevard/U.S. 101 NB Ramps	0.91	LOS E	0.80	LOS C
Calabasas Road (E)/U.S. 101 SB Ramps	0.49	LOS A	0.71	LOS C
Calabasas Road/Mulholland Drive	0.71	LOS C	0.93	LOS E
Park Sorrento/Park Ora (a)	12.6 Sec.	LOS B	11.9 Sec.	LOS B
Valmar Road/Park Ora	0.70	LOS B	0.60	LOS A

(a) Unsignalized intersection - LOS based upon average delay per vehicle in seconds.

The data presented in Table 1 show that the Valley Circle Boulevard/U.S. 101 NB Ramps currently operates at LOS E during the A.M. peak hour and the Calabasas Road/Mulholland Drive intersections currently operates at LOS E during the P.M. peak. The remainder of the study-area intersections operate at LOS C or better, which is considered acceptable based on County and City standards.

2 2000 Highway Capacity Manual, Transportation Research Board, National Research Council, 2000.

PROJECT-SPECIFIC ANALYSIS

Project Trip Generation

The trip generation forecasts developed for the project assume no credit for the current site uses in order to present a "worst-case" assessment of impacts. Trip generation estimates for the proposed project were calculated based on rates presented in the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition).[3] The following text outlines the land-use assumptions and rates used to forecast project trip generation.

Residential Units. The ITE average rates for Residential Condominium/Townhouse (Land-Use #230) were used to forecast traffic for the residential component of the project.

Commercial Space. The ITE average rates for Specialty Retail (Land-Use #826) were used to forecast traffic for the proposed commercial space as the speciality retail land-use description includes a wide range of retail/service uses. The ITE report does not provide A.M. peak hour rates for Specialty Retail uses. The analysis assumes that 3% of the daily traffic would occur during the A.M. peak hour based on data published in the SANDAG Trip Generators report.[4]

Restaurant. The ITE average rates for High-Turnover (Sit-Down) Restaurant (Land-Use #932), were used to forecast traffic for the restaurant component of the project.

The traffic generated by the commercial land uses is divided into primary and pass-by trips. Primary trips are trips whose sole purpose is to visit the project. Pass-by trips are existing trips on a roadway adjacent to the project, which stop at the site on the way to another destination. There will also be some internal trips since the project includes a mix of uses. A key characteristic of multi-use developments is that trips among the various land uses can be made on site and these internal trips do not affect the adjacent street network. A conservative 15% factor was applied to the trip generation estimates to account for these mixed-use and pass-by trips, which is consistent with the previous analysis completed for the project. Table 3 presents the trip generation estimates for the project.

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3 Trip Generation, Institute of Transportation Engineers, 9th Edition, 2012.

4 Trip Generators, San Diego Association of Governments, April 2002.

Table 3
Project Trip Generation Estimates

Land Use	Size	Average Daily		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips (In/Out)	Rate	Trips (In/Out)
Condominium	80 units	5.81	465	0.44	35 (5/30)	0.52	42 (28/14)
Speciality Retail	3,700 SF	44.32	164	1.33	5 (3/2)	2.71	10 (2/8)
Sit-Down Restaurant	8,000 SF	127.15	1,017	10.81	86 (47/39)	9.85	79 (47/32)
Subtotal			1,646		126 (57/69)		131 (77/54)
Less 15% Mixed-Use/Pass-By			-247		-19 (-9/-10)		-20 (-12/-8)
TOTAL			1,399		107 (48/59)		111 (65/46)

Table 1 shows that the project is forecast to generate 1,399 average daily trips, 107 A.M. peak hour trips and 111 P.M. peak hour trips.

Approved Project Trip Generation Comparison

Table 4 compares the trip generation forecasts for the proposed project with the trip generation forecasts for the project that was originally approved by the City of Calabasas in 2007.

Table 4
Approved Project Trip Generation Comparison

Project Scenario	ADT	A.M. Peak Hour Trips	P.M. Peak Hour Trips
Approved Project	1,510	74	133
Proposed Project	1,399	107	111
Net Change	-111	+33	-22

The data presented in Table 4 show that under the proposed project, the site would generate 111 less ADT, 33 additional A.M. peak hour trips, and 22 less P.M. peak hour trips than the approved project.

Project Trip Distribution

The project-generated traffic volumes were distributed and assigned to the study-area street network based on the percentages shown in Table 5 and on Figure 6. Separate trip distribution patterns were developed for the residential and commercial components of the project. The trip distribution percentages were developed for the project based on existing traffic patterns observed in the study-area, recent traffic studies, and input provided by City staff. Project-added traffic volumes are also shown on Figure 6.

Table 5
Project Trip Distribution Percentages

Origin/Destination	Direction	Residential Percentage	Commercial Percentage
Highway 101	Northwest	30%	10%
Highway 101	Southeast	35%	10%
Calabasas Road	West	4%	5%
Malholland Drive	Southeast	6%	15%
Old Topanga Canyon Road	South	6%	15%
Valley Circle Drive	North	6%	10%
Parkway Calabasas	Southwest	3%	10%
Local	N/A	10%	25%
Total		**100%**	**100%**

Traffic Impact Criteria

The traffic impact criteria for the City of Calabasas, the City of Los Angeles and the County of Los Angeles are discussed below.

City of Calabasas Impact Criteria: The City of Calabasas considers LOS C (ICU 0.80) acceptable for roadways and intersections located within the urban areas of the jurisdiction. Projects that degrade roadways and/or intersections below LOS C must provide measures to mitigate their impacts. According to the City of Calabasas 2030 General Plan Transportation Element, a significant transportation impact is determined based on the criteria listed in the following table:

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PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

FIGURE 6

City of Calabasas Intersection Impact Threshold

Project Related Traffic Increases that Constitute a Significant Impact Where Roadway Performance Standards Are or Will Be Exceeded (Urban Area)		
Existing or Future Link/Intersection LOS	Volume to Capacity (V/C) Ratio	Maximum Peak Hour V/C Increase
LOS D	0.81 - 0.90	0.020
LOS E	0.91 - 1.00	0.015
LOS F	> 1.00	0.010

County of Los Angeles Significant Impact Threshold: Adverse impacts are generated when traffic generated by a project considered alone or cumulatively with other related projects, when added to existing traffic volumes, exceeds certain capacity thresholds for an intersection or roadway. For intersections, the impact is considered significant if the project related increase in the volume to capacity (V/C) ratio equals or exceeds the threshold shown in the following table.

County of Los Angeles Intersection Impact Threshold

Pre-project Intersection LOS	Pre-project V/C	Project V/C Increase
LOS C	0.71-0.80	0.04 or more
LOS D	0.81-0.90	0.02 or more
LOS E/F	0.91 or more	0.01 or more

City of Los Angeles Significant Transportation Impact: A transportation impact on an intersection shall be deemed "significant" in accordance with the following table.

City of Los Angeles Intersection Impact Threshold

LOS	Final V/C Ratio	Project Related V/C Increase
LOS C	0.71-0.80	0.04 or more
LOS D	0.81-0.90	0.02 or more
LOS E/F	0.91 or more	0.01 or more

Existing + Project Intersection Operations

Levels of service were calculated for the study-area intersections assuming the Existing + Project peak hour traffic volumes shown on Figures 7 and 8. Project-specific impacts were evaluated based on the impact criteria for each of the three applicable jurisdictions reviewed previously. Tables 6 and 7 compare the Existing and Existing + Project peak hour levels of service and identify the significance of the project's traffic additions at each location based on the applicable City and County thresholds.

Table 6
Existing + Project A.M. Peak Hour Intersection Levels of Service

Intersection	Existing		Existing + Project		Project-Added	
	ICU/Delay	LOS	ICU/Delay	LOS	Increase	Impact?
Ventura Blvd./Parkway Calabasas	0.50	A	0.50	A	0.000	No
Ventura Blvd./U.S. 101 NB Ramps	0.45	A	0.45	A	0.000	No
Calabasas Rd. (W)/U.S. 101 SB Ramps	0.66	B	0.66	B	0.003	No
Calabasas Road/Parkway Calabasas	0.41	A	0.41	A	0.000	No
Calabasas Road/Park Centre	0.26	A	0.26	A	0.003	No
Calabasas Road/Commons Way	0.27	A	0.28	A	0.005	No
Calabasas Road/Park Granada	0.42	A	0.43	A	0.012	No
Park Granada/Parkway Calabasas	0.69	B	0.70	B	0.002	No
Park Sorrento/Park Granada	0.39	A	0.41	A	0.017	No
Valley Circle Blvd/U.S. 101 NB Ramps	0.91	E	0.92	E	0.002	No
Calabasas Rd. (E)/U.S. 101 SB Ramps	0.49	A	0.50	A	0.013	No
Calabasas Road/Mulholland Drive	0.71	C	0.71	C	0.002	No
Park Sorrento/Park Ora (a)	12.6 Sec.	B	12.8 sec.	B	N/A	No
Valmar Road/Park Ora	0.69	B	0.70	B	0.008	No

(a) Unsignalized Intersection - LOS based upon average delay per vehicle in seconds.

LEGEND

XX - A.M. Peak Hour Volume

FIGURE 7

EXISTING + PROJECT A.M. PEAK HOUR TRAFFIC VOLUMES

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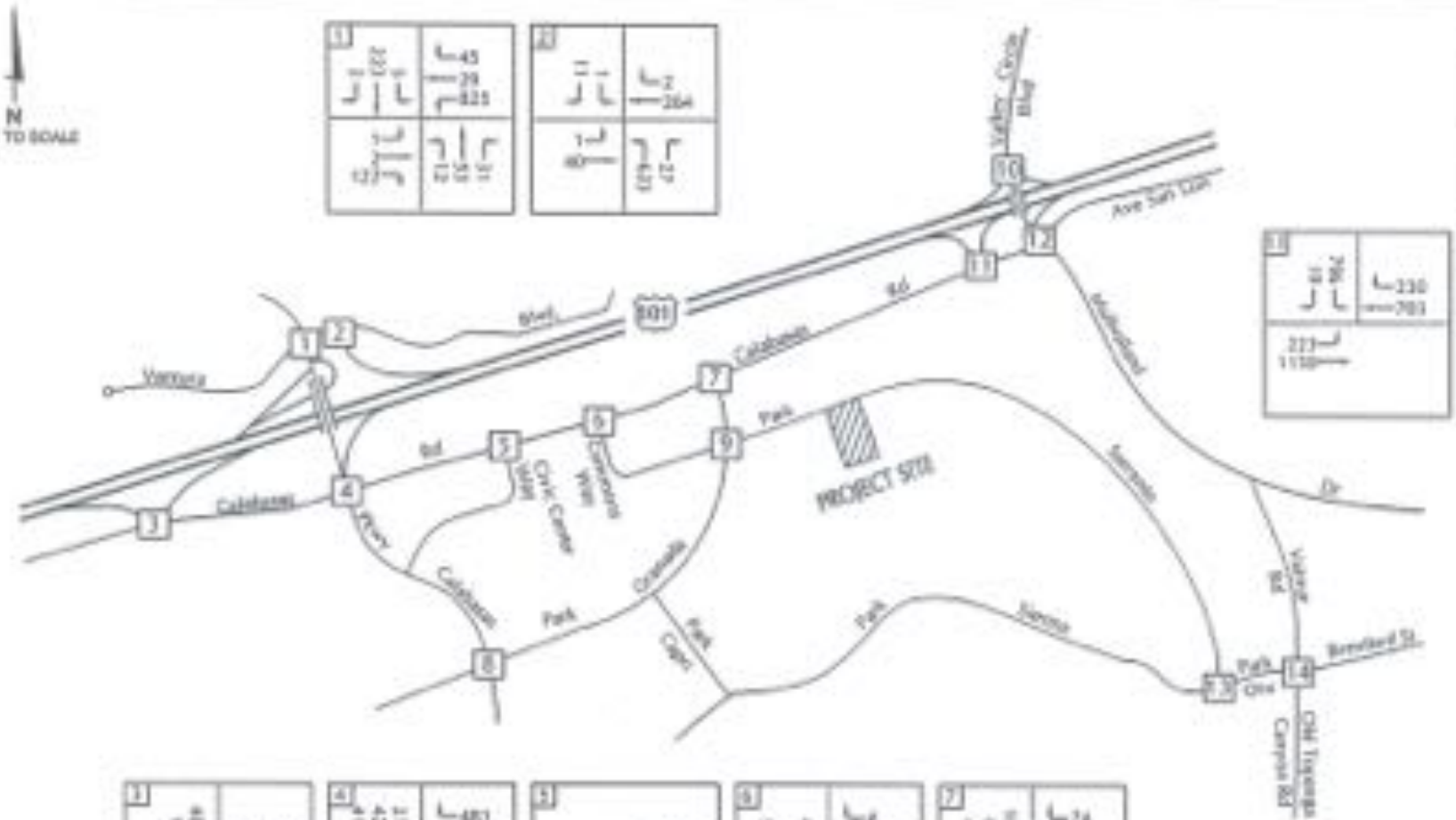

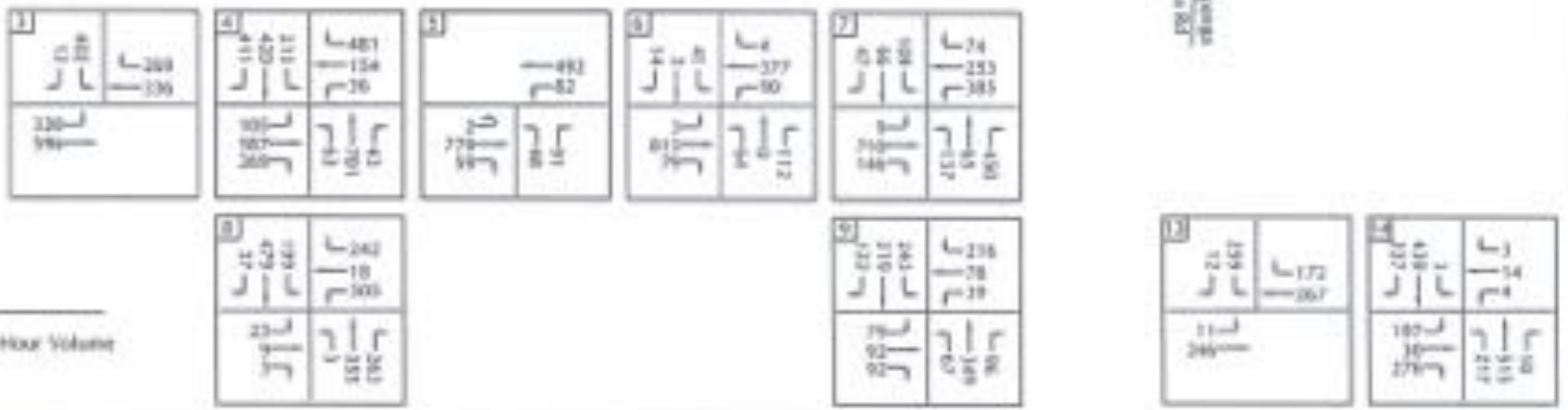

LEGEND

└XX - P.M. Peak Hour Volume

Associated Transportation Engineers
June 11, 2013

EXISTING + PROJECT P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 8

Table 7
Existing + Project P.M. Peak Hour Intersection Levels of Service

Intersection	Existing		Existing +Project		Project-Added	
	ICU/Delay	LOS	ICU/Delay	LOS	Increase	Impact?
Ventura Blvd./Parkway Calabasas	0.65	B	0.65	B	0.001	No
Ventura Blvd./U.S. 101 NB Ramps	0.43	A	0.43	A	0.001	No
Calabasas Rd. (W)/U.S. 101 SB Ramps	0.63	B	0.64	B	0.005	No
Calabasas Road/Parkway Calabasas	0.60	A	0.61	B	0.005	No
Calabasas Road/Park Centre	0.41	A	0.41	A	0.006	No
Calabasas Road/Commons Way	0.48	A	0.48	A	0.007	No
Calabasas Road/Park Granada	0.68	B	0.69	B	0.013	No
Park Granada/Parkway Calabasas	0.54	A	0.54	A	0.001	No
Park Sorrento/Park Granada	0.48	A	0.51	A	0.027	No
Valley Circle Blvd/U.S. 101 NB Ramps	0.80	C	0.80	C	0.005	No
Calabasas Rd. (E)/U.S. 101 SB Ramps	0.71	C	0.73	C	0.015	No
Calabasas Road/Mulholland Drive	0.93	E	0.94	E	0.002	No
Park Sorrento/Park Ora (a)	11.9 Sec.	B	12.1 Sec.	B	N/A	No
Valmar Road/Park Ora	0.60	A	0.61	B	0.01	No

(a) Unsignalized Intersection - LOS based upon average delay per vehicle in seconds.

The data presented in Tables 6 and 7 indicate that the project's traffic additions would not generate significant impacts to the study-area intersections based on the applicable City and County impact thresholds.

YEAR 2016 ANALYSIS

Ambient Growth

The applicant has indicated that the project would be completed and fully occupied in the second quarter of 2016. The traffic study guidelines used by the County and City of Los Angeles assume different methodologies to determine traffic growth between existing conditions (traffic scenario 1) and Year 2016 conditions (traffic scenario 2). The methodologies are discussed below.

County of Los Angeles: Traffic growth is determined using the County's ambient growth rate for the San Fernando Valley area, which is 1.1% per year.

City of Los Angeles: Traffic growth is determined by adding traffic from approved and pending developments (Related Projects) forecast to be completed before project occupation plus a 2% ambient growth rate per year.

The methodology used by the City of Los Angeles would provide the most conservative traffic forecast for the study-area intersections, and was therefore used to develop the Year 2016 traffic projections. A 2% annual growth factor was therefore applied to the existing traffic volumes in order to develop the Year 2016 baseline volumes (traffic from approved and pending projects contained in the Cumulative analysis). Figures 9 and 10 present the Year 2016 peak hour traffic volumes.

Year 2016 + Project Intersection Operations

Levels of service were calculated for the study-area intersections assuming the Year 2016 and Year 2016 + Project peak hour traffic volumes shown on Figures 11 and 12. Project-specific impacts were evaluated based on the impact criteria for each of the three applicable jurisdictions reviewed previously. Tables 8 and 9 compare the Year 2016 and Year 2016 + Project peak hour levels of service and identify the significance of the project's traffic additions at each location based on the applicable City and County thresholds.

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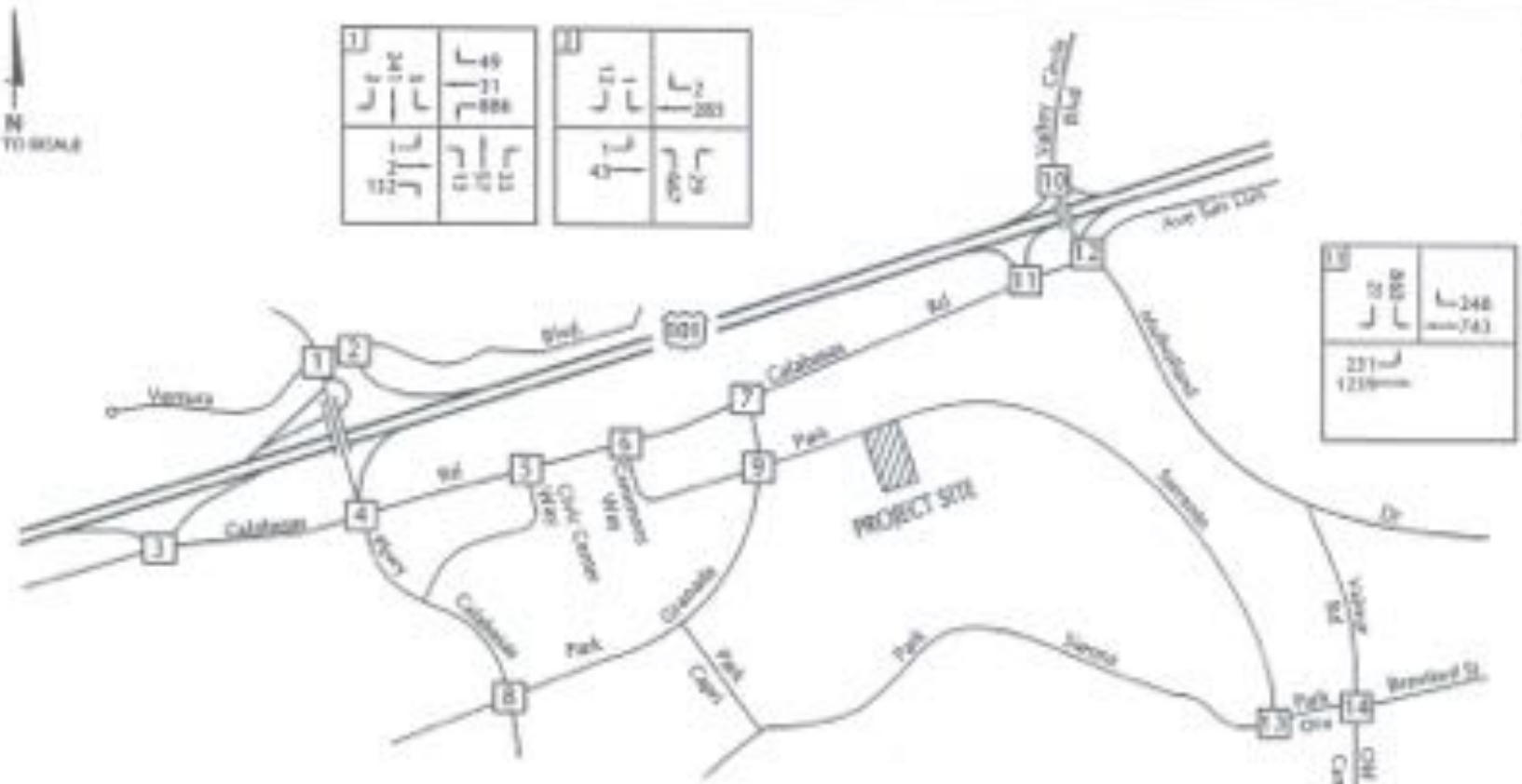
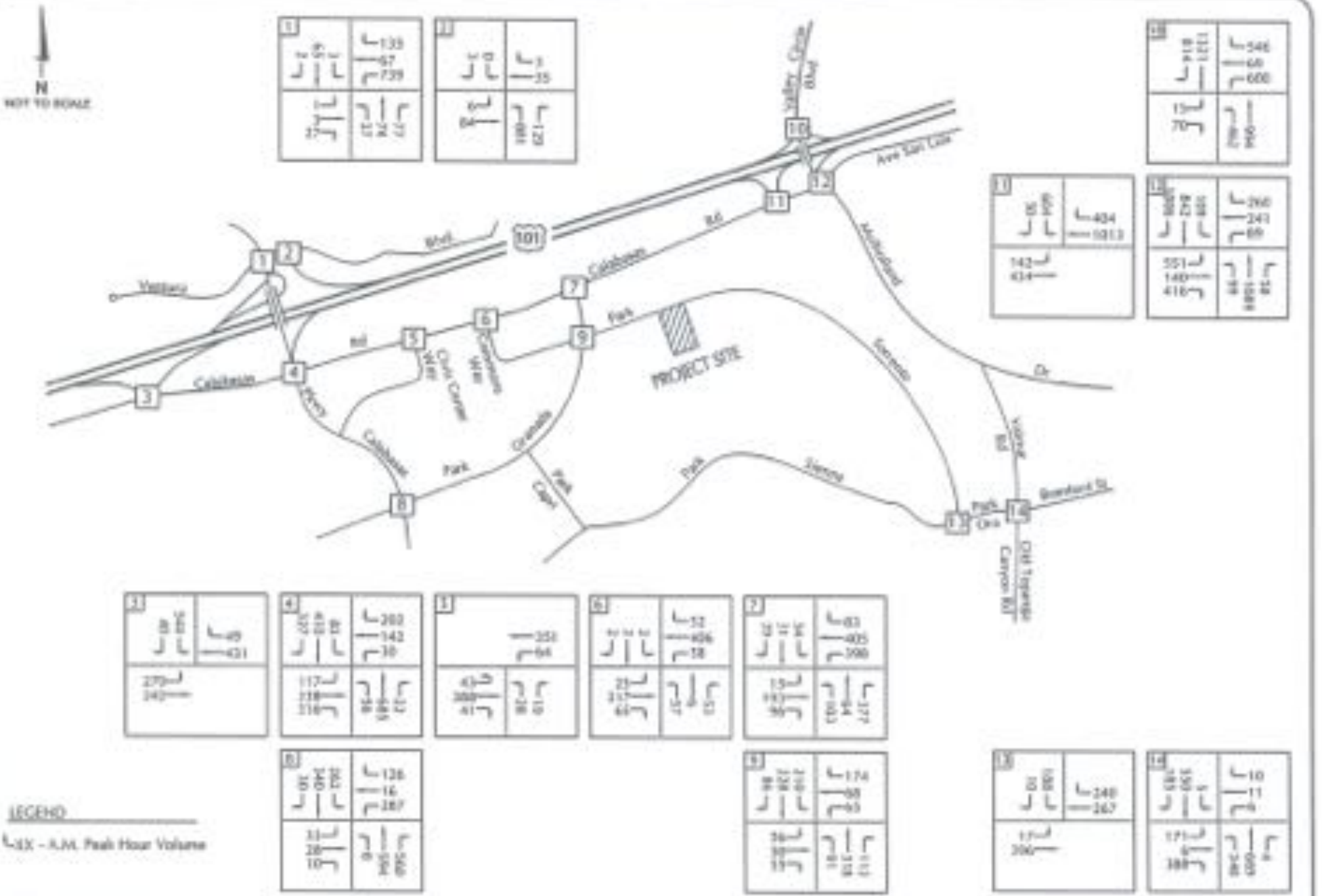
YEAR 2016 A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 9


N
NOT TO SCALE
Valley Circle Blvd
Ave San Luis
Hollyfield
Las Virgenes Rd
Calabasas Pkwy
101
Ventura
Civic Center Way
Calabasas Park
Park Granada
PROJECT SITE
Parkway
Dr
Village Pl
Parkway
Parkway
Parkway



YEAR 2016 + PROJECT A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 11

N
NOT TO SCALE
Ventura
101
Calabasas
Park
Las Virgenes
Civic Center
PROJECT SITE
Mulholland
Agoura
Valley Circle Blvd
Ave San Luis
Parkway
Grandview
Park Capri
Parkway
Calabasas
Park
Parkway
Calabasas
Park
Las Virgenes
Civic Center
Parkway
Calabasas
Park

Table 8
Year 2016+Project A.M. Peak Hour Intersection Levels of Service

Intersection	Year 2016		Year 2016+Project		Project-Added	
	ICU/Delay	LOS	ICU/Delay	LOS	Increase	Impact?
Ventura Blvd./Parkway Calabasas	0.53	A	0.53	A	0.000	No
Ventura Blvd./U.S. 101 NB Ramps	0.47	A	0.48	A	0.001	No
Calabasas Rd. (W)/U.S. 101 SB Ramps	0.71	C	0.71	C	0.003	No
Calabasas Road/Parkway Calabasas	0.44	A	0.44	A	0.000	No
Calabasas Road/Park Centre	0.27	A	0.27	A	0.003	No
Calabasas Road/Commons Way	0.29	A	0.29	A	0.005	No
Calabasas Road/Park Granada	0.45	A	0.46	A	0.011	No
Park Granada/Parkway Calabasas	0.74	C	0.74	C	0.004	No
Park Sorrento/Park Granada	0.43	A	0.45	A	0.019	No
Valley Circle Blvd/U.S. 101 NB Ramps	1.00	E	1.00	E	0.002	No
Calabasas Rd. (E)/U.S. 101 SB Ramps	0.54	A	0.55	A	0.012	No
Calabasas Road/Mulholland Drive	0.77	C	0.77	C	0.002	No
Park Sorrento/Park Ora (a)	12.8 Sec.	B	14.1 Sec.	B	N/A	No
Valmar Road/Park Ora	0.75	C	0.76	C	0.009	No

(a) Unsignalized Intersection - LOS based upon average delay per vehicle in seconds.

Table 9
Year 2016 + Project P.M. Peak Hour Intersection Levels of Service

Intersection	Year 2016		Year 2016 + Project		Project-Added	
	ICU/Delay	LOS	ICU/Delay	LOS	Increase	Impact?
Ventura Blvd./Parkway Calabasas	0.70	B	0.70	B	0.001	No
Ventura Blvd./U.S. 101 NB Ramps	0.46	A	0.46	A	0.001	No
Calabasas Rd. (W)/U.S. 101 SB Ramps	0.67	B	0.67	B	0.002	No
Calabasas Road/Parkway Calabasas	0.64	B	0.65	B	0.004	No
Calabasas Road/Park Centre	0.43	A	0.44	A	0.006	No
Calabasas Road/Commons Way	0.51	A	0.51	A	0.006	No
Calabasas Road/Park Granada	0.72	C	0.74	C	0.014	No
Park Granada/Parkway Calabasas	0.56	A	0.56	A	0.002	No
Park Sorrento/Park Granada	0.51	A	0.54	A	0.029	No
Valley Circle Blvd/U.S. 101 NB Ramps	0.87	D	0.87	D	0.005	No
Calabasas Rd.(E)/U.S. 101 SB Ramps	0.76	C	0.79	C	0.014	No
Calabasas Road/Mulholland Drive	1.02	F	1.02	F	0.001	No
Park Sorrento/Park Ora (a)	12.8 Sec.	B	13.1 Sec.	B	N/A	No
Valmar Road/Park Ora	0.64	B	0.65	B	0.009	No

(a) Unsignalized Intersection - LOS based upon average delay per vehicle in seconds.

The data presented in Tables 8 and 9 indicate that the project's traffic additions would not generate significant project-specific impacts to the study-area intersections based on the applicable City and County impact thresholds.

SITE ACCESS AND CIRCULATION

As shown in Figure 2, vehicular access to the site would be provided via two driveways on Park Sorrento. The western driveway would be moved approximately 112 feet to the east in order to align with the driveway on the opposite side of Park Sorrento. This driveway would provide access to the surface parking areas and the residential buildings. The eastern driveway would provide access to the proposed parking garage and to the commercial loading areas. This driveway would be shared with the adjacent property to the east, which would take inbound access from this proposed driveway and would take outbound access through an

existing driveway located approximately 80-feet to the east. Park Sorrento adjacent the project site is 64 feet wide curb-to-curb and contains one eastbound travel lane, two westbound travel lanes, a median two-way left-turn lane, and parallel parking on both sides of the road. The project is forecast to generate 48 inbound and 59 outbound A.M. peak hour trips, and 65 inbound and 45 outbound P.M. peak hour trips at the two project driveways. The project driveways are forecast to operate at LOS B during the peak periods under the Year 2016 + Project and Cumulative + Project scenarios. Based on the roadway configuration, the traffic volumes on Park Sorrento adjacent the project site and the projected traffic volumes generated by the site, the proposed driveway connections would operate acceptably.

Driveway Sight Distance

ATE completed a sight distance analysis at the proposed site driveway locations on Park Sorrento. Sight distance requirements for public road intersections are determined using the corner sight distance standards provided in the Caltrans Highway Design Manual. The Caltrans Highway Design Manual also states in section 405.1(2) that for private road intersections, "the minimum corner sight distance shall be equal to the stopping sight distance." Thus, both the corner and stopping sight distance standards were used to evaluate the sight distance at the project driveways.

The posted speed limit on Park Sorrento is 35 mph. It is noted, however, that there is a speed hump and a 15 MPH advisory sign on Park Sorrento east of the project site. ATE recorded speed samples along Park Sorrento in both directions and determined that the 85th percentile speed in both directions was less than 35 MPH, however this analysis assumes 35 MPH as the design speed. The minimum corner sight distance listed in the Caltrans Highway Design Manual for an intersection on a roadway with a speed of 35 mph is 385 feet and the stopping sight distance requirement for 35 mph is 250 feet .

Western Driveway. The sight distance looking to the east and to the west from the Western Driveway is limited to less than 250-feet by cars parking along the south side of Park Sorrento. It is therefore recommended that 192-feet of red curb be installed west of the driveway and 108-feet of red curb be installed east of the driveway (between the two project driveways) to ensure that sight distance is not impeded. Implementation of the new red curb areas on Park Sorrento would result in the net loss of 8 parking spaces adjacent to the site. Existing trees and landscaping along Park Sorrento would also need to be trimmed back in order to obtain the required sight distance. The sight distance looking to the west towards Park Granada would be increased to approximately 480-feet assuming the installation of 192-feet of red curb, which exceeds the minimum corner sight distance requirement of 385 feet and the stopping sight distance requirement of 250-feet. The sight distance looking to the east would be approximately 440-feet assuming installation of 108-feet of red curb and trimming of the existing landscaping, which exceeds the minimum corner (385 feet) and stopping (250 feet) sight distance standards. Figure 13 shows the recommended areas for red curb and illustrates the available sight lines for the western driveway. It is noted that the proposed realigned western driveway would allow for increased sight distance compared to the existing and approved project driveway locations.

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WESTERN DRIVEWAY SIGHT DISTANCE

FIGURE 13

Eastern Driveway. The sight distance looking to the west from the Eastern Driveway would be limited to less than 250-feet by cars parking along the south side of Park Sorrento. It is therefore recommended that 108-feet of red curb be installed west of the driveway (between the two project driveways). Sight distance looking to the west is approximately 260-feet assuming installation of the red curb, which meets the minimum required stopping sight distance of 250-feet but is less than the corner sight distance requirement of 385 feet. There is approximately 80 feet of existing red curb present on Park Sorrento east of the project driveway. Sight distance looking to the east was measured at approximately 310-feet which exceeds the minimum stopping sight distance requirement of 250-feet but is less that the corner sight distance requirement of 385 feet. Figure 14 shows the recommended areas for red curb and illustrates the available sight lines for the eastern driveway.

PARKING ANALYSIS

The following section evaluates the adequacy of the proposed parking supply based on the City's Zoning Ordinance and empirical shared parking demand data for mixed-use developments.

Proposed Parking Supply

The project is proposing to provide a total of 294 parking spaces with 144 enclosed parking spaces reserved for on-site residents, 90 spaces located in an underground garage, and 60 surface level spaces. Eight of the underground garage spaces would be reserved for residents of the affordable units and the remaining 82 spaces would be shared between residential guests and the patrons and employees of the commercial uses. The 8 surface spaces located in the small lot at the northwest corner of the site would be restricted to 2-hour parking. The remaining 52 surface spaces would be available for shared use between residential guests and the patrons and employees of the commercial uses. The project also includes 108 on-site bicycle parking spaces.

City of Calabasas Zoning Ordinance Parking Requirements

The City's Zoning Ordinance parking requirements for the proposed uses are summarized in Table 10.

EASTERN DRIVEWAY SIGHT DISTANCE

FIGURE 14

Table 10
City of Calabasas Zoning Ordinance Parking Requirements

Proposed Use	Size	Parking Requirement	Required Parking Spaces
1-Bedroom Condo	6 units	1.5 spaces/unit	9 spaces
2-Bedroom Condo	20 units	2 spaces/unit	40 spaces
3-Bedroom Condo	54 units	2.5 spaces/unit	135 spaces
Residential Guest	80 units	1 space/3 units	27 spaces
General Commercial	3,700 SF	1 space/250 SF	15 spaces
Sit-Down Restaurant	7,000 SF	1 space/100 SF	70 spaces
Outdoor Dining	1,000 SF	1 space/250 SF	3 space
Zoning Ordinance Total:			299 spaces

(a) Above 250 SF, 1 space per 250 SF.

Table 10 shows that the City's Zoning Ordinance requirement for the project is 299 spaces. The proposed parking supply of 294 spaces would not satisfy the City's Zoning Ordinance parking requirements for the project. The project is therefore requesting a modification to the City's parking requirements based on a shared parking analysis which is presented in the following sections.

Residential Parking Demand Analysis - ITE & ULI Rates

The project is proposing to provide 152 reserved spaces for the residential units (excluding guest parking). In order to determine the adequacy of the residential parking supply, a parking demand analysis was completed using data presented in the Institute of Transportation Engineers (ITE) Parking Generation Report[5] and the Urban Land Institute Shared Parking report.[6] These reports contain studies of similar uses that quantify the number of vehicles parked at the facilities during peak times. Table 11 presents the peak parking demand estimates calculated for the project based on the ITE and ULI parking demand rates for residential condominiums.

5 Parking Generation, Institute of Transportation Engineers, 4th Edition, 2010.

6 Shared Parking, Urban Land Institute, 2nd Edition, 2003.

Table 11
Residential Peak Parking Demand Estimates - ITE and ULI Rates

Rate Source	Size	Peak Demand Rate	Peak Parking Demand	Spaces Provided	Reserve Spaces
ITE	80 Units	1.52 Spaces/Unit	122 Spaces	152 Spaces	30 Spaces
ULI	80 Units	1.85 Spaces/Unit	148 Spaces	152 Spaces	4 Spaces

The data presented in Table 11 show that the peak parking demands forecast for the residential component of the project using the ITE and ULI rates range from 122 to 148 spaces. The proposed parking supply of 152 reserved parking spaces would accommodate these peak parking demands and provide a reserve of parking supply of 4 - 30 spaces for peak days based on the ITE and ULI parking demand rates.

Commercial Shared Parking Demand Analysis

The peak parking demands experienced by the different commercial uses proposed for the site would occur at different times of the day. A shared parking analysis was therefore completed to determine when the overlapping peak demands would occur at the site. The analysis was completed using peak parking demand data and time-of-day factors contained in the Urban Land Institute's Shared Parking manual and assumes a 15% mixed-use reduction for the commercial uses to account for the fact that some of the patrons would originate from the on-site residences. The analysis accounts for the parking demands generated by the restaurant, retail, and residential guest uses. Table 12 presents the peak weekday and weekend parking demand forecasts for the project (a detailed calculation spread sheet is contained in the Technical Appendix).

Table 12
Shared Parking Demand Forecasts

Period	Time	Shared Parking Demand (a)	Shared Parking Supply	Reserve Spaces
Weekday	7:00 P.M.	98 Vehicles	142 Spaces	44 Spaces
Weekend	7:00 P.M.	124 Vehicles	142 Spaces	18 Spaces

(a) Assumes restaurant, retail, and residential guest parking demands.

Table 12 shows that the peak shared parking demand forecast for the commercial portion of the project range from 98-124 vehicles. The proposed shared parking supply of 142 spaces would therefore accommodate the combined parking demands of the restaurant, retail, and residential guest uses and provide a reserve parking supply of 18-44 spaces.

Additional Parking Requirements

The project would result in the net loss of 8 on-street parking spaces adjacent to the site, as red curb areas would be installed in order to increase the sight distance at the project driveways. The City has requested that the 8 on-street spaces be replaced on-site and available for public use. The project also proposes to provide 7 on-site parking spaces for tenants of an adjacent property on Park Sorrento, per an existing agreement with the property owners. Based on the data presented in Table 12, the reserve parking supply (18-44 spaces) would accommodate the additional 15 spaces on-site.

Parking Summary

Table 13 summarizes the project's parking requirements, peak demand forecasts, and proposed parking supply.

Table 13
Project Parking Summary

Zoning Ordinance			Shared Parking Demand		
Spaces Provided	Code Requirement (a)	Reduction To Code	Demand Requirements (a)	Code Requirement (a)	Reduction To Demand
294	299	1.7%	272	299	9.0%

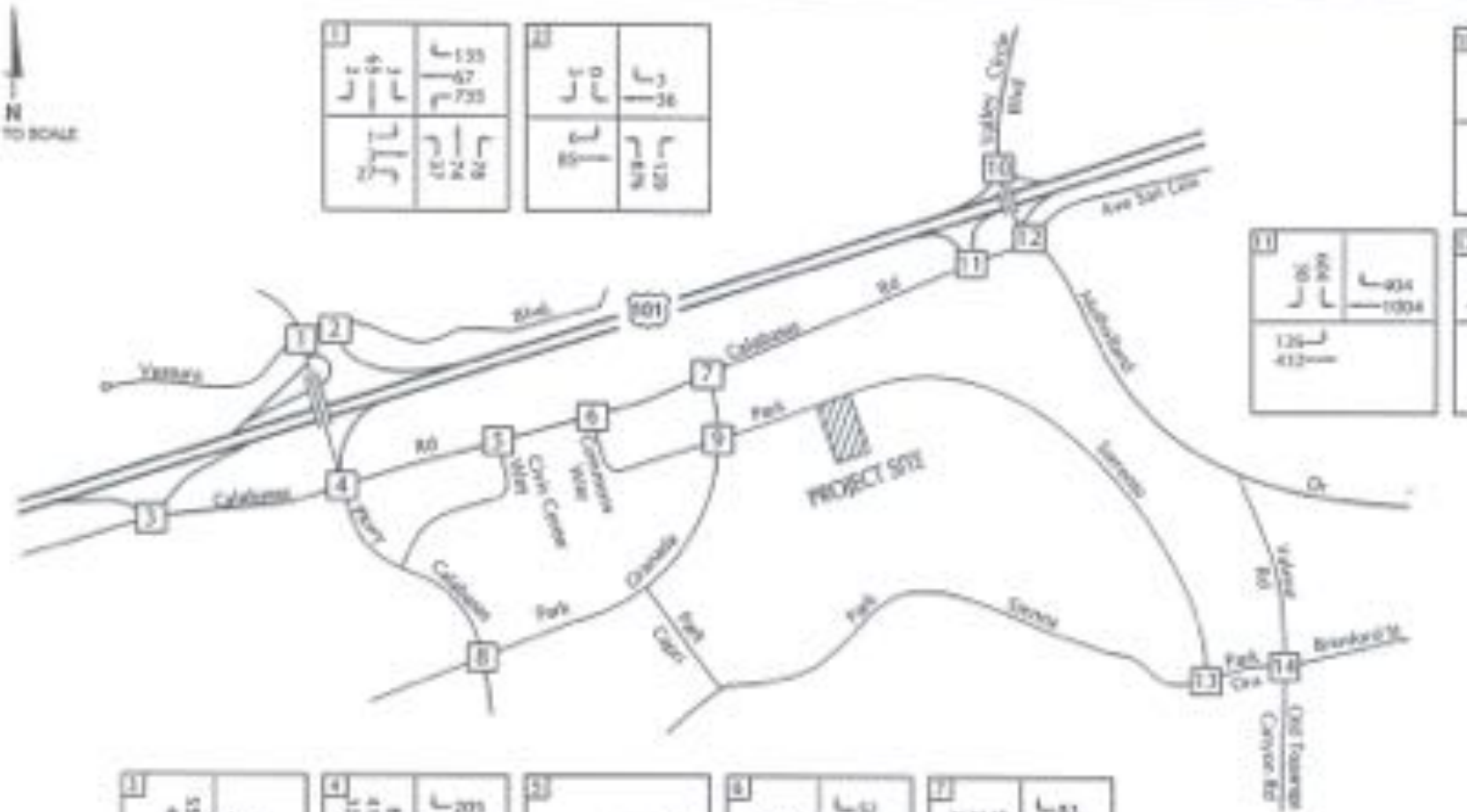
(a) Does not include 15 replacement spaces.

The data presented in Table 13 show that the project is proposing to provide 294 parking spaces which represents a shared parking reduction of 1.7% from the City's Zoning Ordinance requirement of 299 spaces. The data also show that the peak parking demand generated by the project would be 272 spaces, which would allow for a shared parking reduction of up to 9.0% from the City's Zoning Ordinance requirement of 299 spaces. The parking demand analysis therefore supports the requested shared parking reduction.

CUMULATIVE ANALYSIS

Cumulative Traffic Forecasts

Cumulative traffic volume forecasts were developed based on a list of related projects located in the City of Calabasas and the surrounding unincorporated areas of Los Angeles County. The traffic generated by the cumulative projects was added to the Year 2016 volumes and the resulting volumes are presented on Figures 15 and 16. Trip generation estimates for the cumulative projects were developed based on rates contained in the ITE Trip Generation report as well as data published in other traffic studies. The cumulative project lists and trip generation calculations are contained in the Technical Appendix for reference.



CUMULATIVE A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 15

LEGEND

XXX - P.M. Peak Hour Volume

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CUMULATIVE P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 16

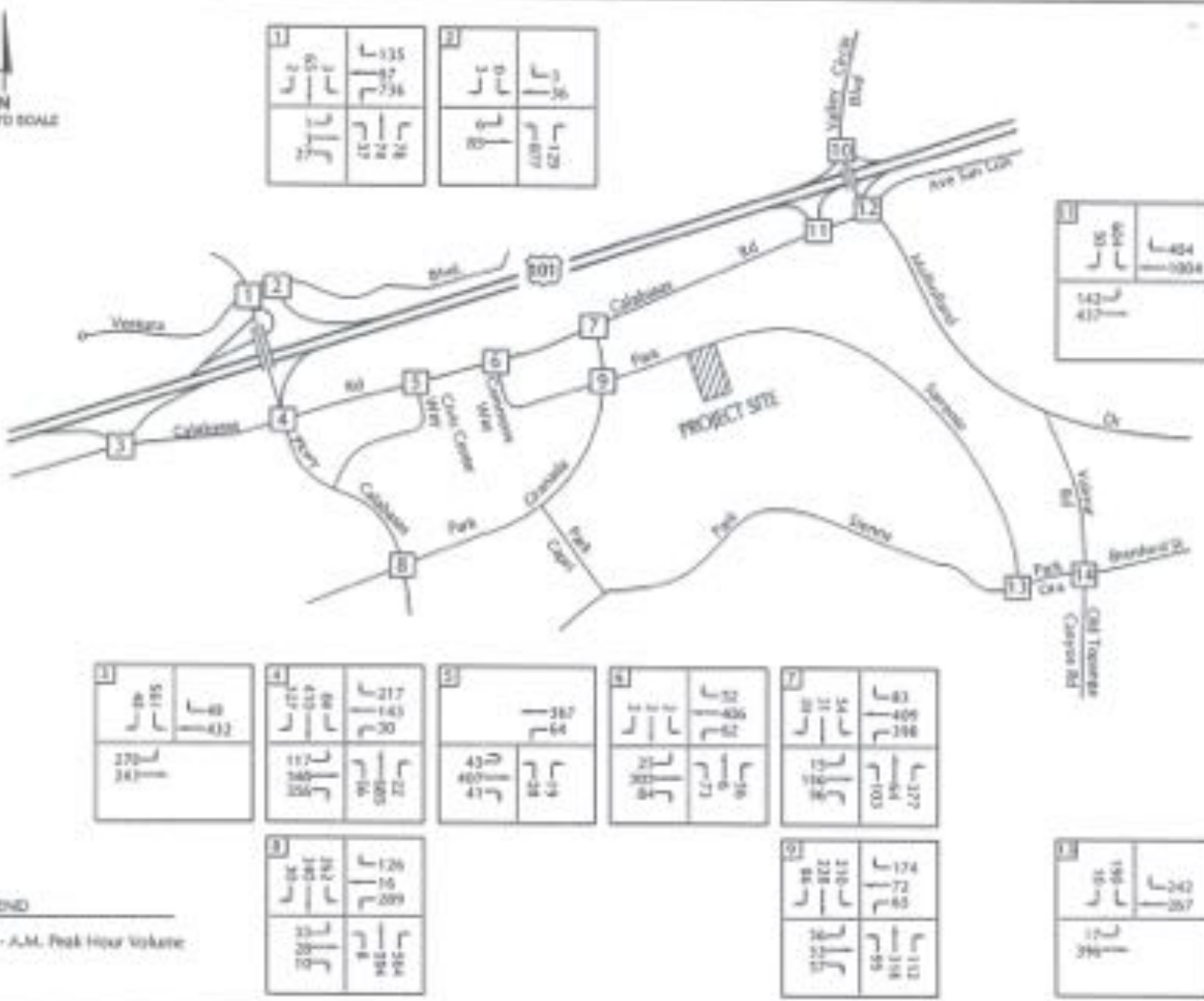
Cumulative + Project Intersection Operations

Levels of service were calculated for the study-area intersections assuming the Cumulative and Cumulative + Project peak hour traffic volumes shown on Figures 17 and 18. Cumulative impacts were evaluated based on the impact criteria for each of the three applicable jurisdictions reviewed previously. Tables 14 and 15 compare the Cumulative and Cumulative + Project peak hour levels of service and identify the significance of the project's traffic additions at each location based on the applicable City and County thresholds.

Table 14
Cumulative + Project A.M. Peak Hour Intersection Levels of Service

Intersection	Cumulative		Cumulative + Project		Project-Added	
	ICU/Delay	LOS	ICU/Delay	LOS	Increase	Impact?
Ventura Blvd./Parkway Calabasas	0.53	A	0.53	A	0.001	No
Ventura Blvd./U.S. 101 NB Ramps	0.48	A	0.48	A	0.001	No
Calabasas Rd. (W)/U.S. 101 SB Ramps	0.71	C	0.71	C	0.003	No
Calabasas Road/Parkway Calabasas	0.44	A	0.44	A	0.000	No
Calabasas Road/Park Centre	0.27	A	0.28	A	0.003	No
Calabasas Road/Commons Way	0.29	A	0.30	A	0.005	No
Calabasas Road/Park Granada	0.45	A	0.46	A	0.011	No
Park Granada/Parkway Calabasas	0.74	C	0.74	C	0.002	No
Park Sorrento/Park Granada	0.43	A	0.45	A	0.020	No
Valley Circle Blvd/U.S. 101 NB Ramps	1.00	E	1.00	E	0.002	No
Calabasas Rd. (E)/U.S. 101 SB Ramps	0.54	A	0.55	A	0.012	No
Calabasas Road/Mulholland Drive	0.77	C	0.77	C	0.002	No
Park Sorrento/Park Ora (a)	13.9 Sec.	B	14.2 Sec.	B	N/A	No
Valmar Road/Park Ora	0.75	C	0.76	C	0.008	No

(a) Unsignalized Intersection - LOS based upon average delay per vehicle in seconds.



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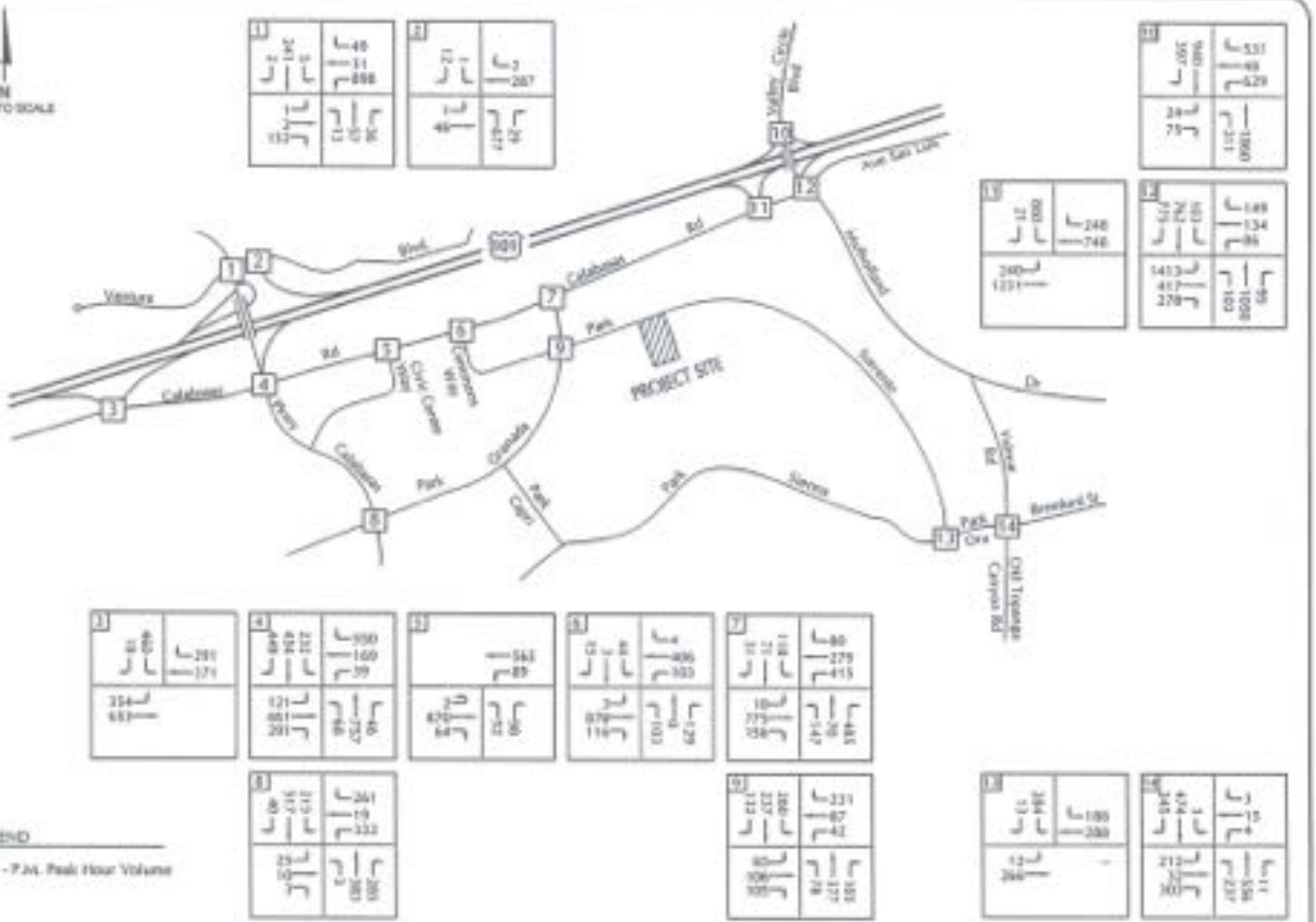
CUMULATIVE + PROJECT A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 17



Associated Transportation Engineers

CUMULATIVE + PROJECT P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 18

Table 15
Cumulative + Project P.M. Peak Hour Intersection Operations

Intersection	Cumulative		Cumulative + Project		Project-Added	
	ICU/Delay	LOS	ICU/Delay	LOS	Increase	Impact?
Ventura Blvd./Parkway Calabasas	0.70	B	0.70	B	0.002	No
Ventura Blvd./U.S. 101 NB Ramps	0.46	A	0.46	A	0.002	No
Calabasas Rd. (W)/U.S. 101 SB Ramps	0.69	B	0.69	B	0.002	No
Calabasas Road/Parkway Calabasas	0.67	B	0.67	B	0.003	No
Calabasas Road/Park Centre	0.44	A	0.45	A	0.006	No
Calabasas Road/Commons Way	0.53	A	0.54	A	0.006	No
Calabasas Road/Park Granada	0.73	C	0.74	C	0.013	No
Park Granada/Parkway Calabasas	0.57	A	0.57	A	0.002	No
Park Sorrento/Park Granada	0.52	A	0.55	A	0.029	No
Valley Circle Blvd/U.S. 101 NB Ramps	0.87	D	0.88	D	0.005	No
Calabasas Rd. (E)/U.S. 101 SB Ramps	0.78	C	0.79	C	0.014	No
Calabasas Road/Mulholland Drive	1.02	F	1.02	F	0.001	No
Park Sorrento/Park Ora (a)	12.8 Sec.	B	13.2 Sec.	B	N/A	No
Valmar Road/Park Ora	0.65	B	0.66	B	0.009	No

(a) Unsignalized Intersection - LOS based upon average delay per vehicle in seconds.

The data presented in Tables 14 and 15 indicate that the project's traffic additions would not generate significant cumulative impacts to the study-area intersections based on the applicable City and County impact thresholds.

MITIGATION MEASURES

The following measure would off-set the Project's contribution to cumulative traffic growth in the City.

Measure-1: The project applicant shall pay traffic impact fees according to the City's traffic citywide traffic mitigation program.

The following measure is recommended to mitigate line-of-sight inadequacies at the project driveways.

Measure-2: Five on-street parking spaces shall be removed to the west of the Western Driveway and three on-street parking spaces shall be removed between the two project driveways to insure maximum sight distance (8 total spaces removed). Existing landscaping will also be trimmed back to insure that sight distance is not impeded.

■ ■ ■

STUDY PARTICIPANTS AND REFERENCES

Associated Transportation Engineers

Scott A. Schell, AICP, PTP, Principal Transportation Planner
Dan Dawson, PTP, Supervising Transportation Planner
Matthew Farrington, Transportation Planner I

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Shared Parking, Urban Land Institute, 2nd Edition, 2005.

Persons Contacted

Seferian, Marc, Senior Civil Engineer - City of Calabasas

TECHNICAL APPENDIX

CONTENTS:

TRAFFIC COUNT DATA

LEVEL OF SERVICE DEFINITIONS

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Reference 1	Ventura Boulevard/Parkway Calabasas
Reference 2	Ventura Boulevard/U.S. Highway 101 Northbound Ramps
Reference 3	Calabasas Road (W)/U.S. Highway 101 Southbound Ramps
Reference 4	Calabasas Road/Parkway Calabasas
Reference 5	Calabasas Road/Park Centre
Reference 6	Calabasas Road/Commons Way
Reference 7	Calabasas Road/Park Granada
Reference 8	Park Granada/Parkway Calabasas
Reference 9	Park Sorrento/Park Granada
Reference 10	Valley Circle Boulevard/U.S. Highway 101 Northbound Ramps
Reference 11	Calabasas Road (E)/U.S. Highway 101 Southbound Ramps
Reference 12	Calabasas Road/Mulholland Drive
Reference 13	Park Sorrento/Park Ora
Reference 14	Valmar Road/Park Ora

SHARED PARKING DEMAND CALCULATION WORKSHEET

CUMULATIVE PROJECT LIST/TRIP GENERATION CALCULATIONS

TRAFFIC COUNT DATA

ITM Peak Hour Summary

Prepared by:

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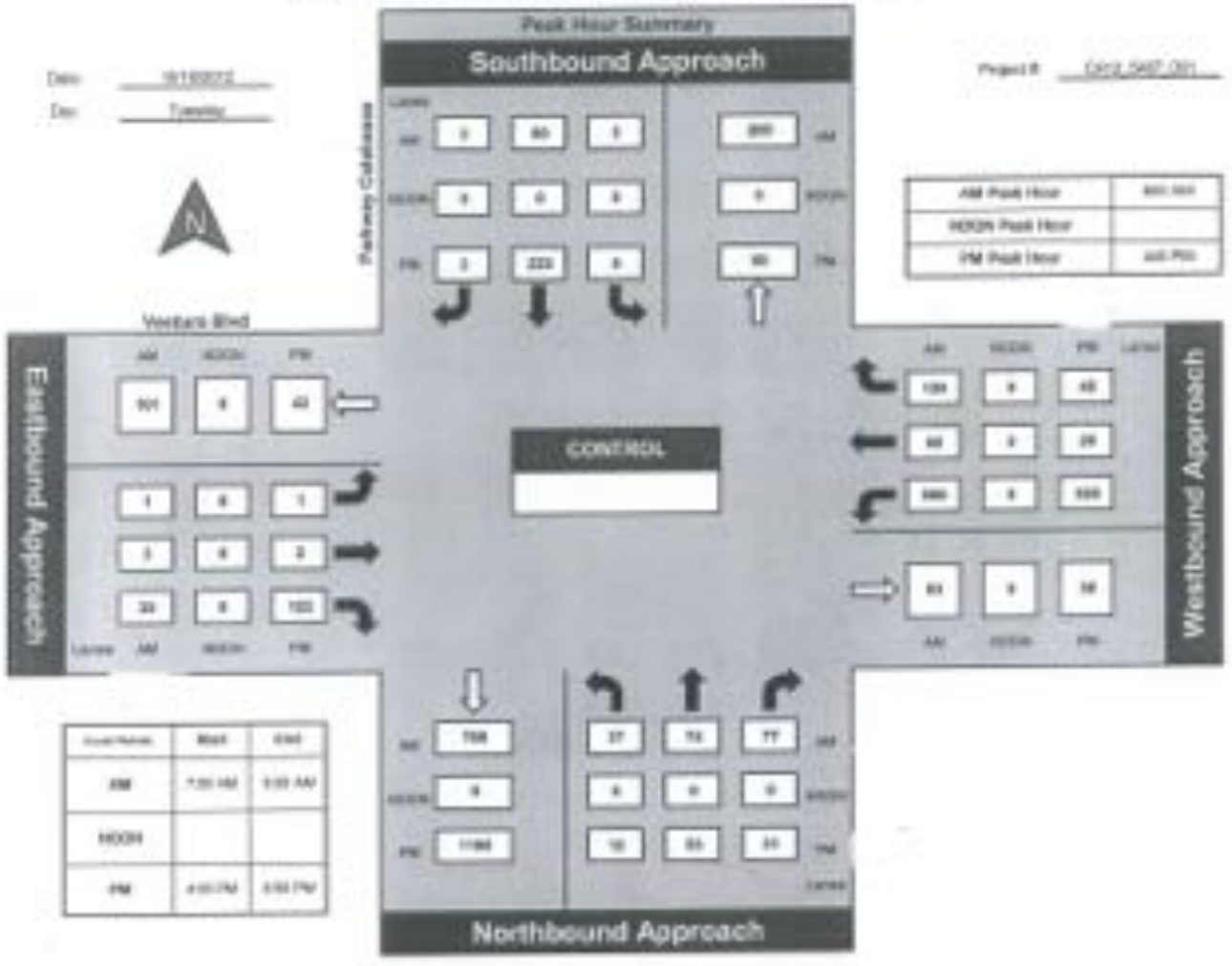
Parkway Calabasas and Ventura Blvd , City of Calabasas



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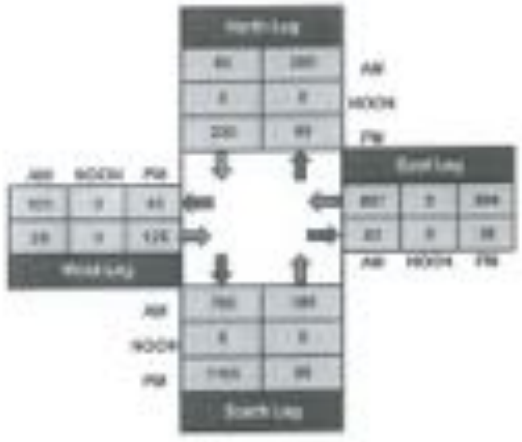

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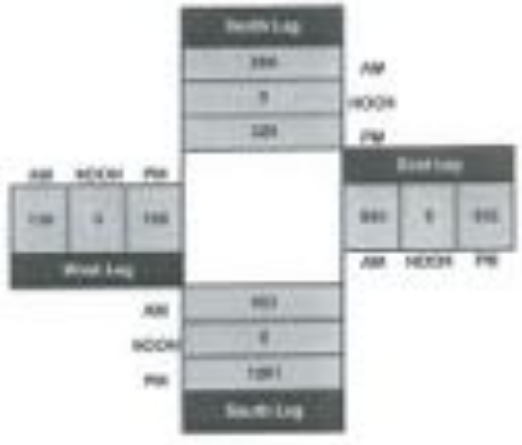

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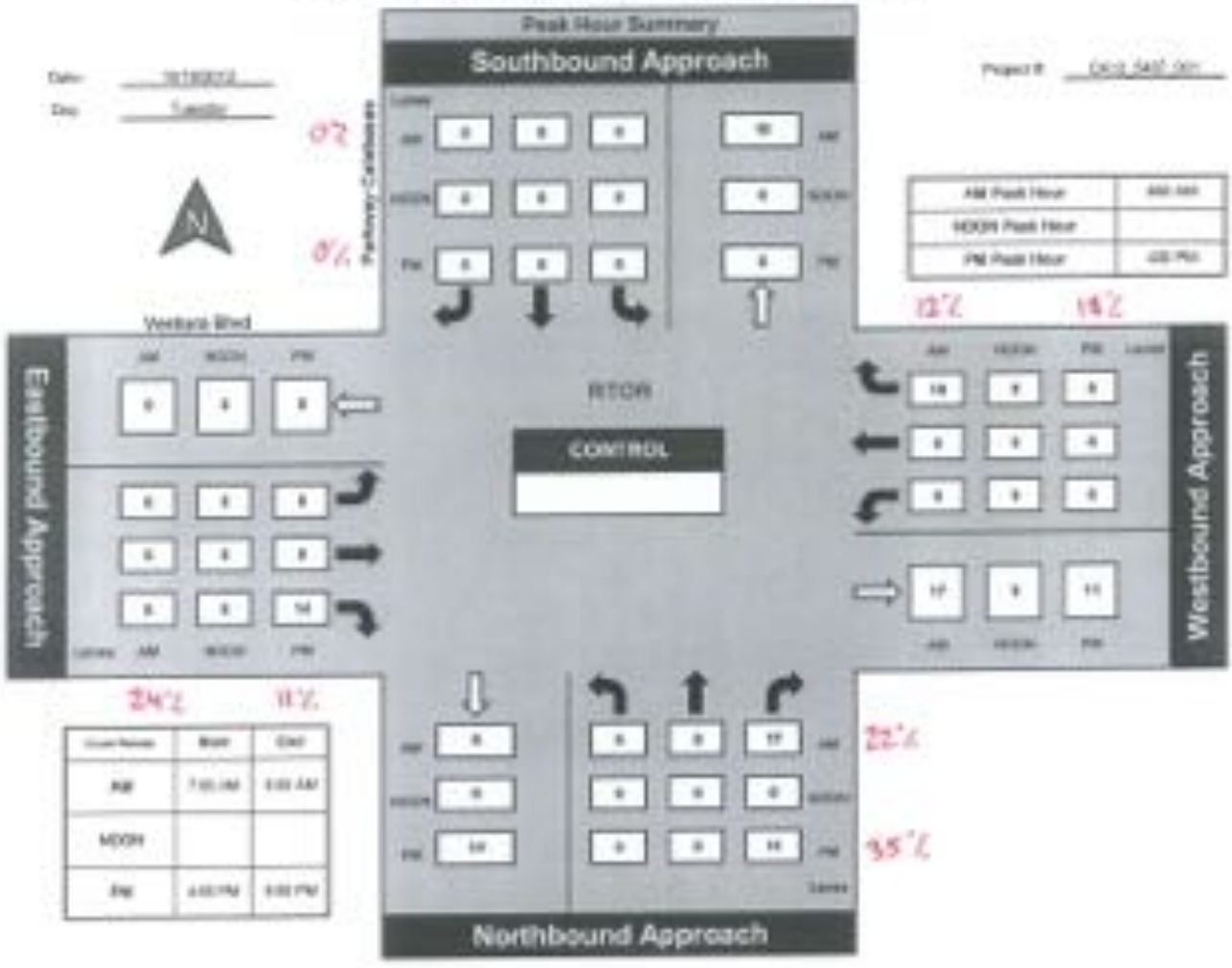
Parkway Calabasas and Ventura Blvd, City of Calabasas



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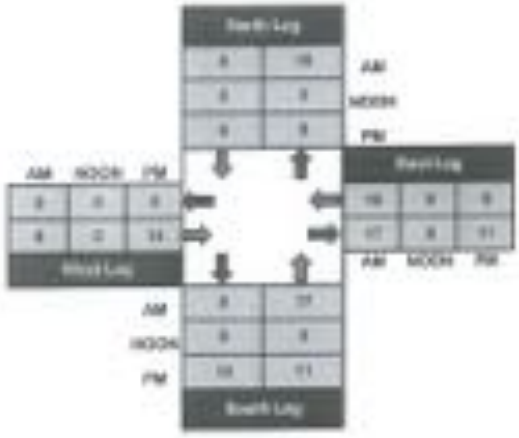

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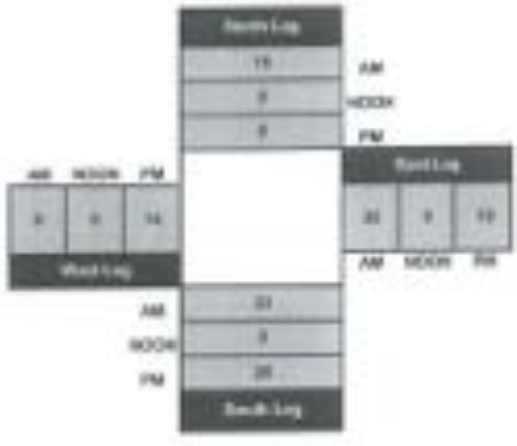

ITM Peak Hour Summary

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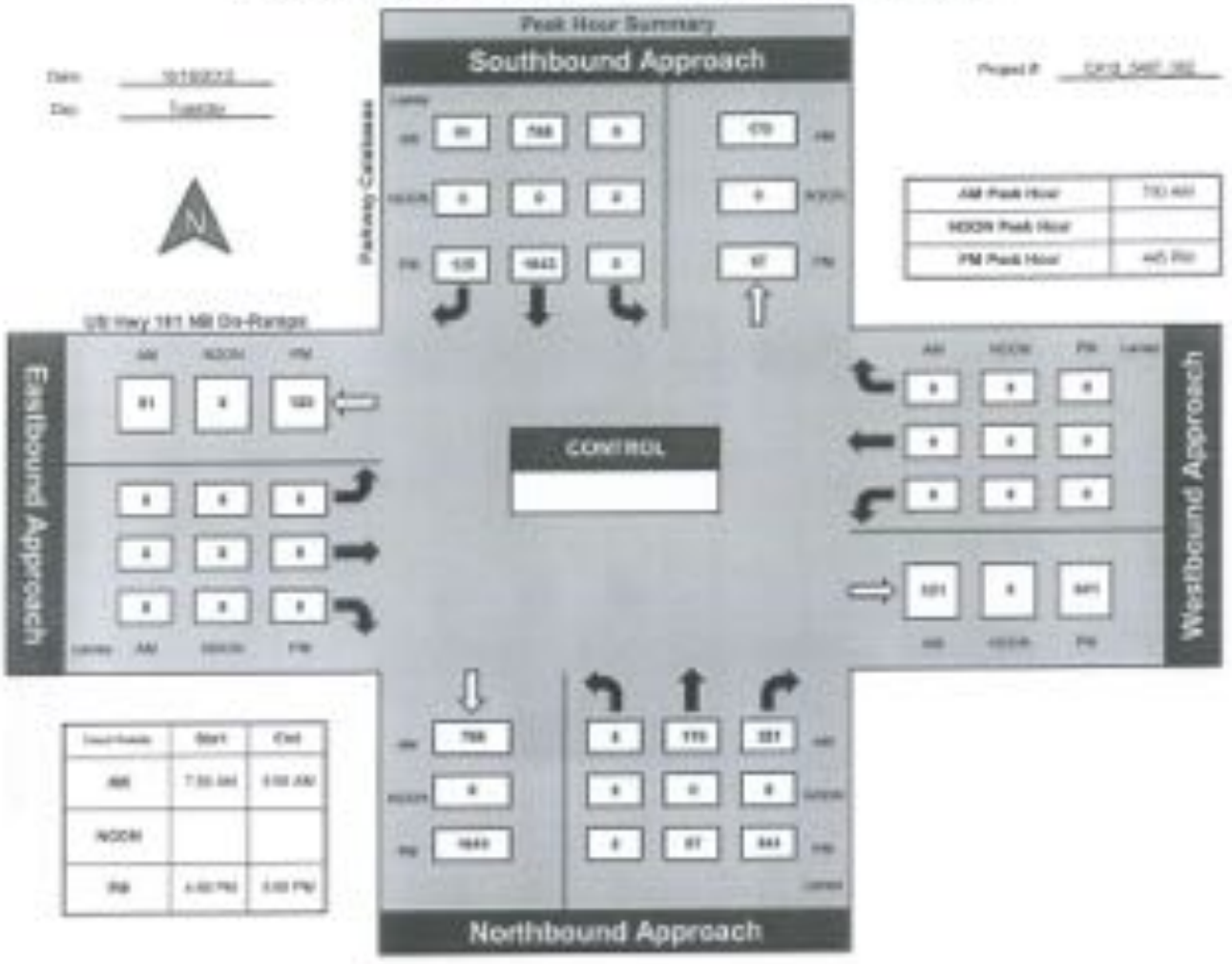
National Data & Surveying Services

Parkway Calabasas and US Hwy 101 NB On-Ramps , City of Calabasas



AM Peak Hour		
MIDDAY Peak Hour		
PM Peak Hour		

	Start	End
AM		
MIDDAY		
PM		

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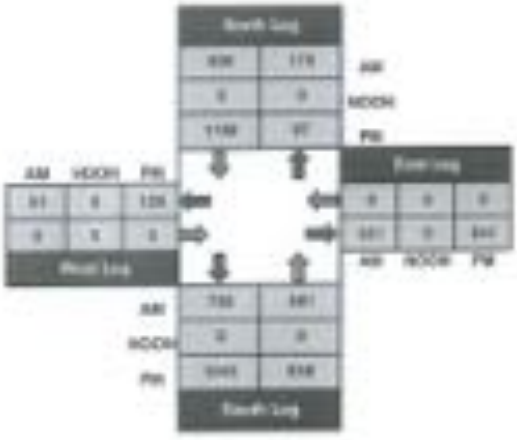

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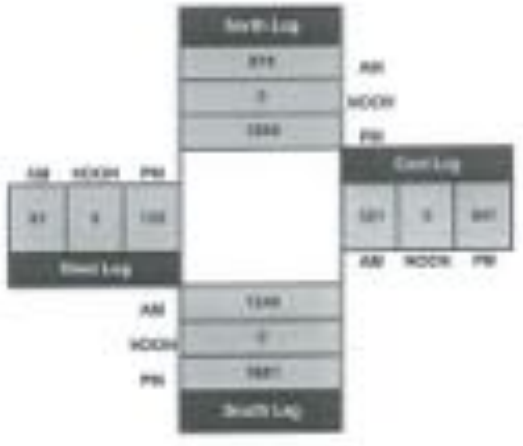

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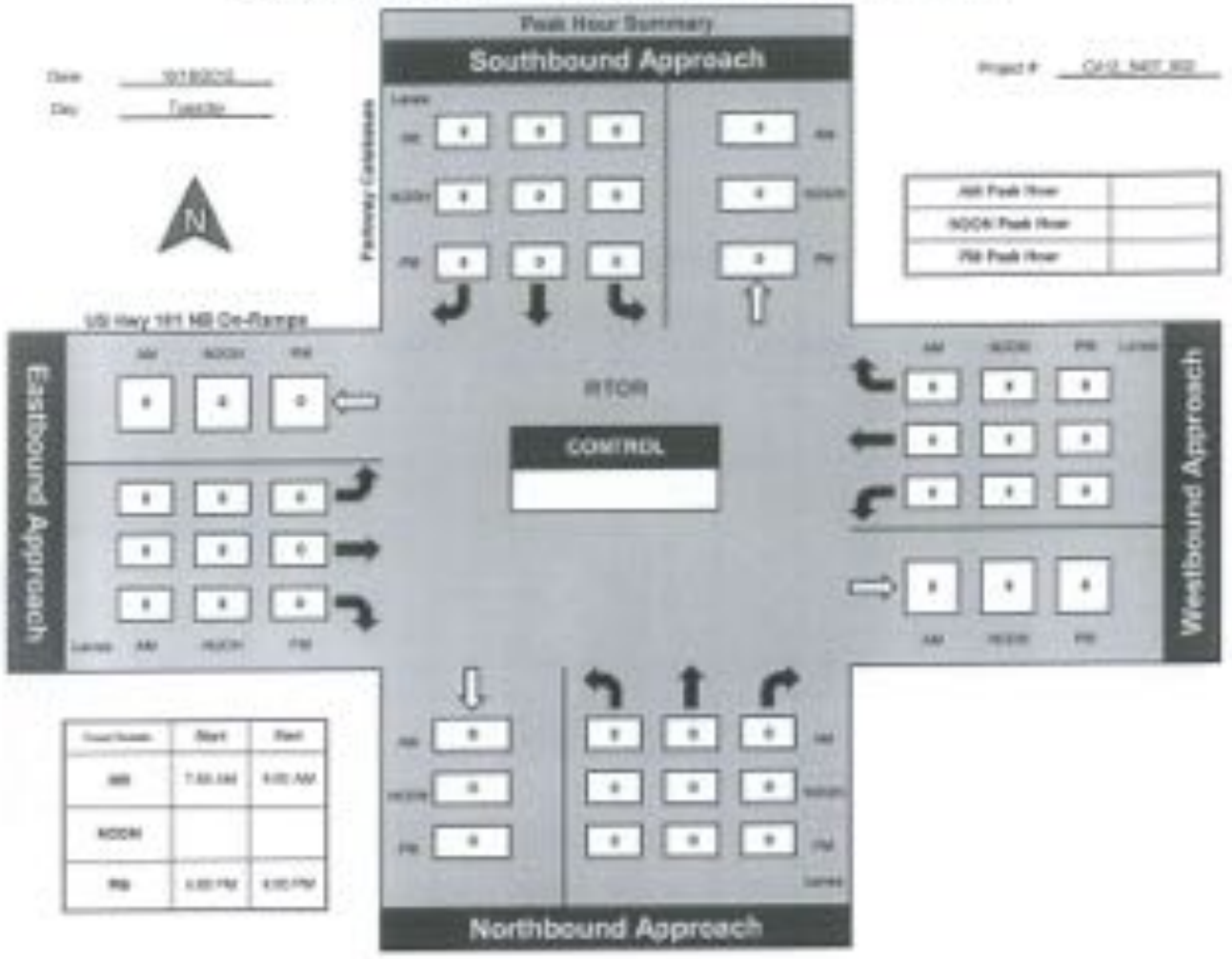
Parkway Calabasas and US Hwy 101 NB On-Ramps , City of Calabasas



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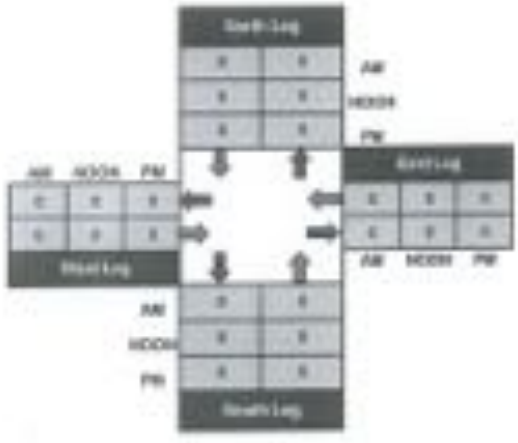

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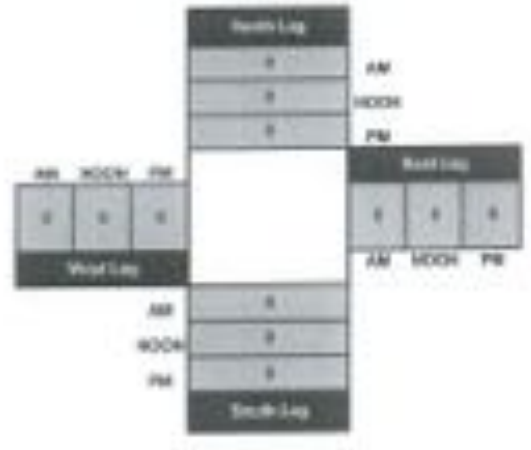

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ITM Peak Hour Summary

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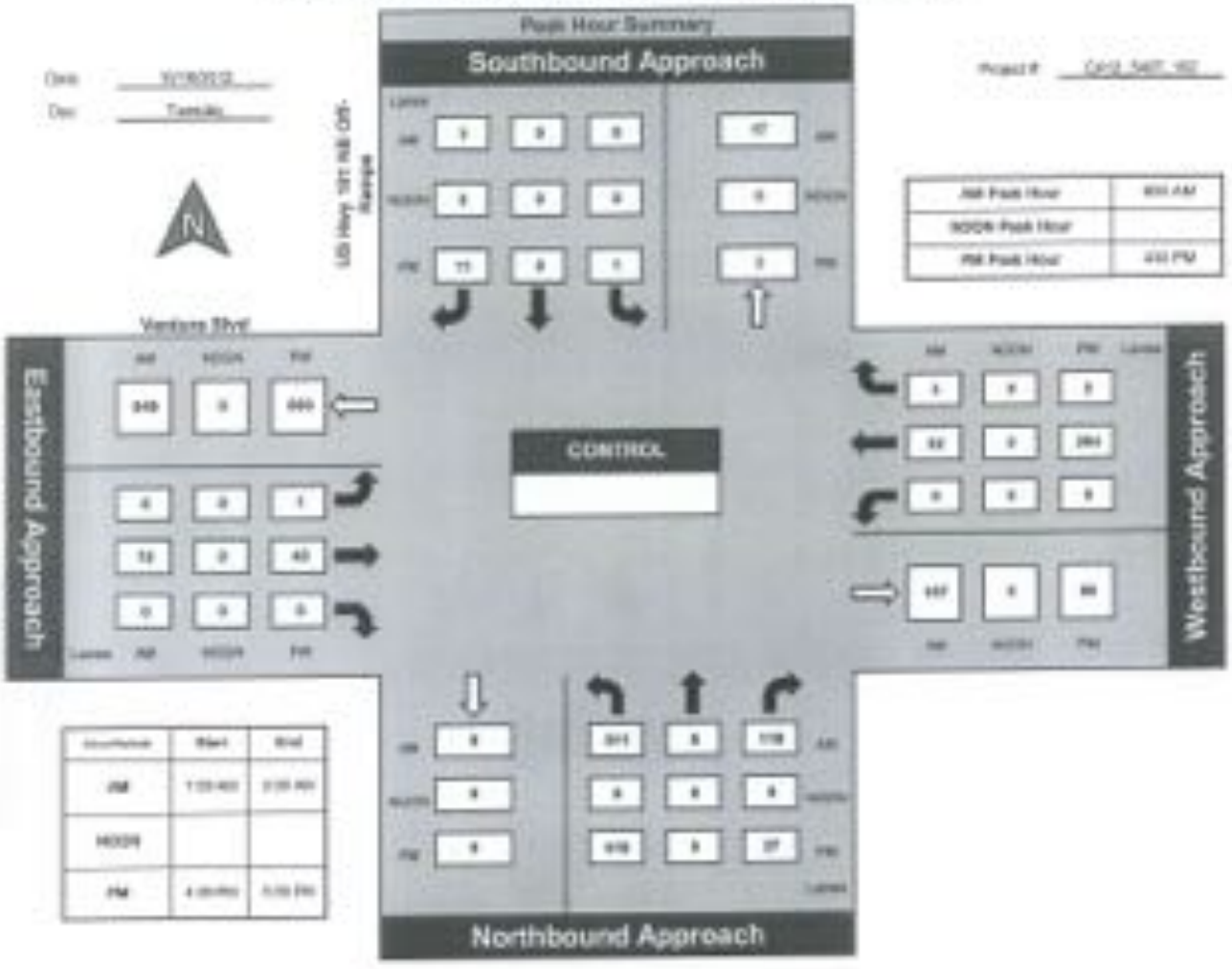
US Hwy 101 NB Off-Ramps and Ventura Blvd., City of Calabasas



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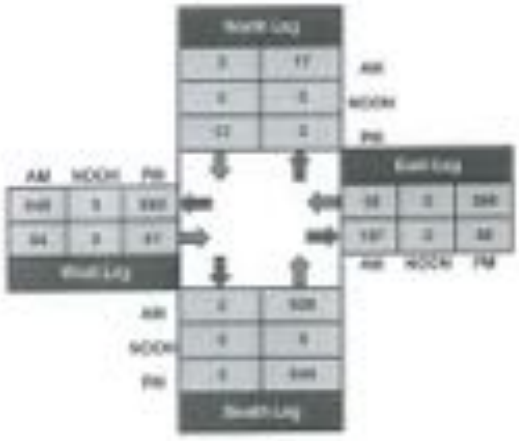

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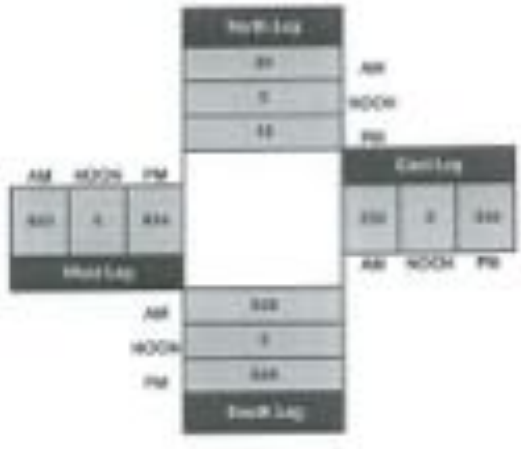

ITM Peak Hour Summary

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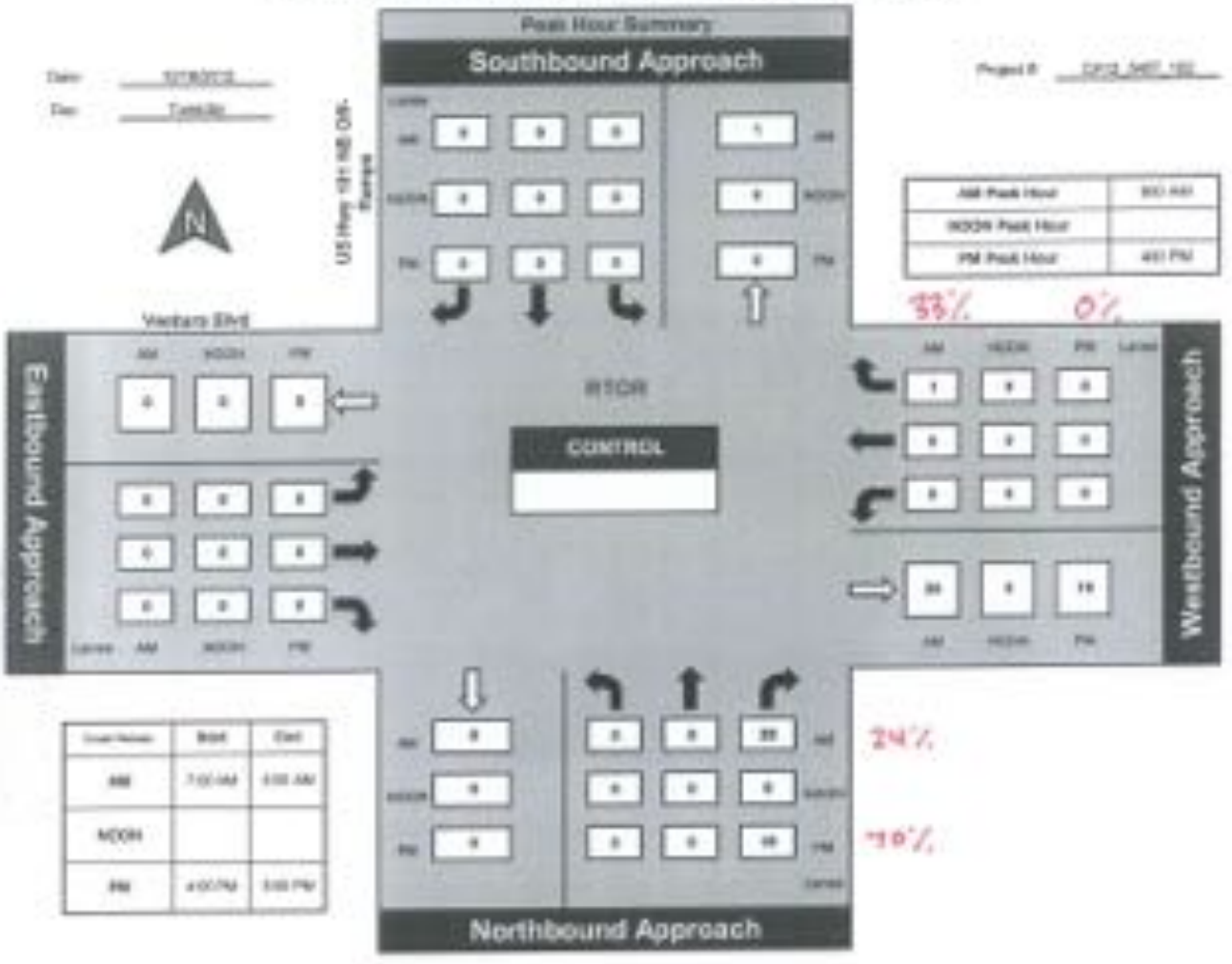
US Hwy 101 NB Off-Ramps and Ventura Blvd., City of Calabasas



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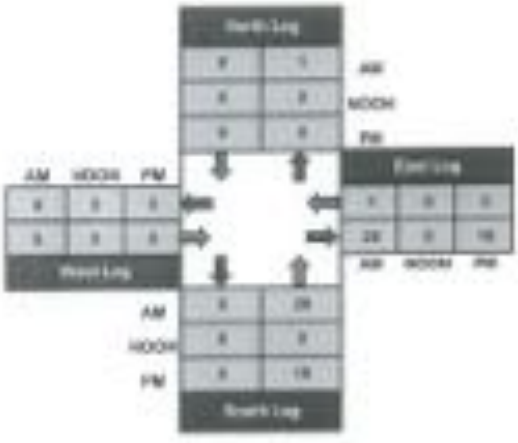

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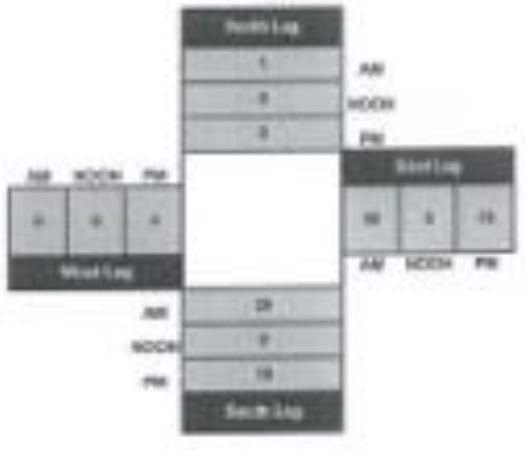

ITM Peak Hour Summary

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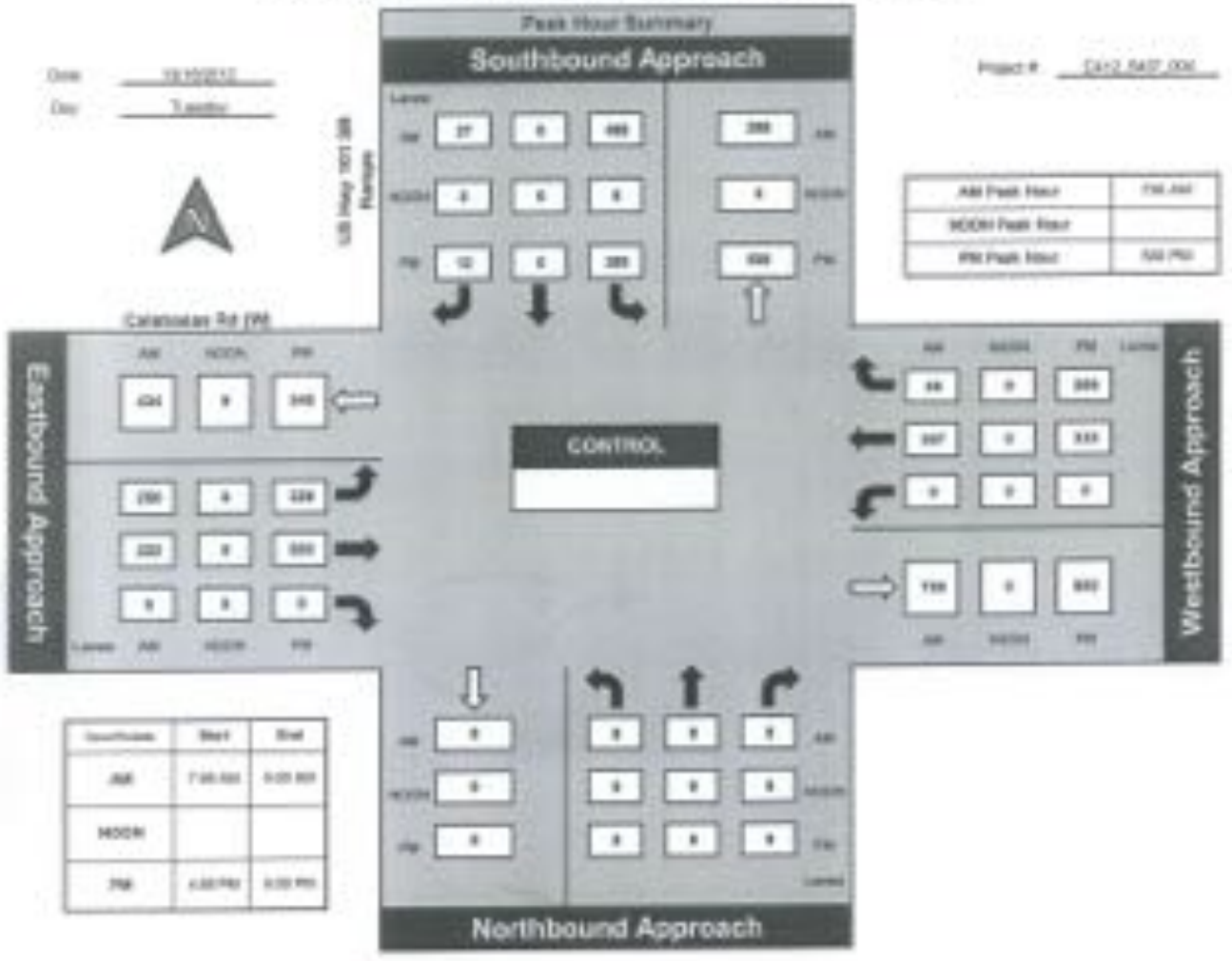
US Hwy 101 SB Ramps and Calabasas Rd (W) - City of Calabasas



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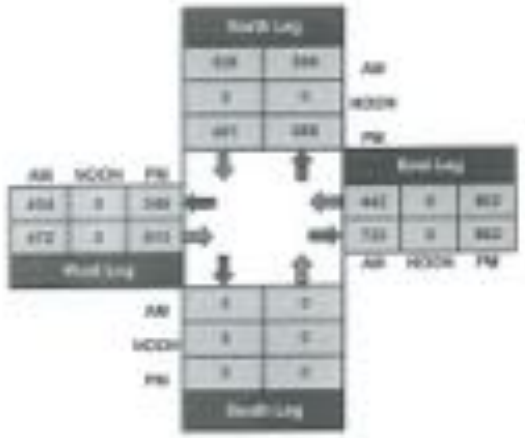

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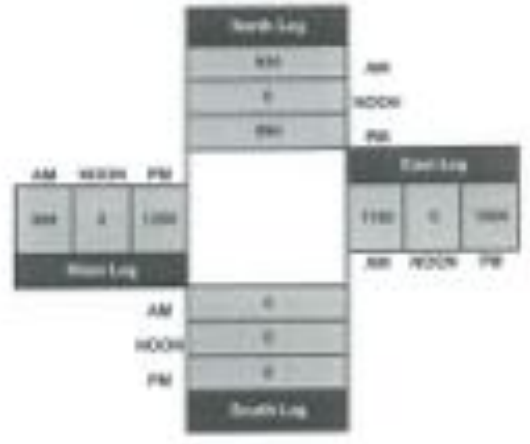

ITM Peak Hour Summary

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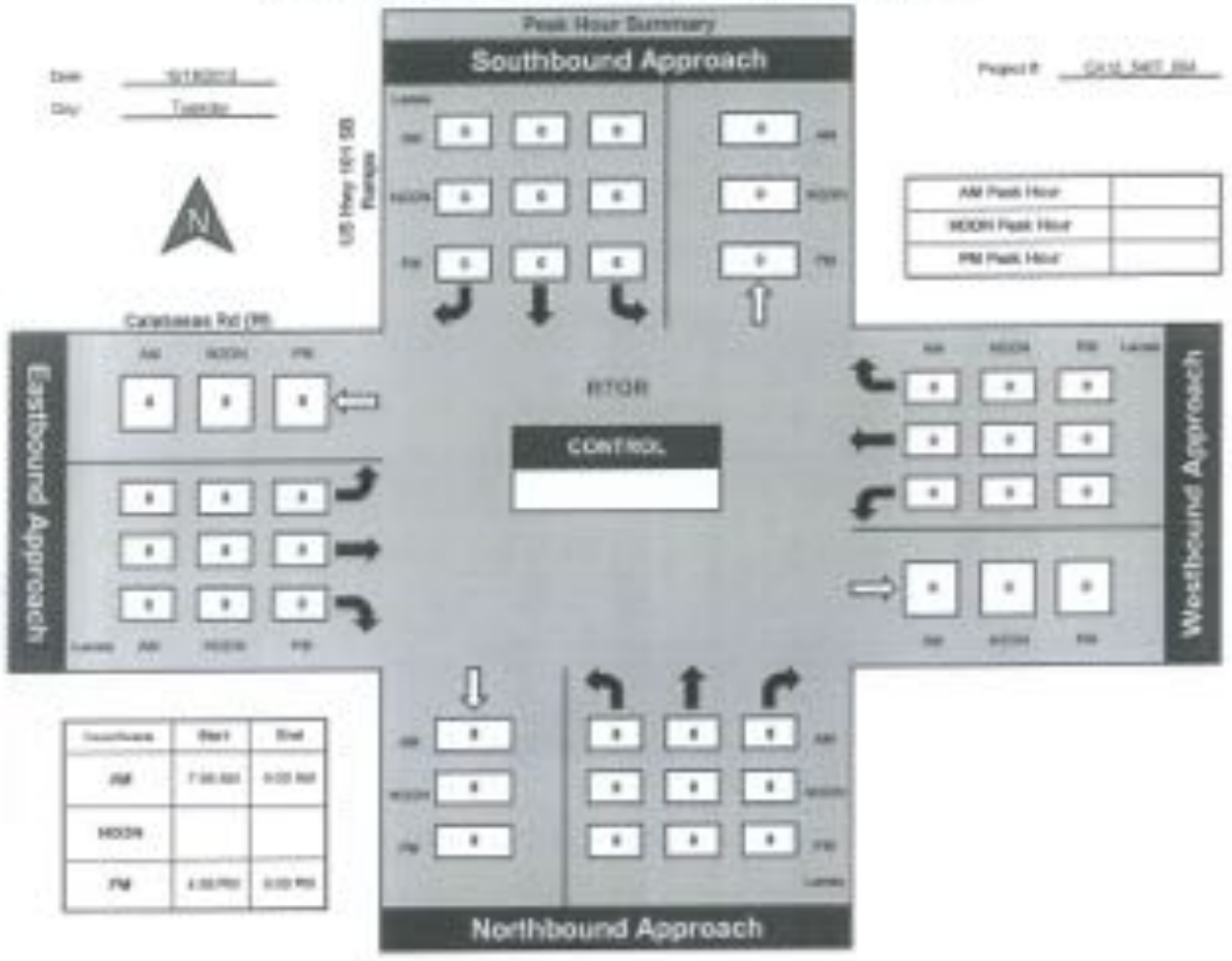
US Hwy 101 SB Ramps and Cahoonas Rd (W), City of Calabasas



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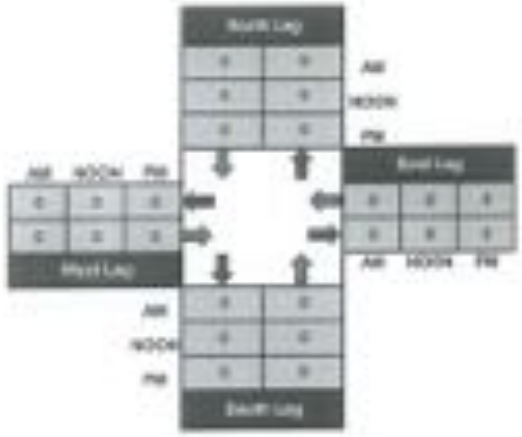

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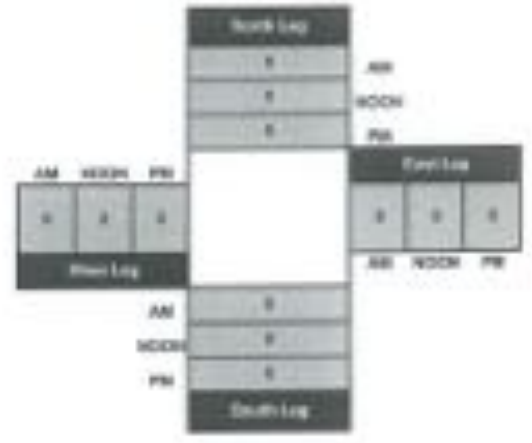

ITM Peak Hour Summary

Prepared By:

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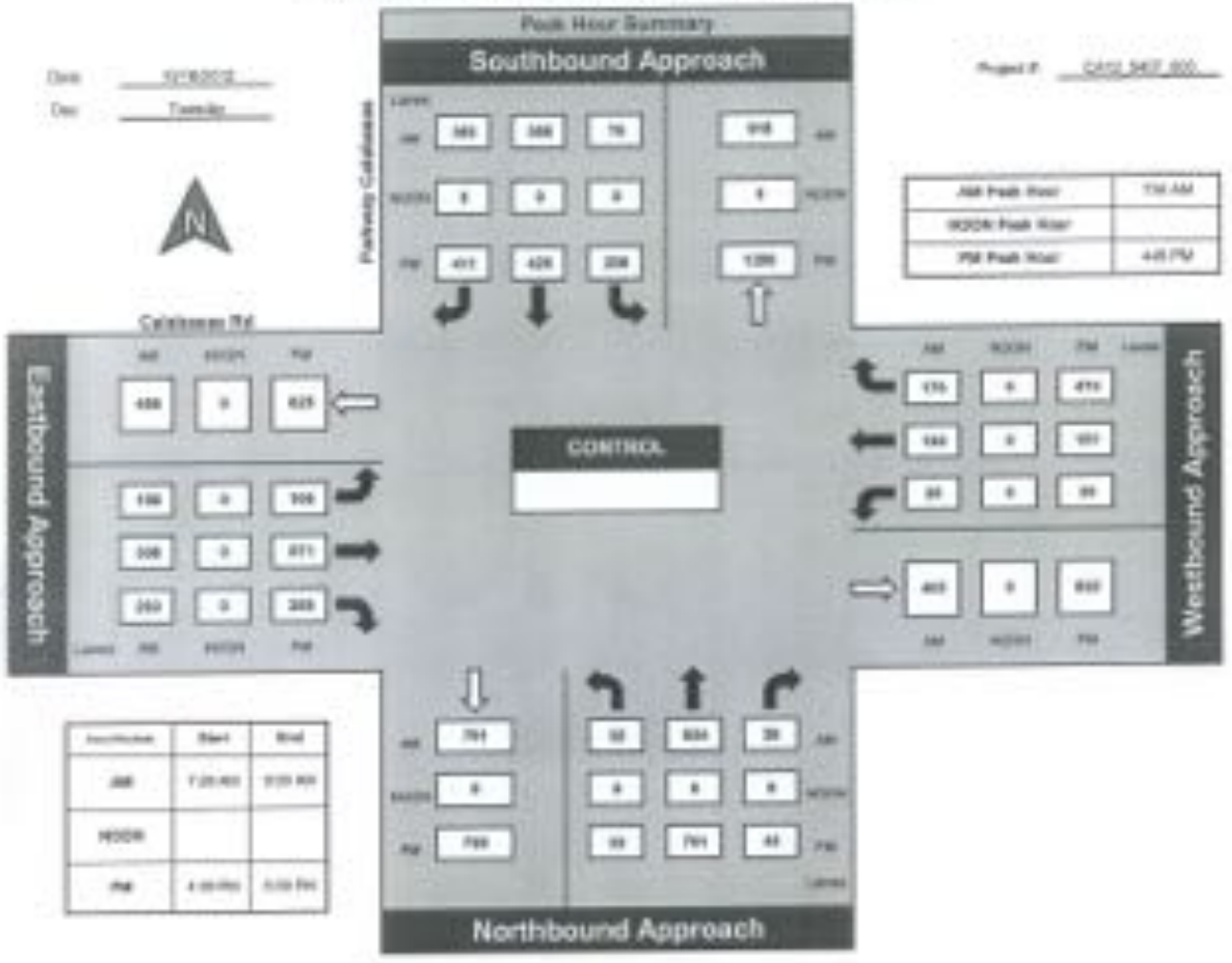
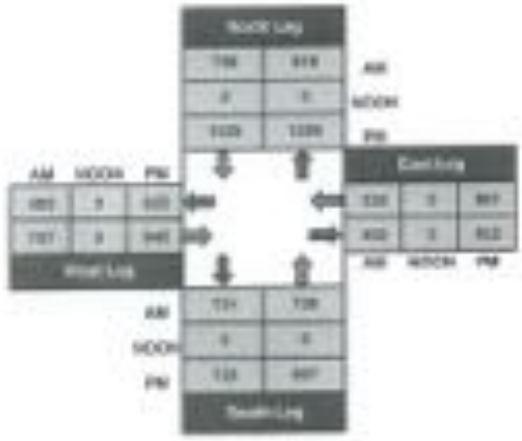
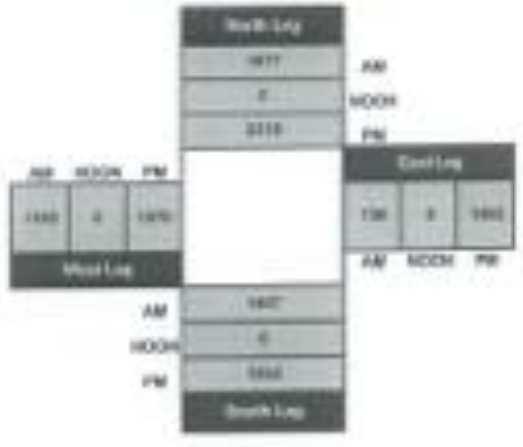
Parkway Calabasas and Calabasas Rd , City of Calabasas



Total Ins & Outs



Total Volume Per Leg



#4

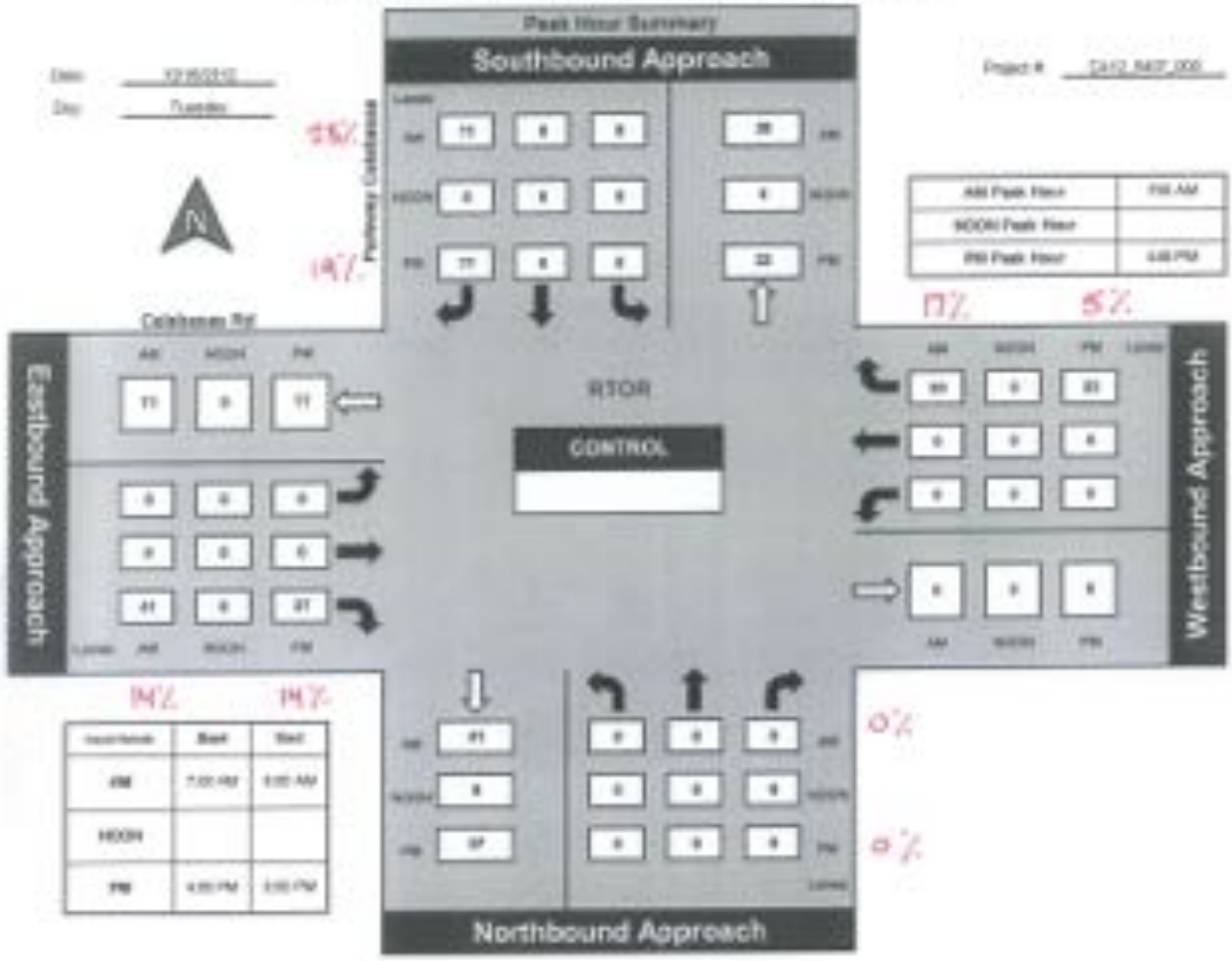
ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Parkway Calabasas and Calabasas Rd., City of Calabasas



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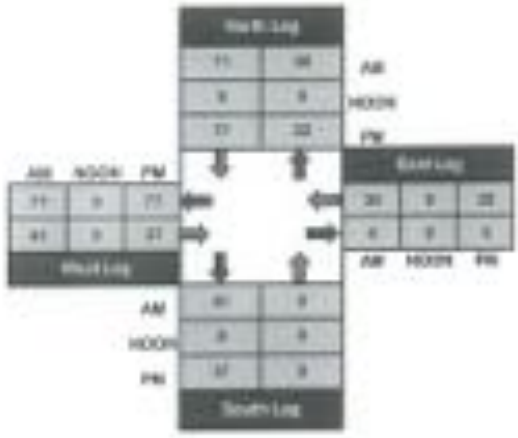

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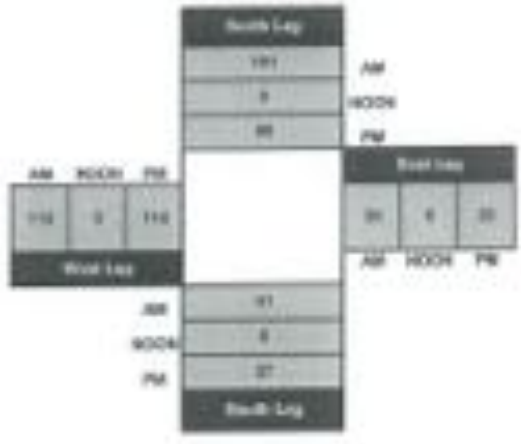


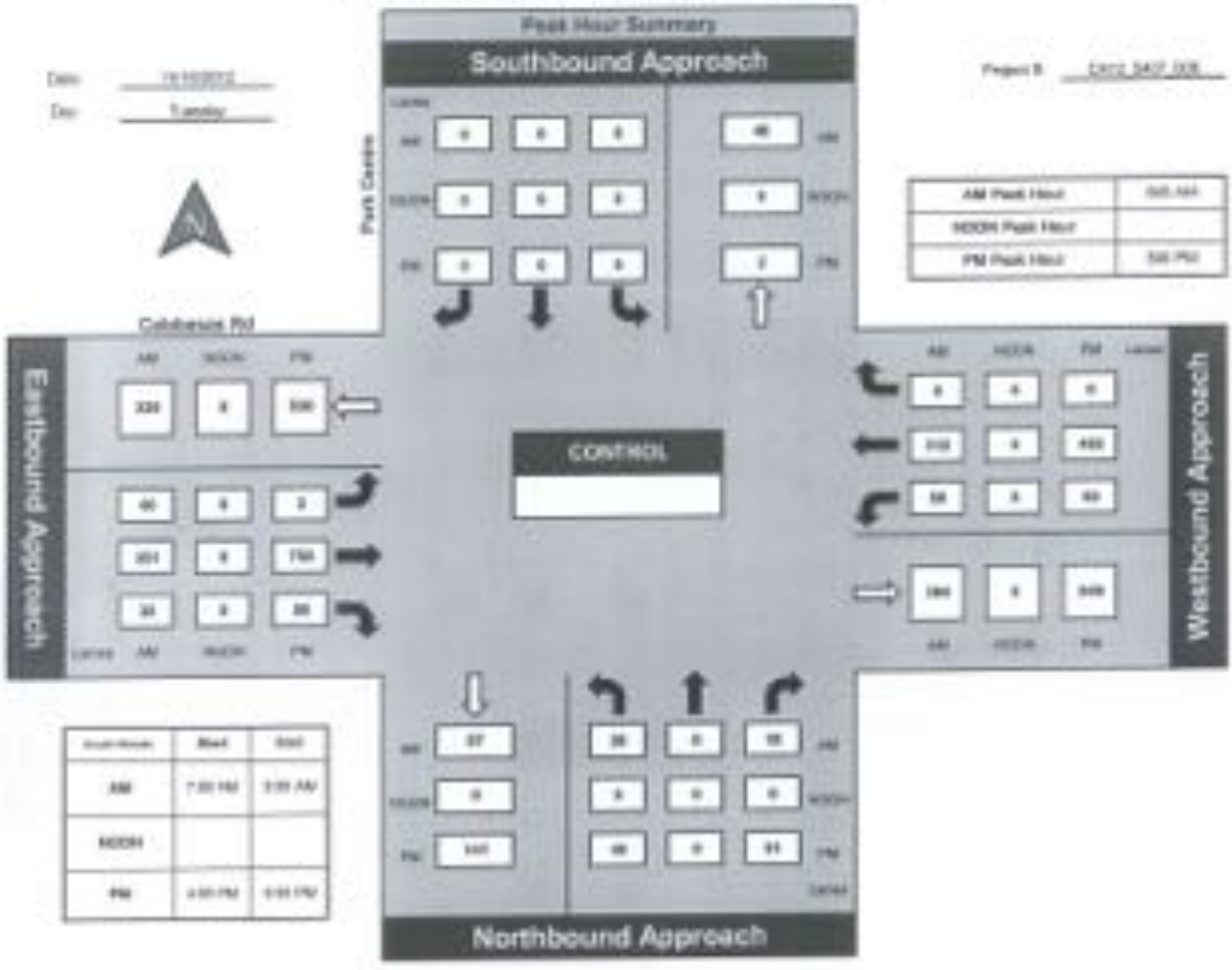
ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Park Centre and Calabasas Rd., City of Calabasas



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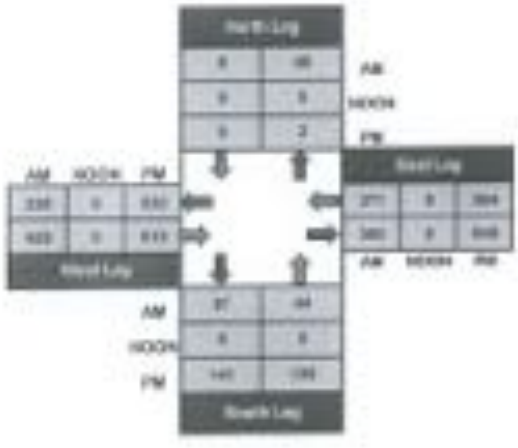

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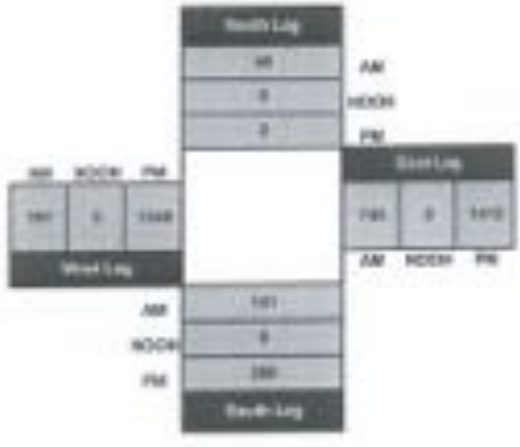
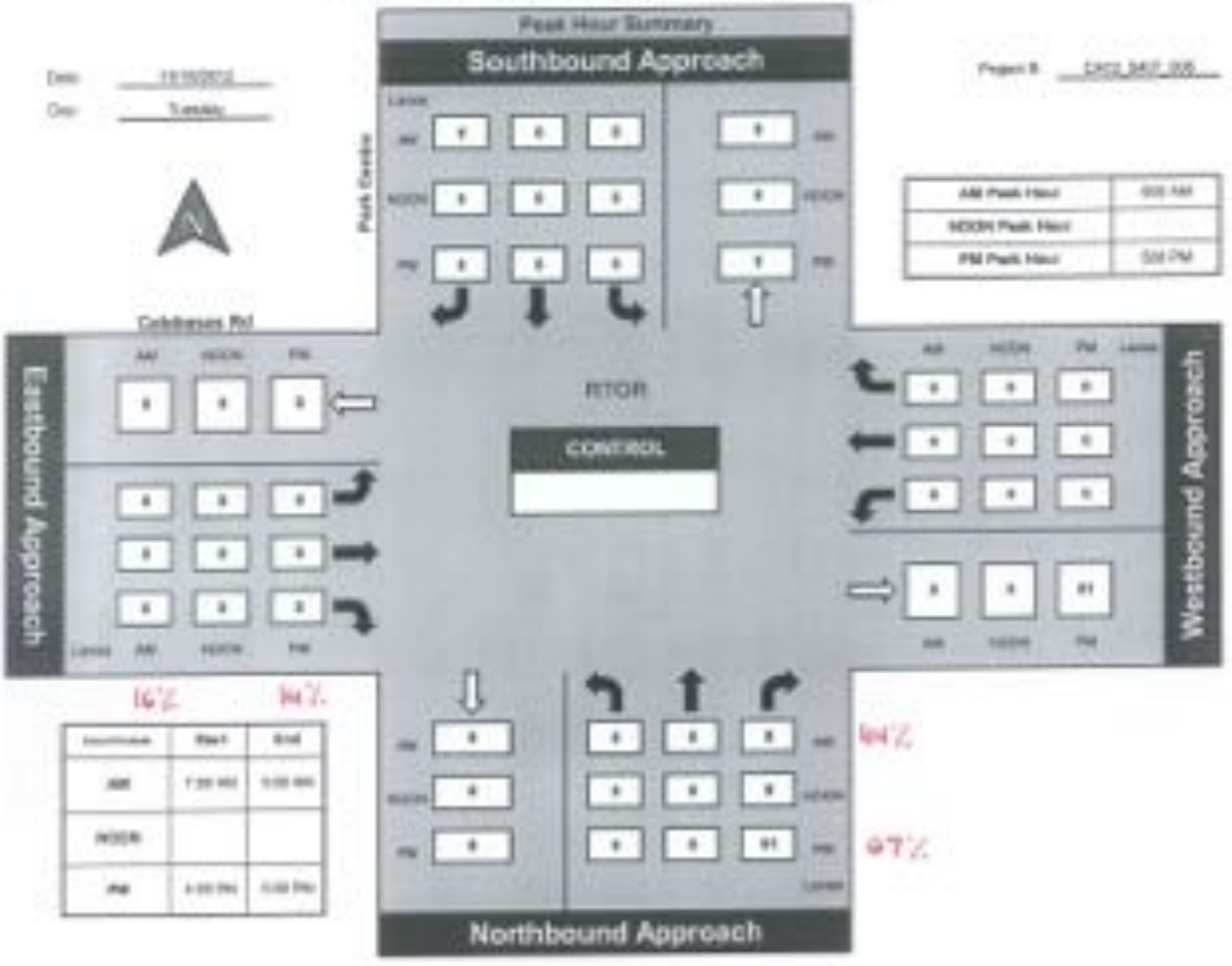


ITM Peak Hour Summary

Prepared by:
NDS
National Data & Surveying Services

Park Centre and Calabasas Rd., City of Calabasas



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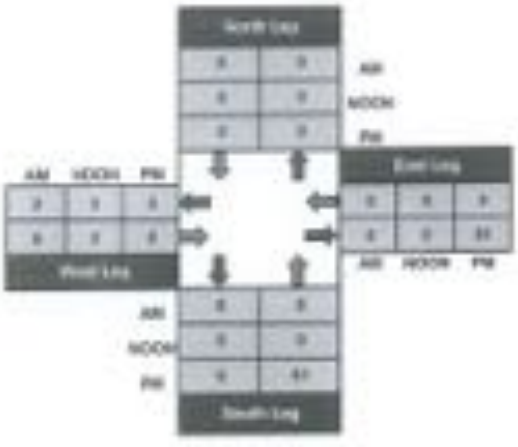

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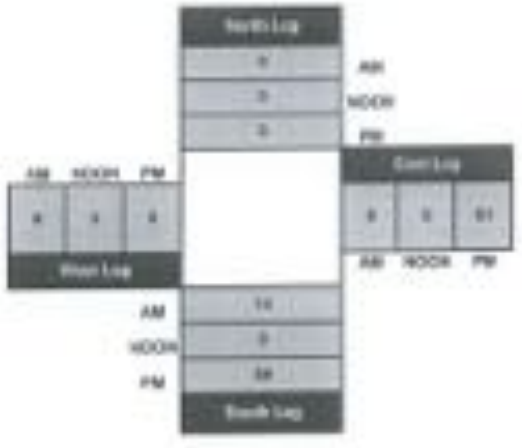


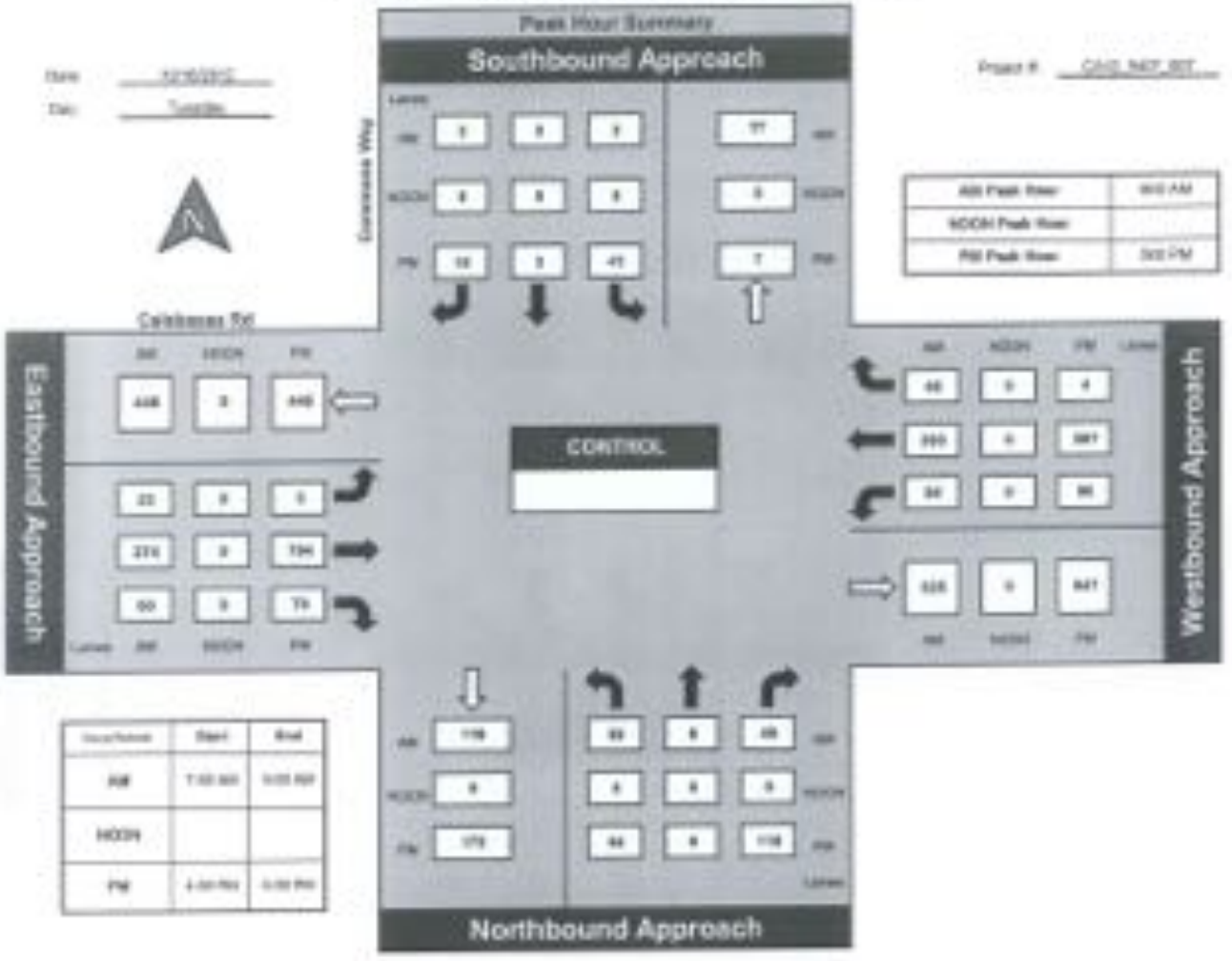
ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

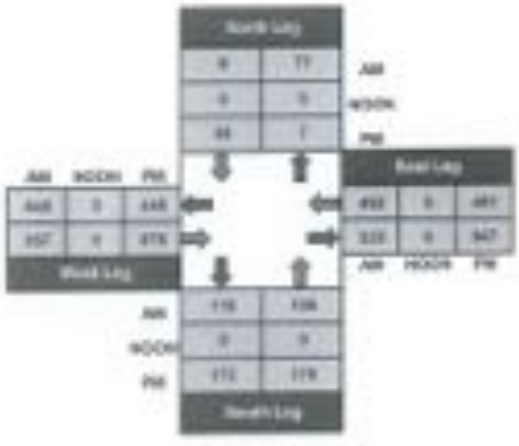
Commons Way and Calabasas Rd , City of Calabasas



AM Peak Hour	8:00 AM
MIDDAY Peak Hour	
PM Peak Hour	3:00 PM

	Start	End
AM	7:00 AM	9:00 AM
MIDDAY		
PM	2:00 PM	6:00 PM

Total Ins & Outs



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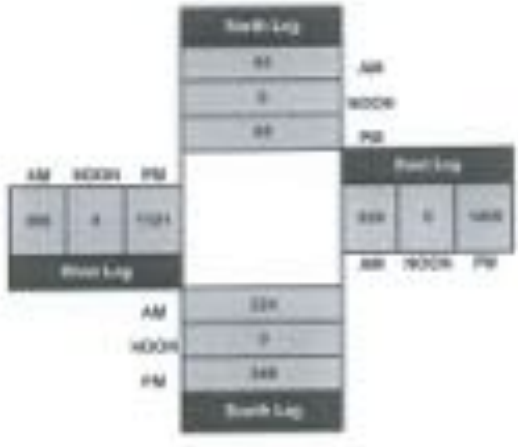


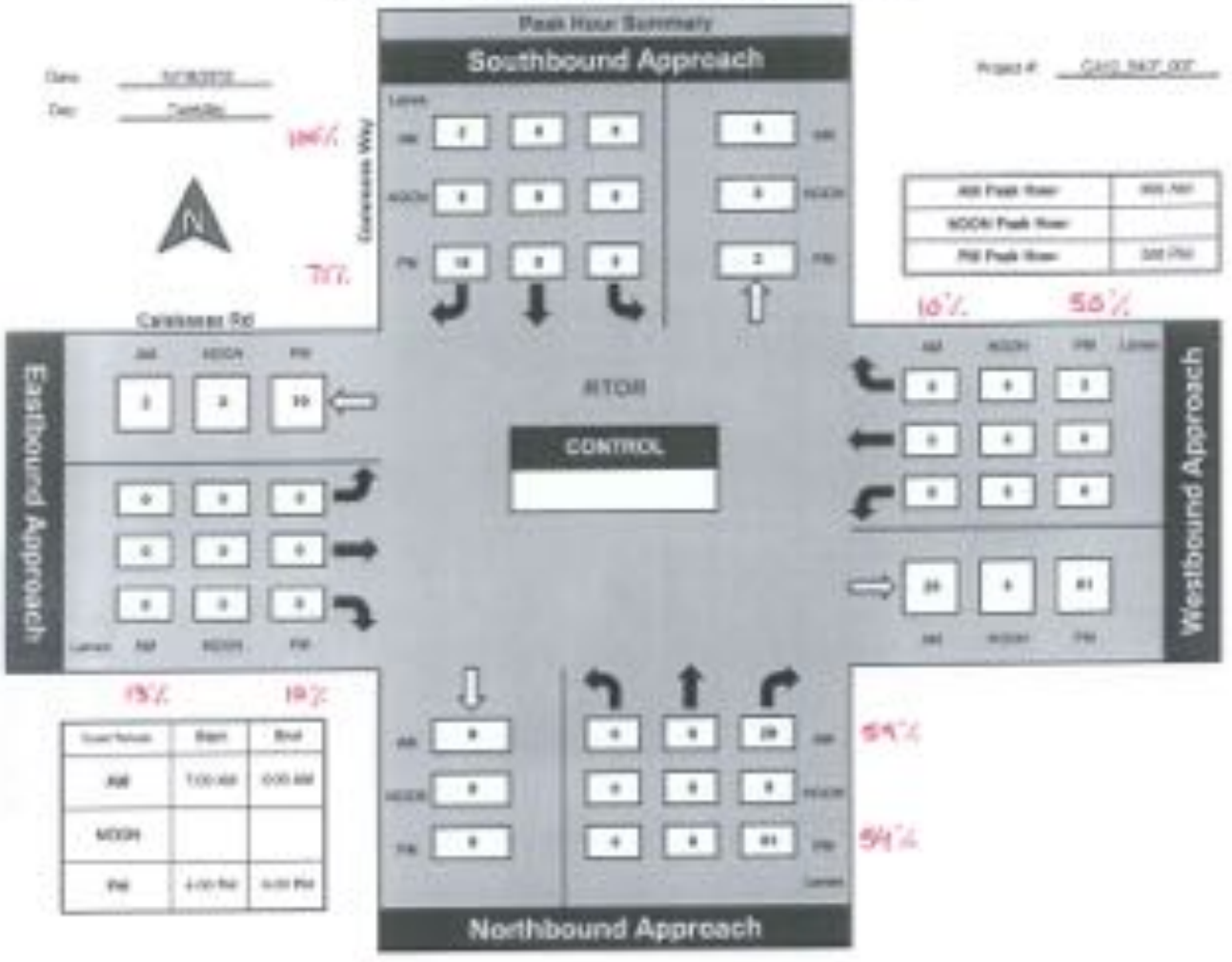
ITM Peak Hour Summary

prepared by:

NDS

National Data & Surveying Services

Commons Way and Calabasas Rd., City of Calabasas



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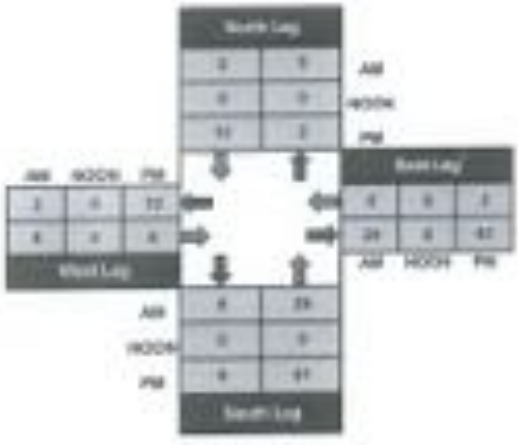

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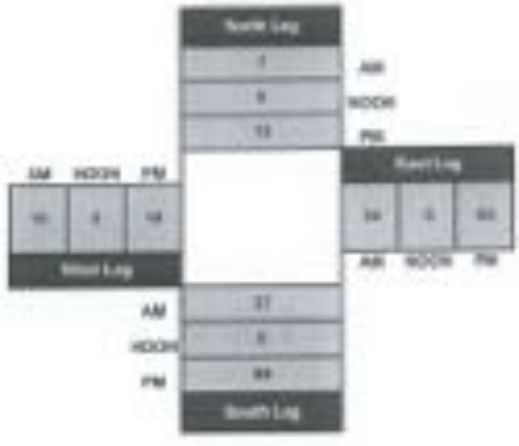
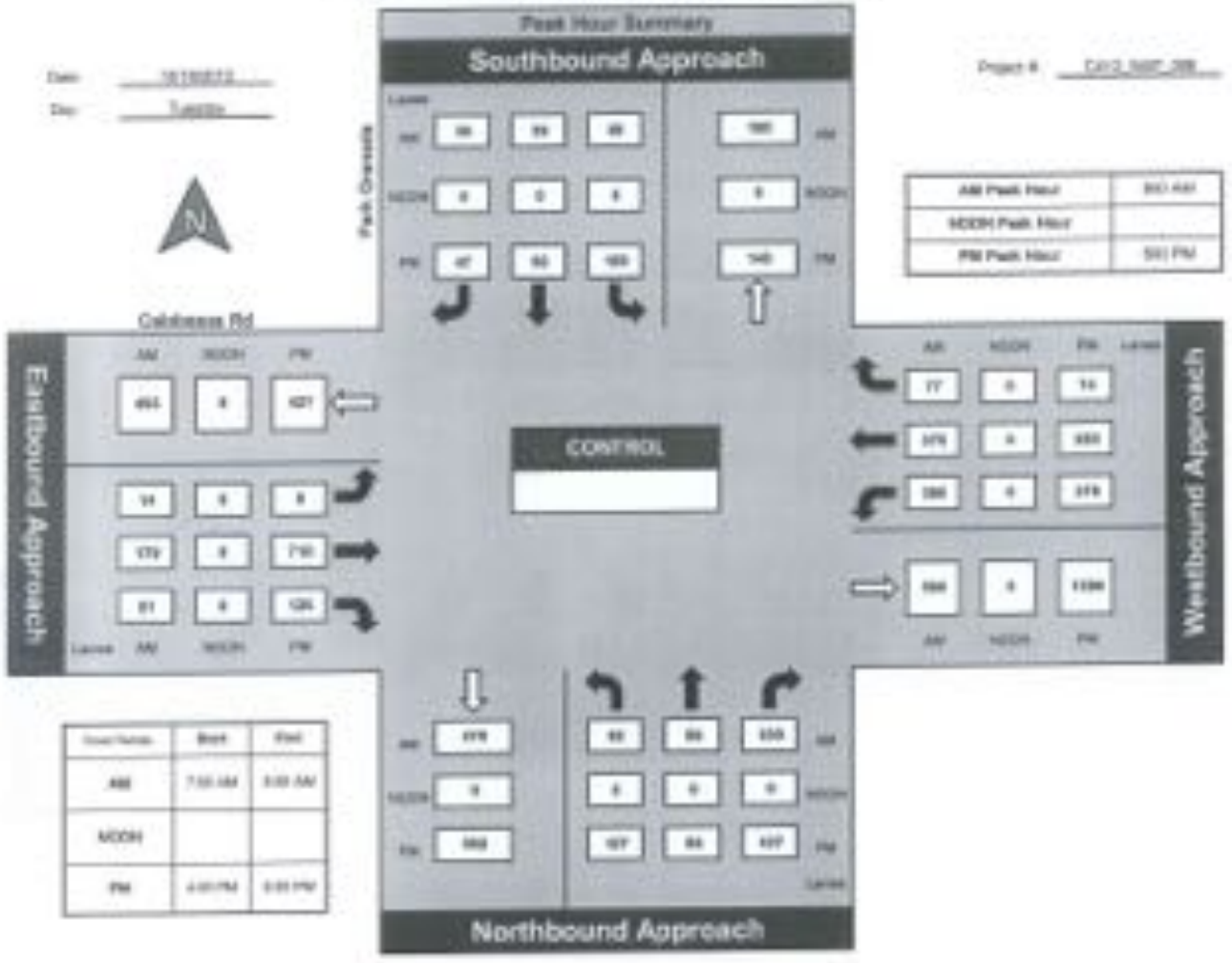


ITM Peak Hour Summary

Prepared by:
NDS
National Data & Surveying Services

Park Granada and Calabasas Rd , City of Calabasas



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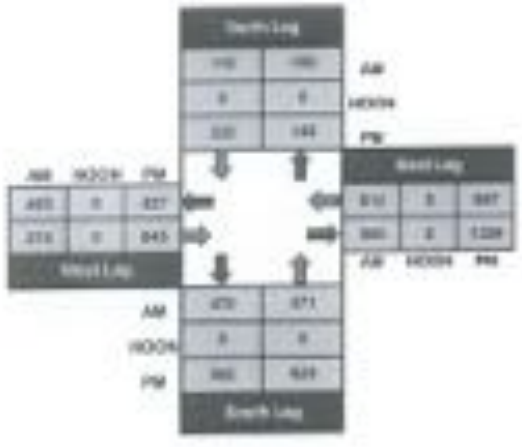

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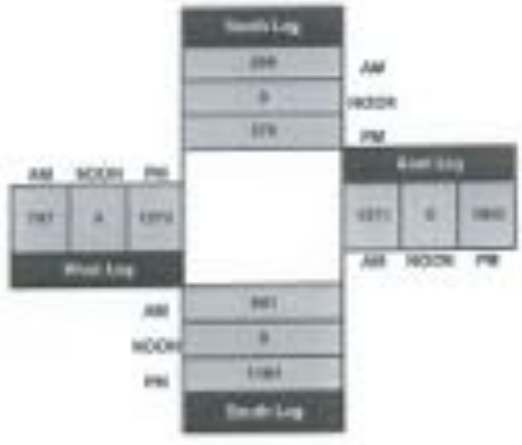


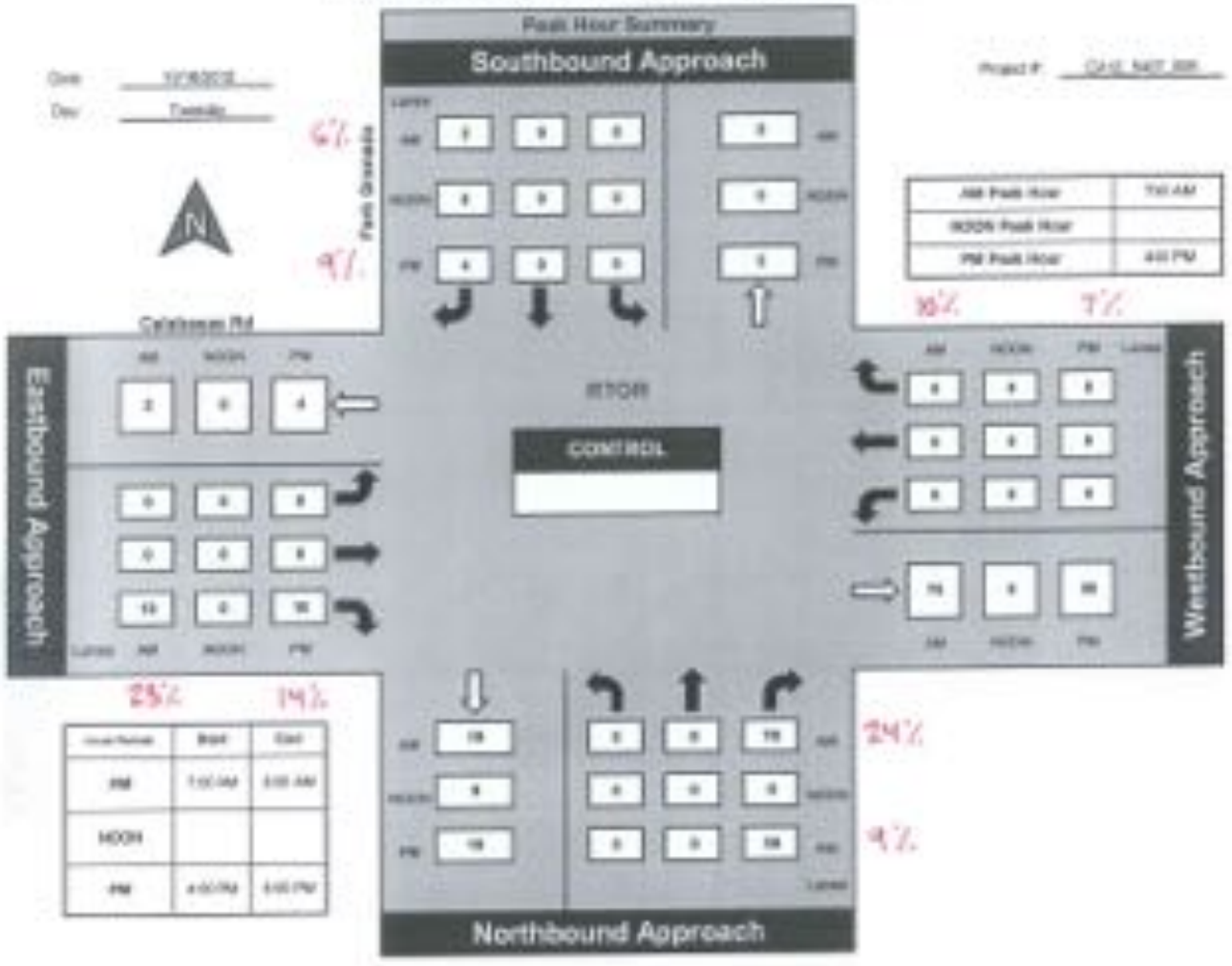
ITM Peak Hour Summary

Prepared by

NDS

National Data & Surveying Services

Park Granada and Calabasas Rd., City of Calabasas



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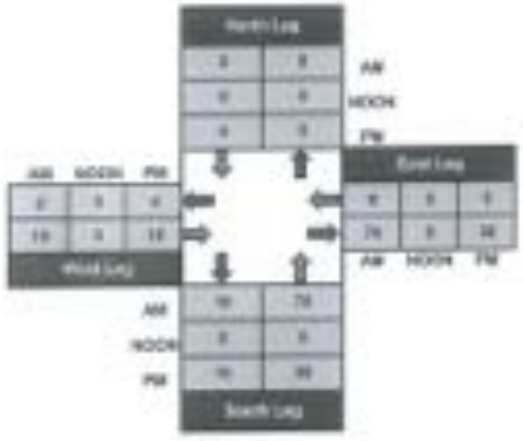

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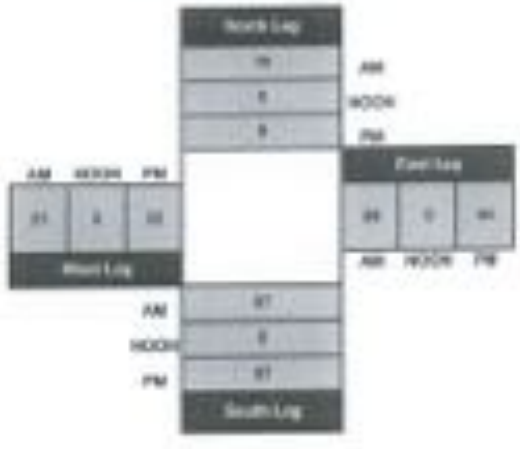


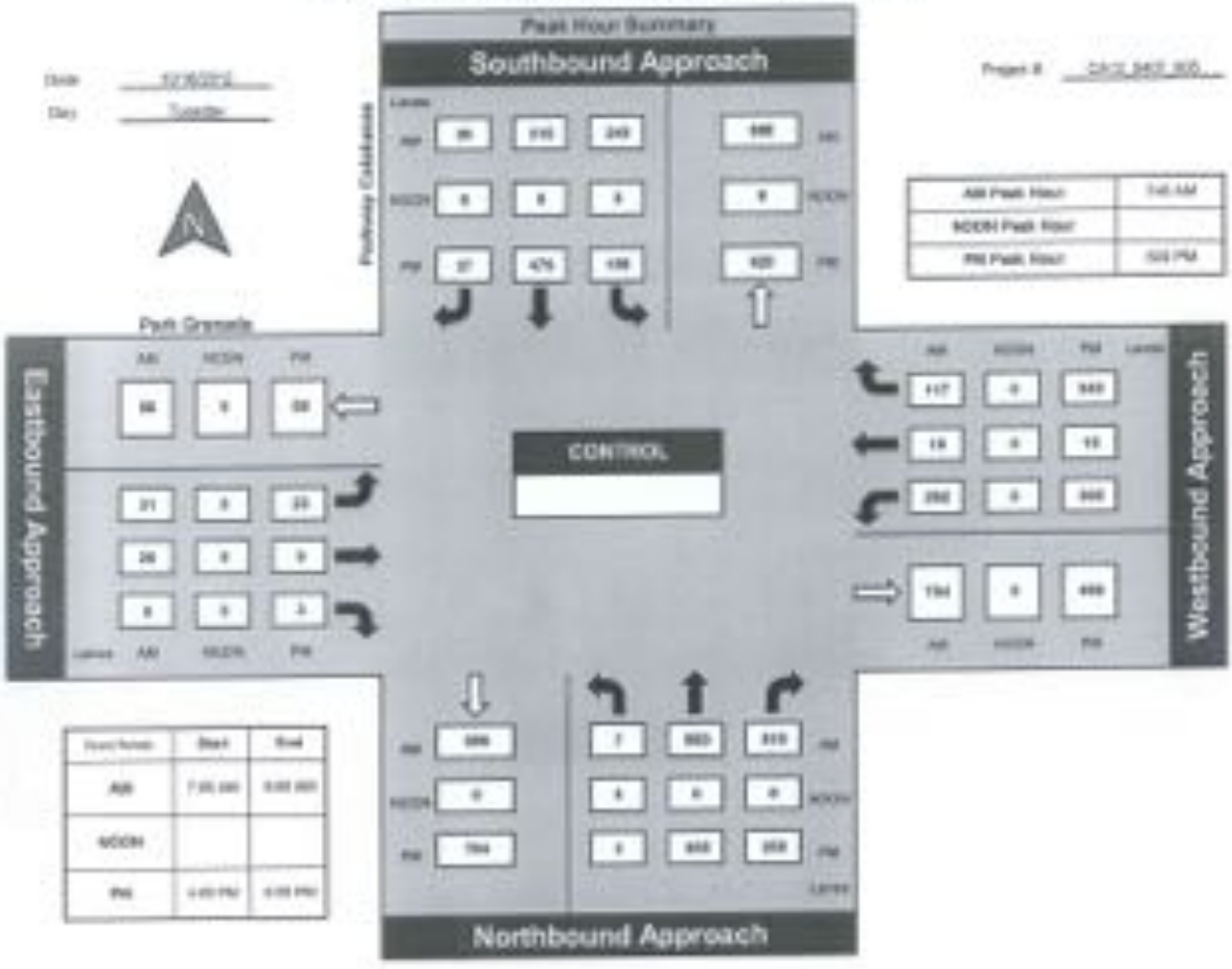
ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Parkway Calabasas and Park Granada - City of Calabasas



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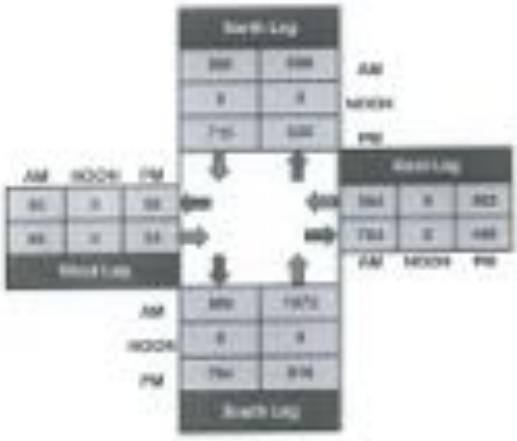

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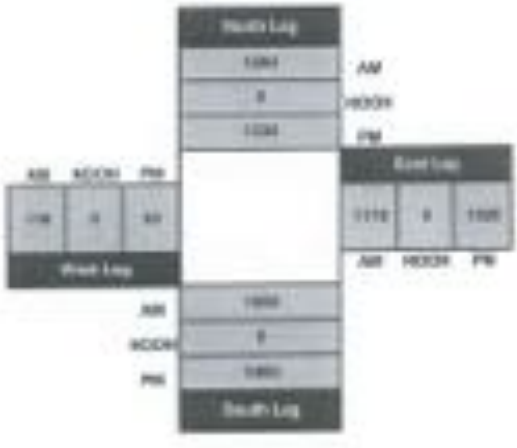


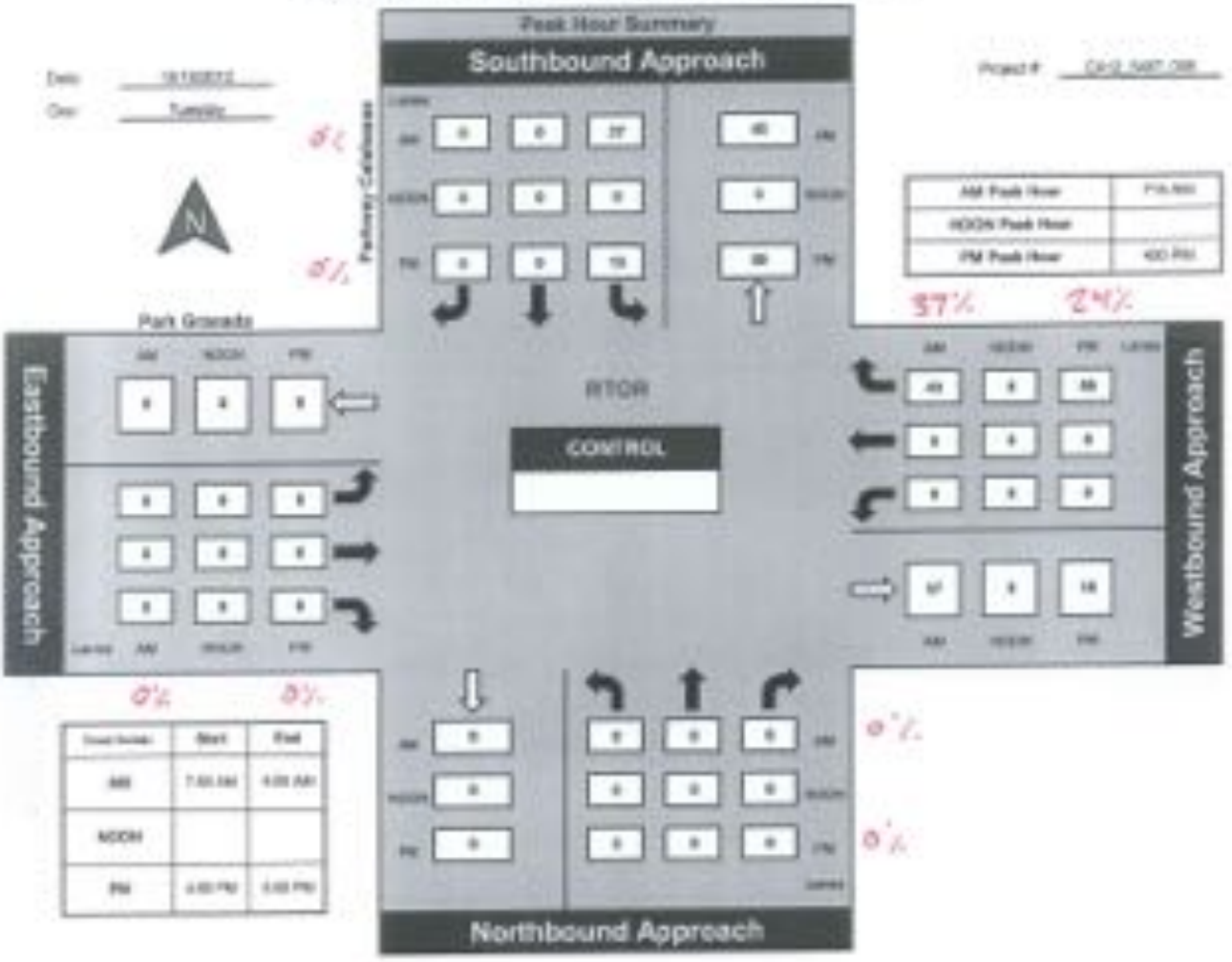
ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Parkway Calabasas and Park Granada , City of Calabasas



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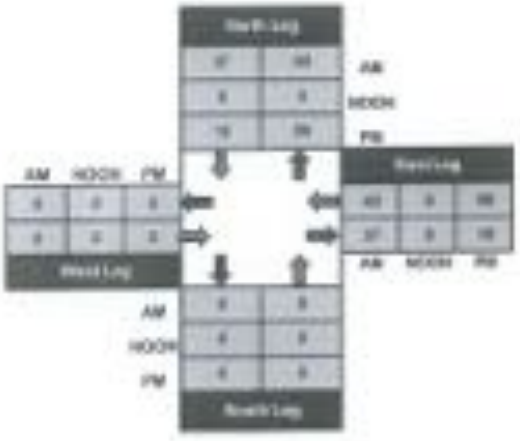

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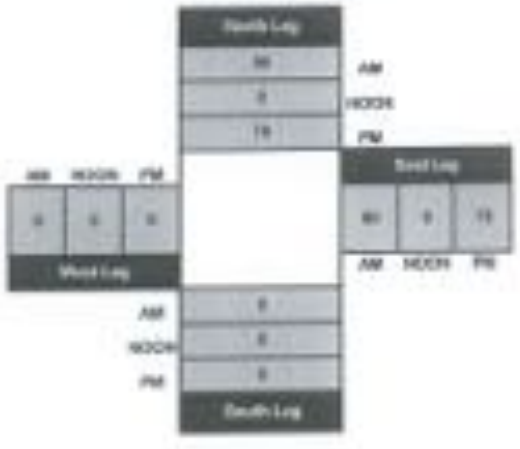


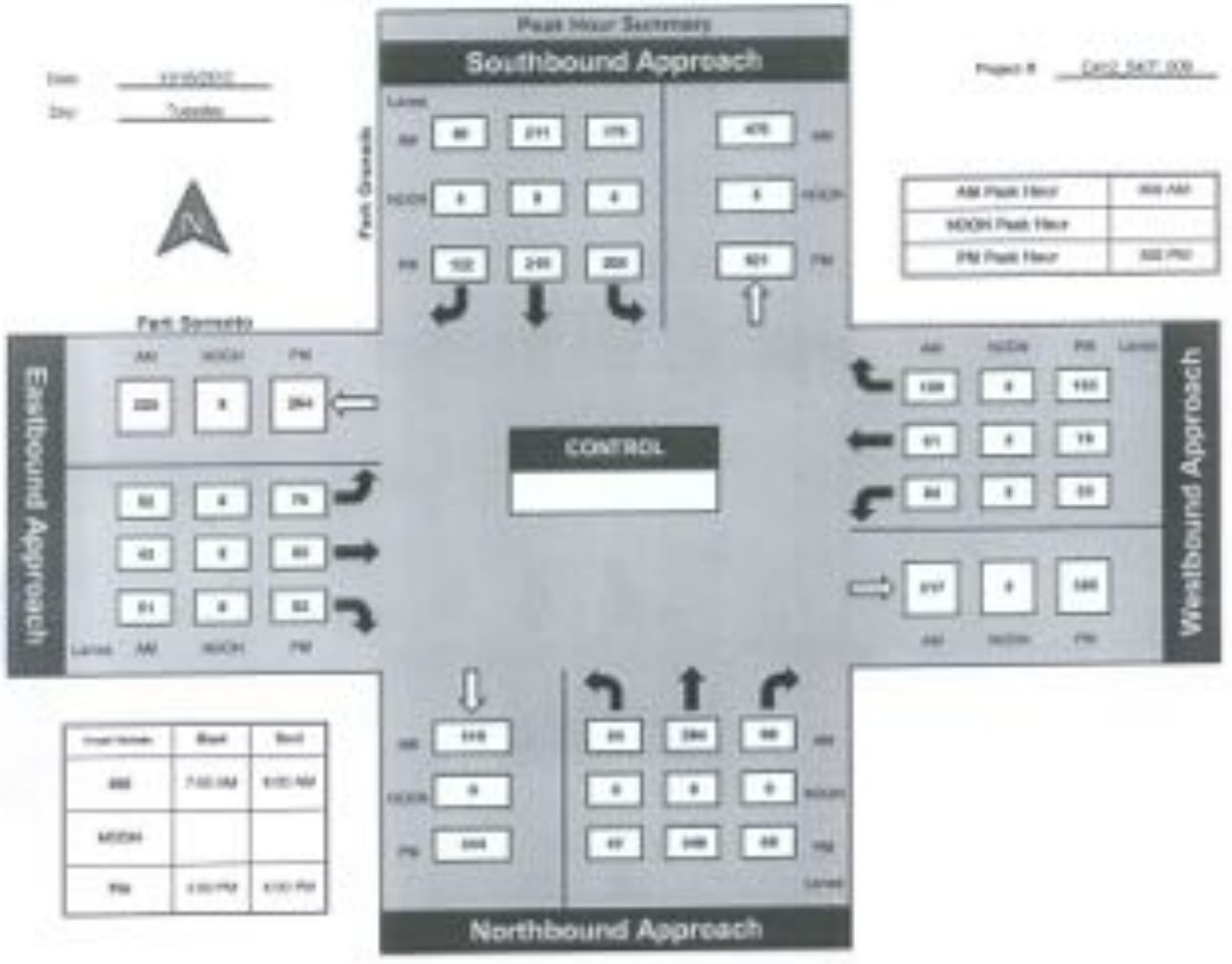
ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Park Granada and Park Sorrento , City of Calabasas



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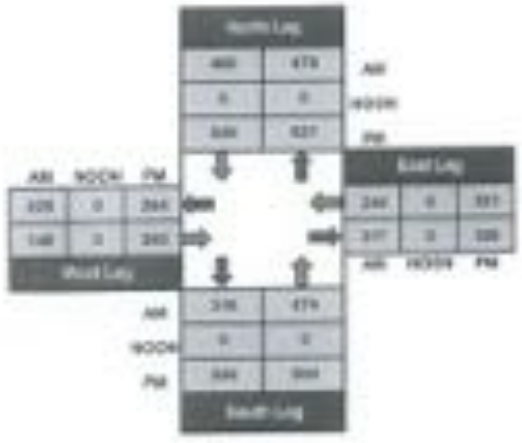

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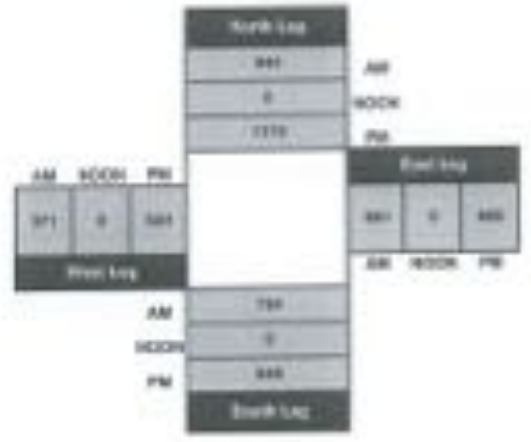
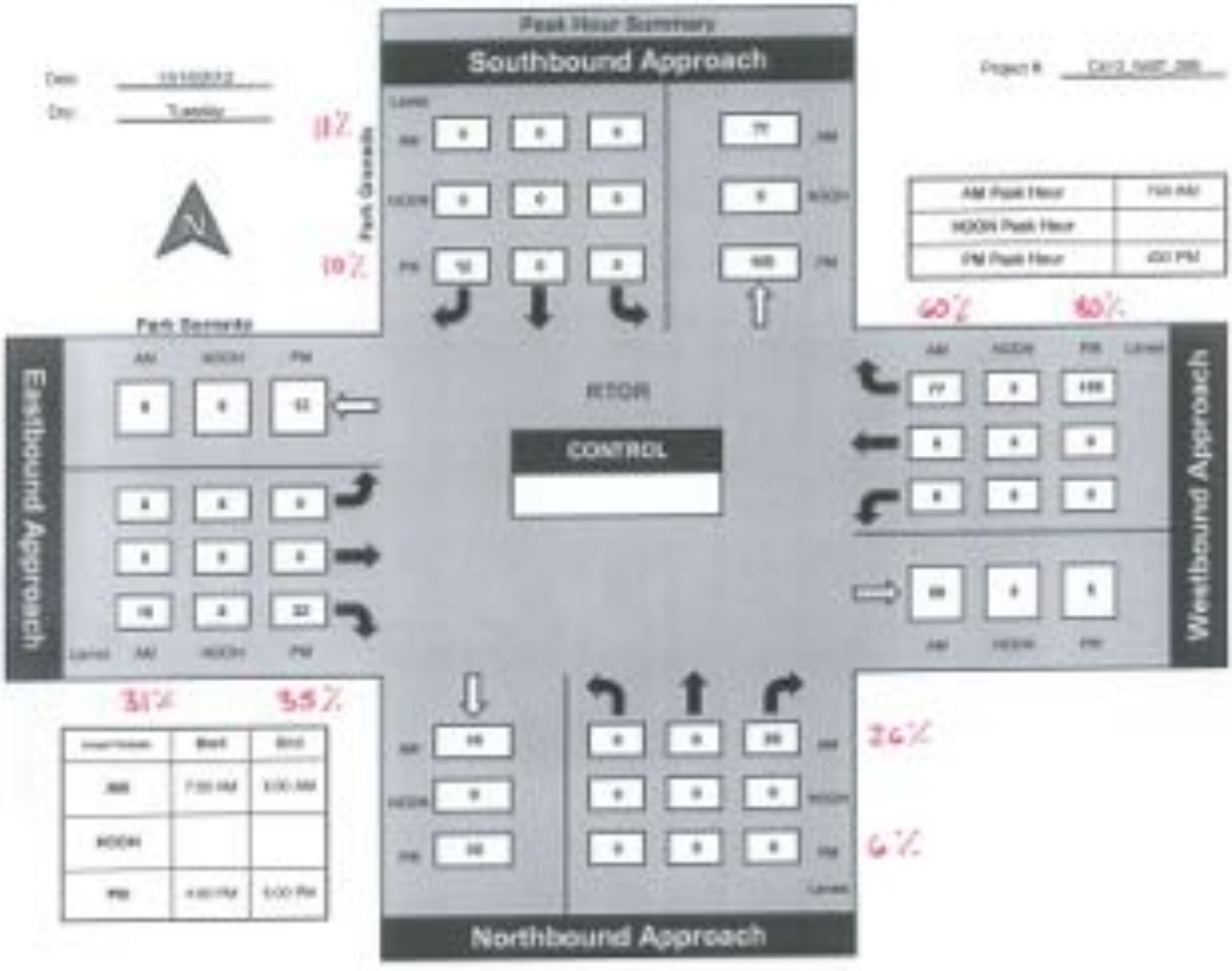


ITM Peak Hour Summary

Prepared by:
NDS
National Data & Surveying Services

Park Granada and Park Sorrento , City of Calabasas



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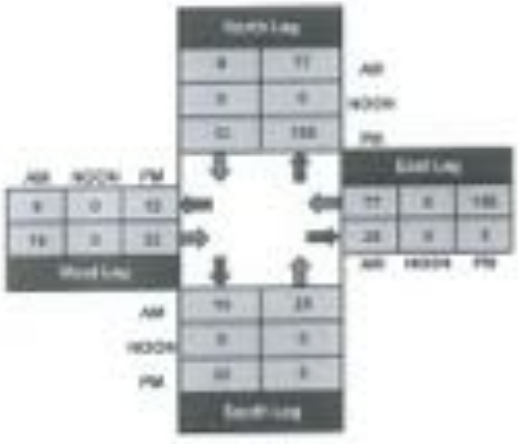

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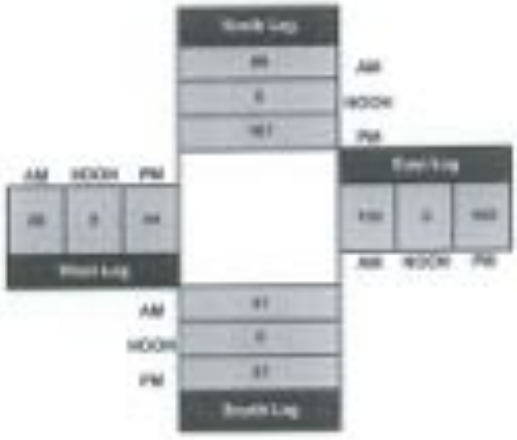


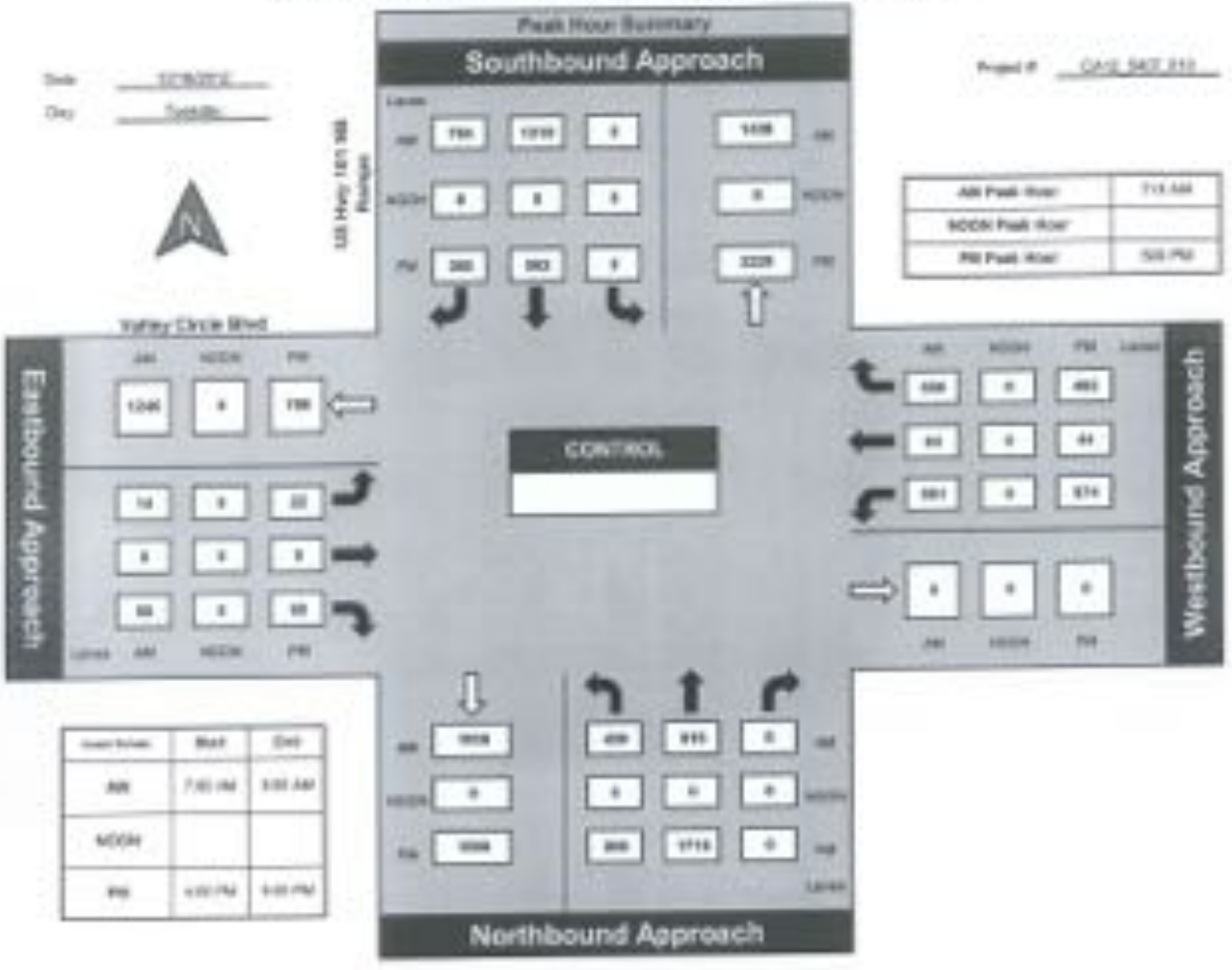
ITM Peak Hour Summary

Prepared for:

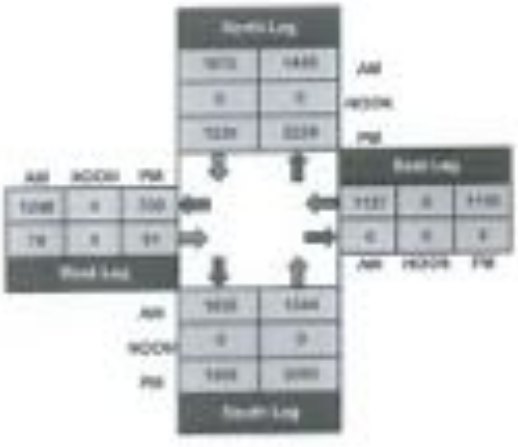
NDS

National Data & Surveying Services

US Hwy 521 NB Ramps and Valley Circle Blvd , City of Calabasas



Total Ins & Outs



Total Volume Per Leg

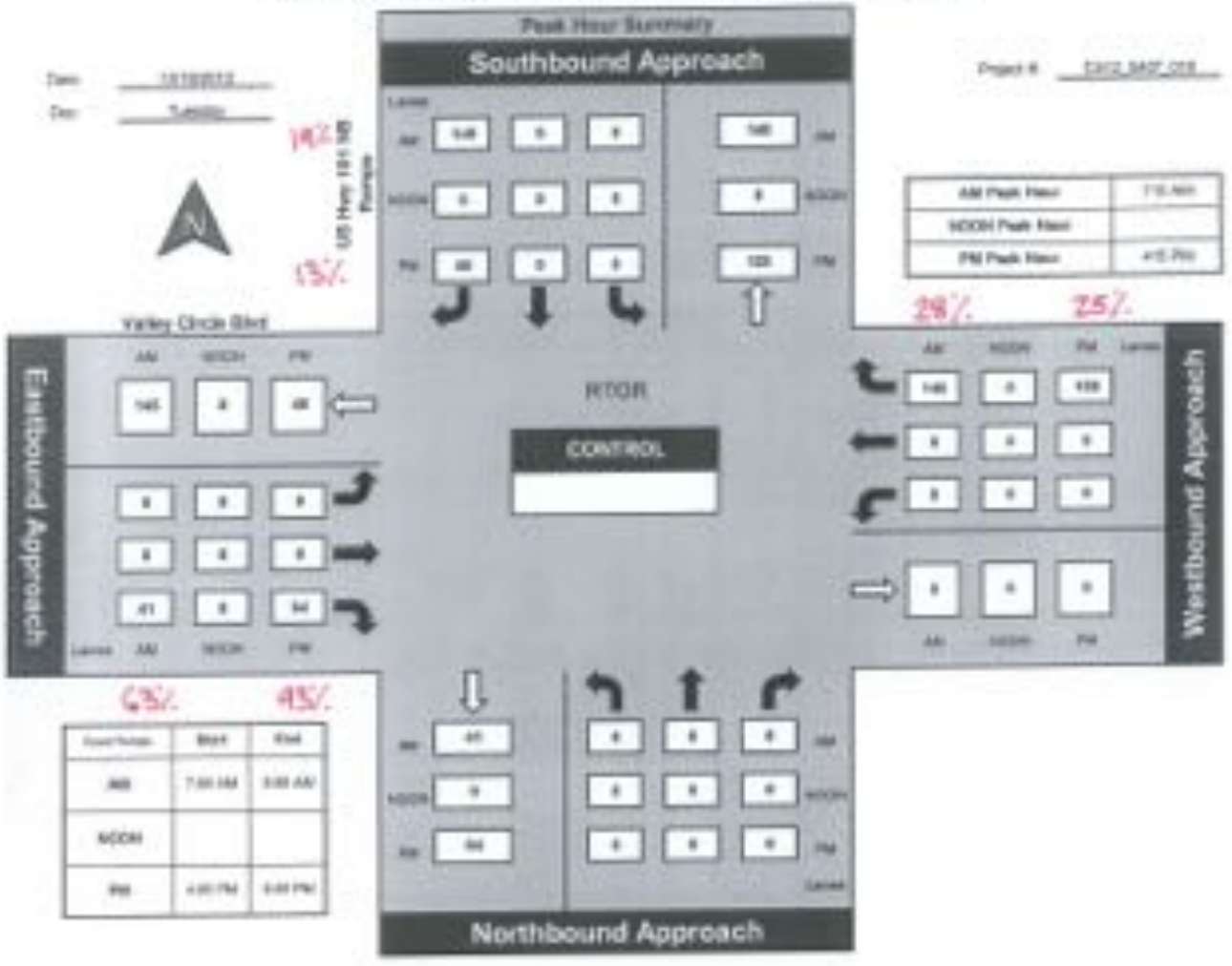
ITM Peak Hour Summary

Prepared for:

NDS

National Data & Surveying Services

US Hwy 101 NB Ramps and Valley Circle Blvd , City of Calabasas



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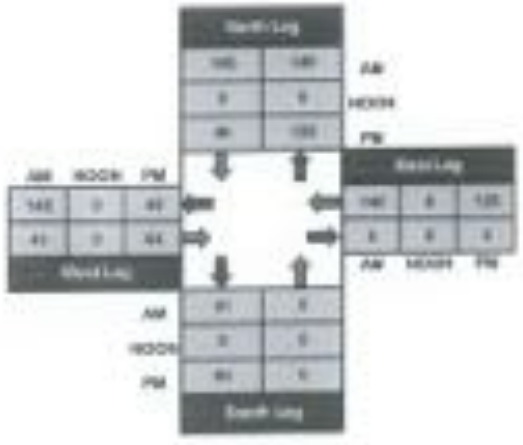

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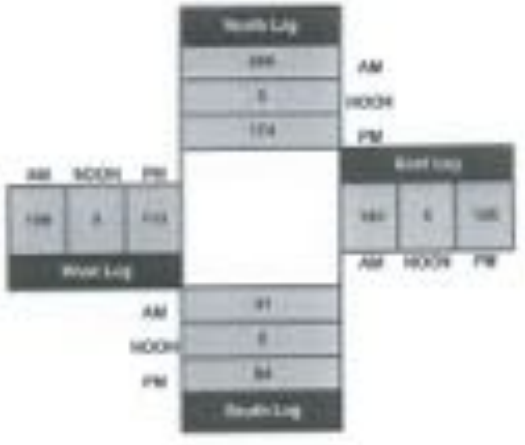
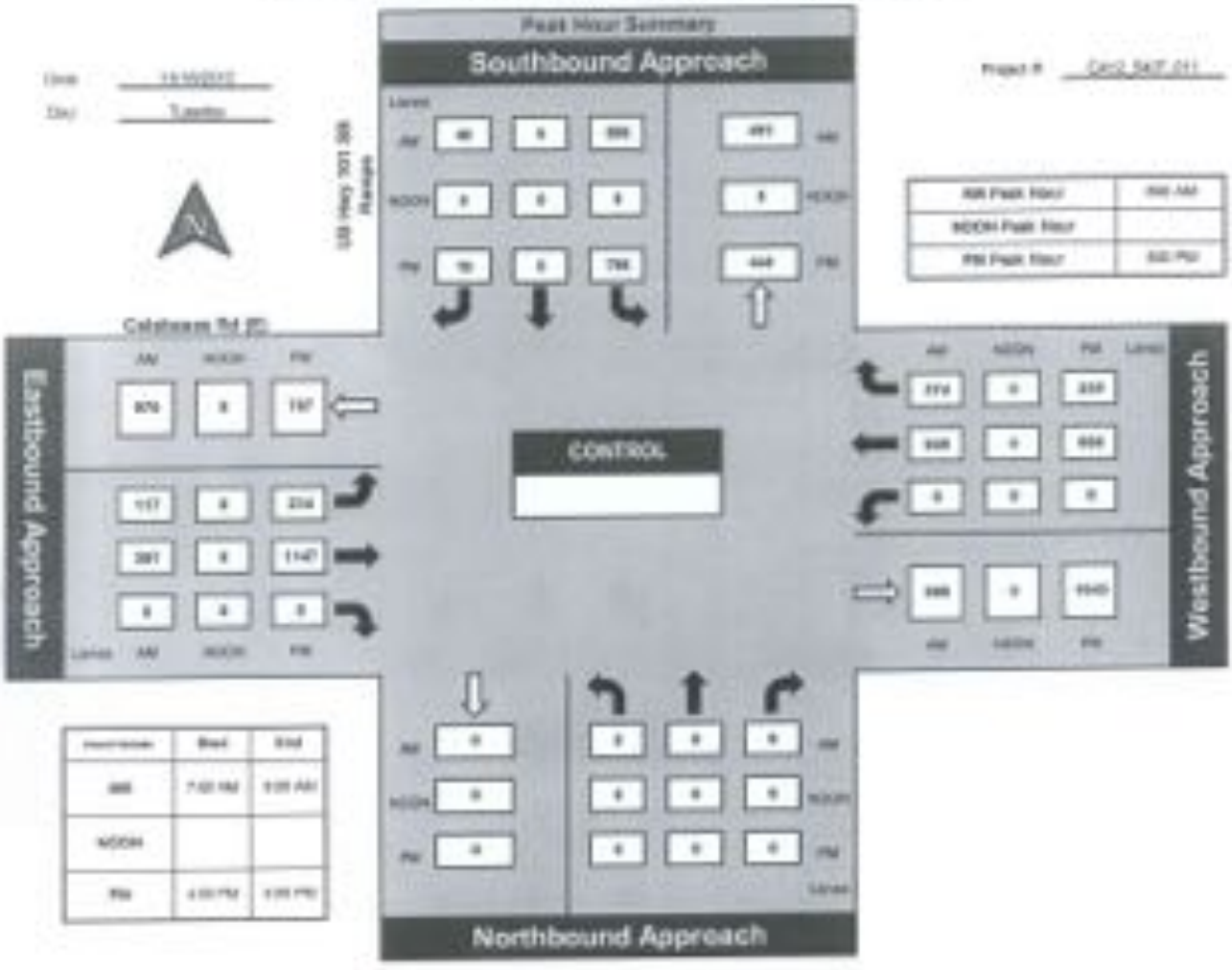


ITM Peak Hour Summary

Prepared by:
NDS
National Data & Surveying Services

US Hwy 101 SB Ramps and Calabasas Rd (E), City of Calabasas



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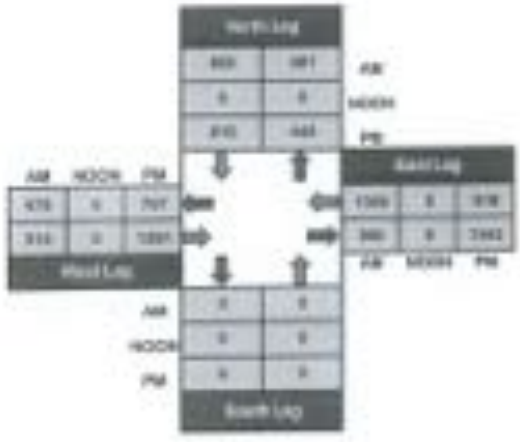

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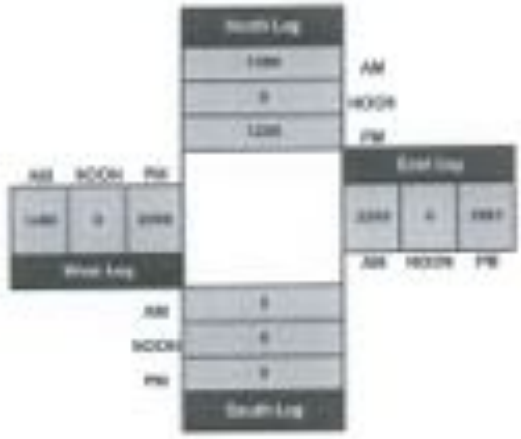
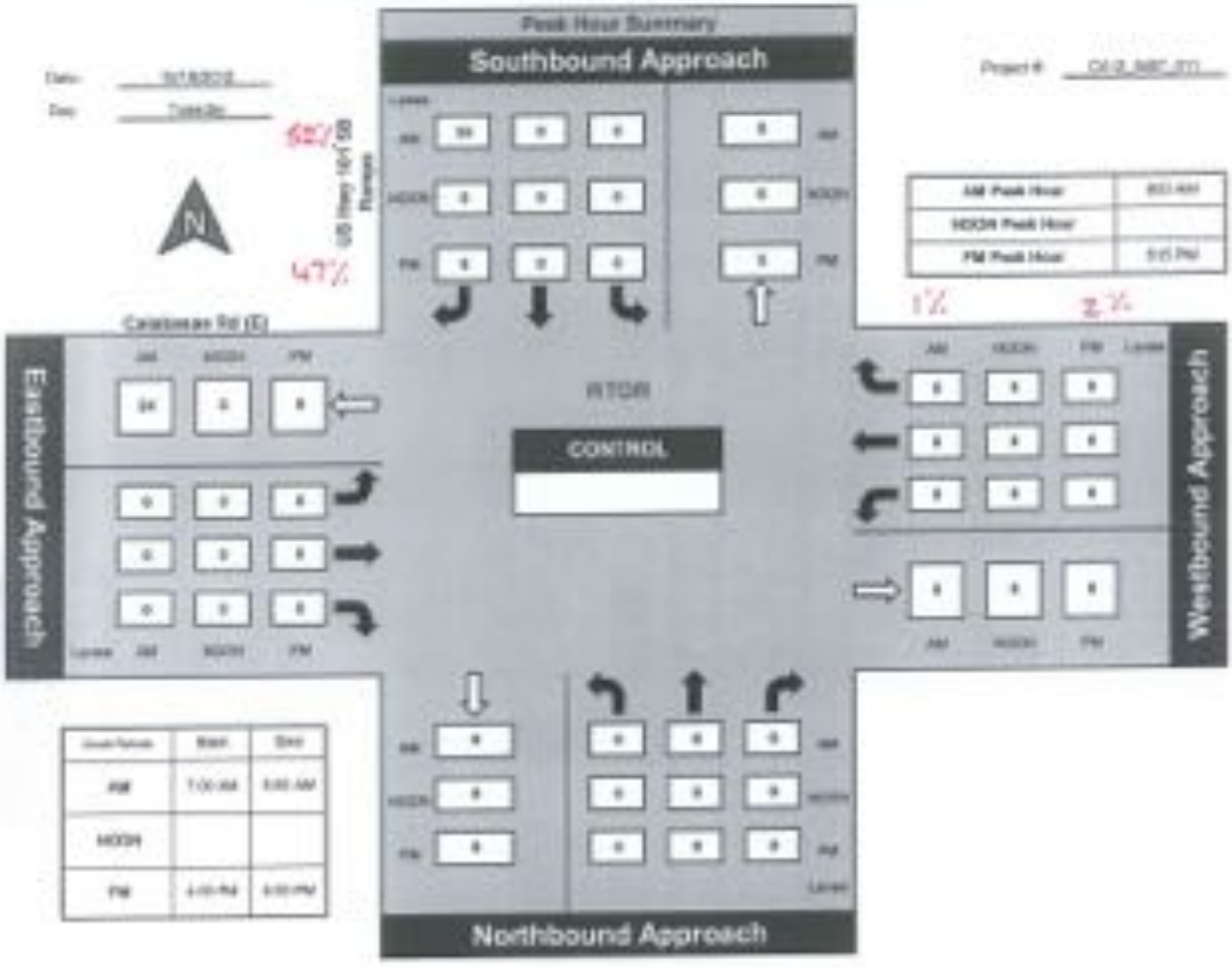


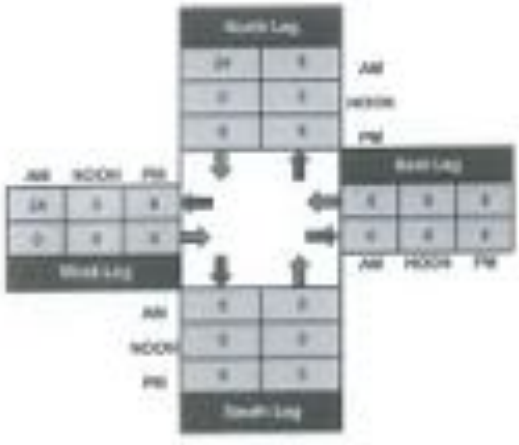
ITM Peak Hour Summary

Prepared by:
NDS
National Data & Surveying Services

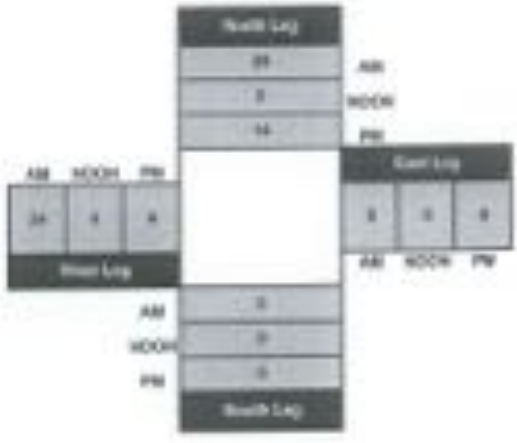
US Hwy 101 SB Ramps and Calabasas Rd (E) , City of Calabasas



Total Ins & Outs



Total Volume Per Leg



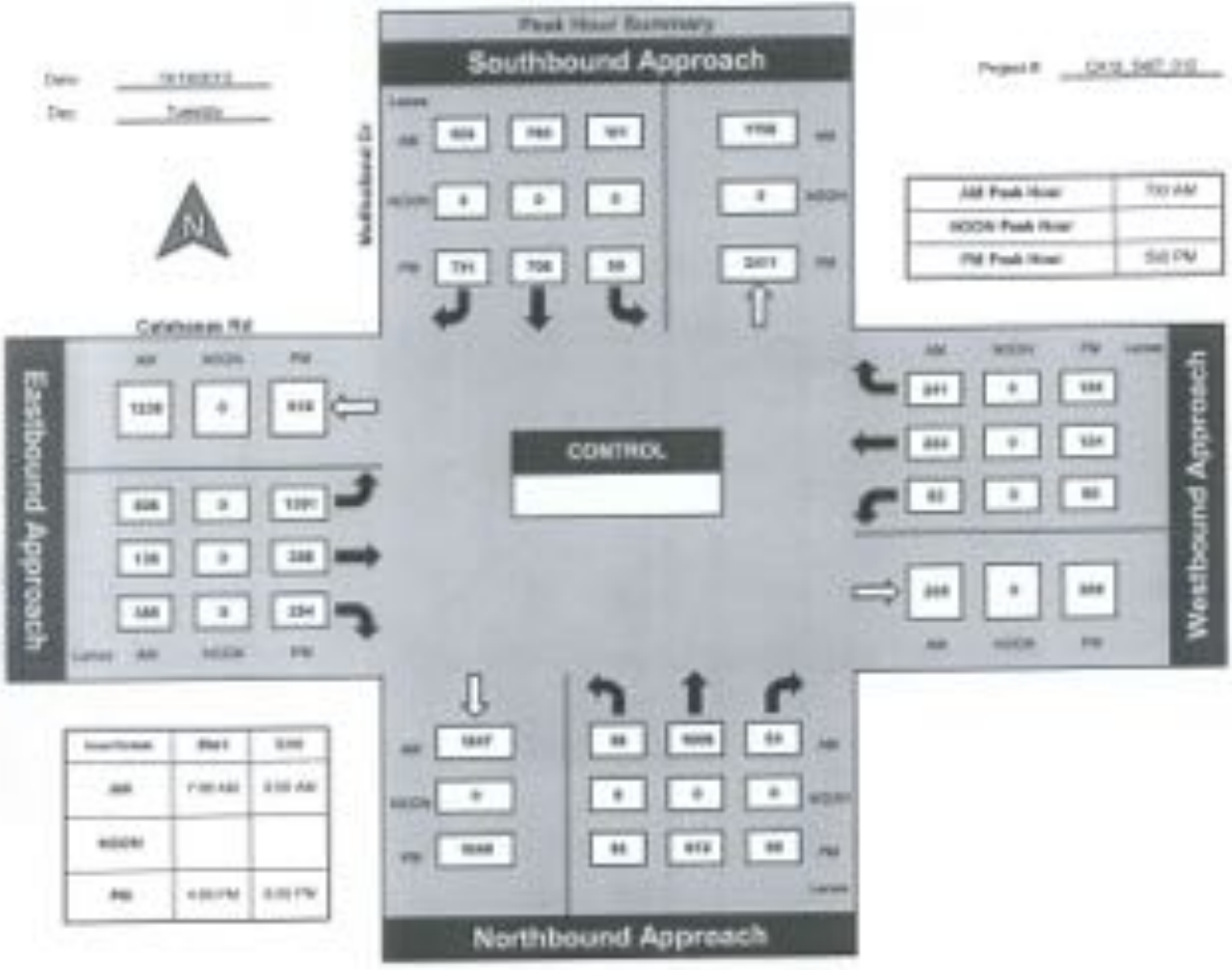
ITM Peak Hour Summary

Prepared by:

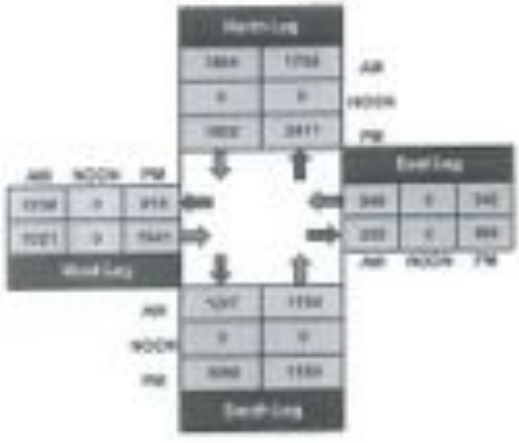
NDS

National Data & Surveying Services

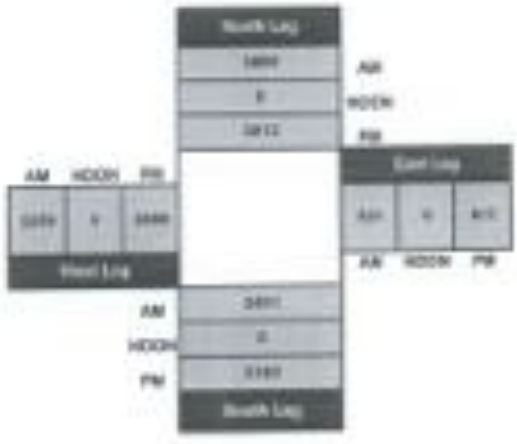
Mulholland Dr and Caloosaaa Rd , City of Caloosaaa



Total Ins & Outs



Total Volume Per Leg



#12

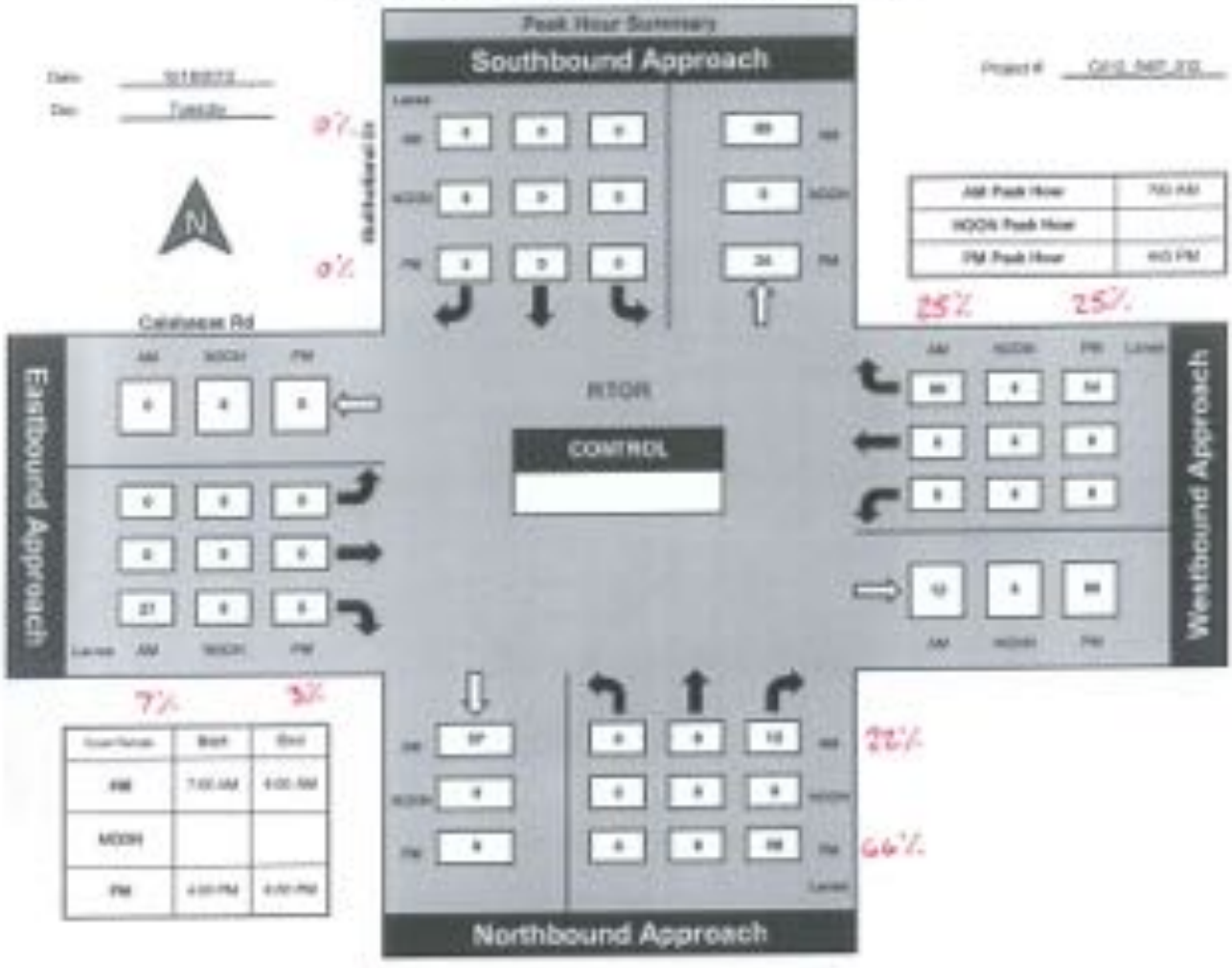
ITM Peak Hour Summary

Prepared for:

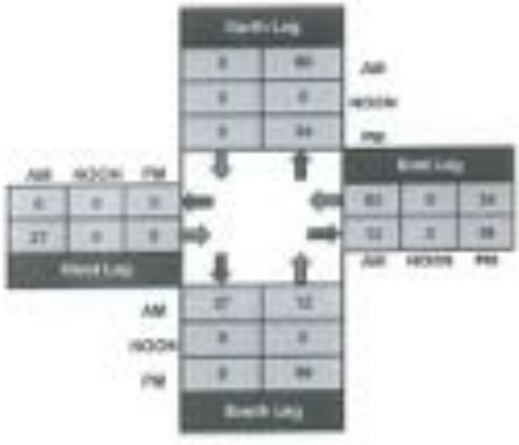
NDS

National Data & Surveying Services

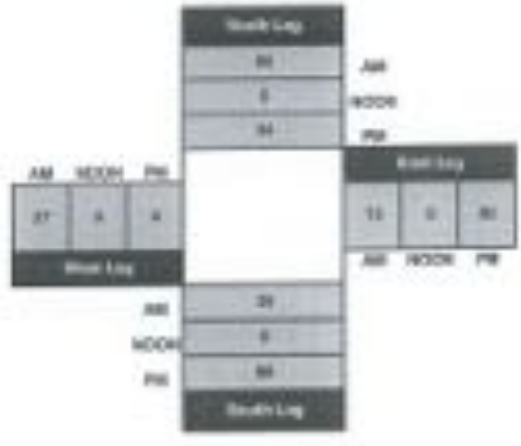
Muirhead Dr and Caledonia Rd , City of Caledonia



Total Ins & Outs



Total Volume Per Leg



#13

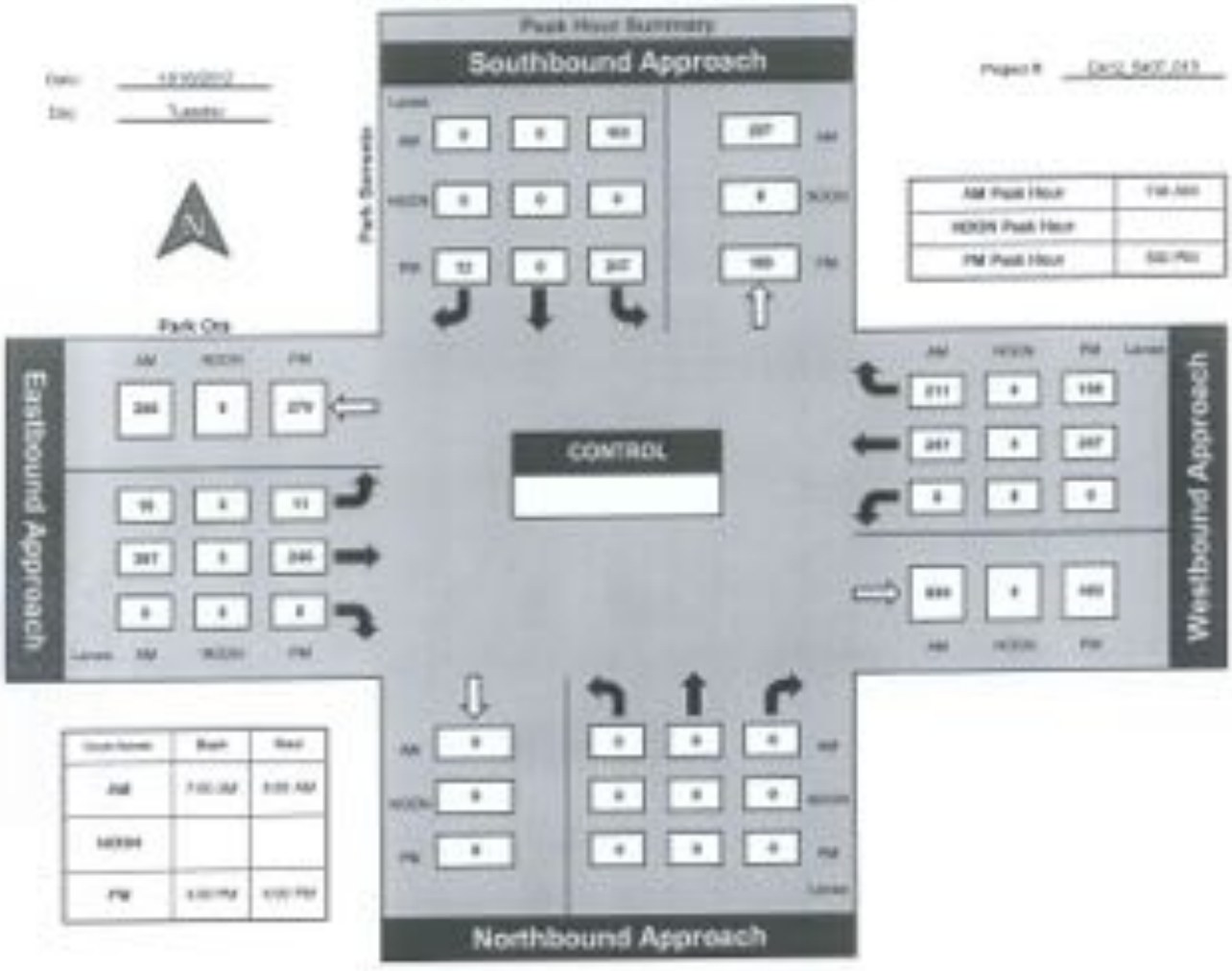
ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

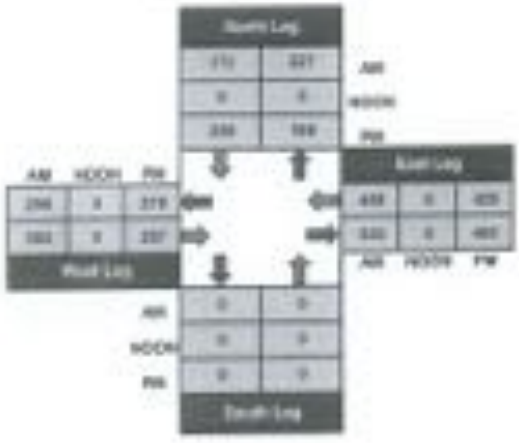
Park Sorrento and Park Org - City of Calabasas



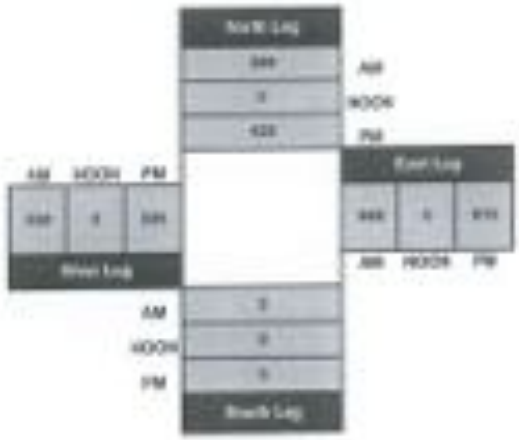
AM Peak Hour	
MIDDAY Peak Hour	
PM Peak Hour	

AM		
MIDDAY		
PM		

Total Ins & Outs



Total Volume Per Leg



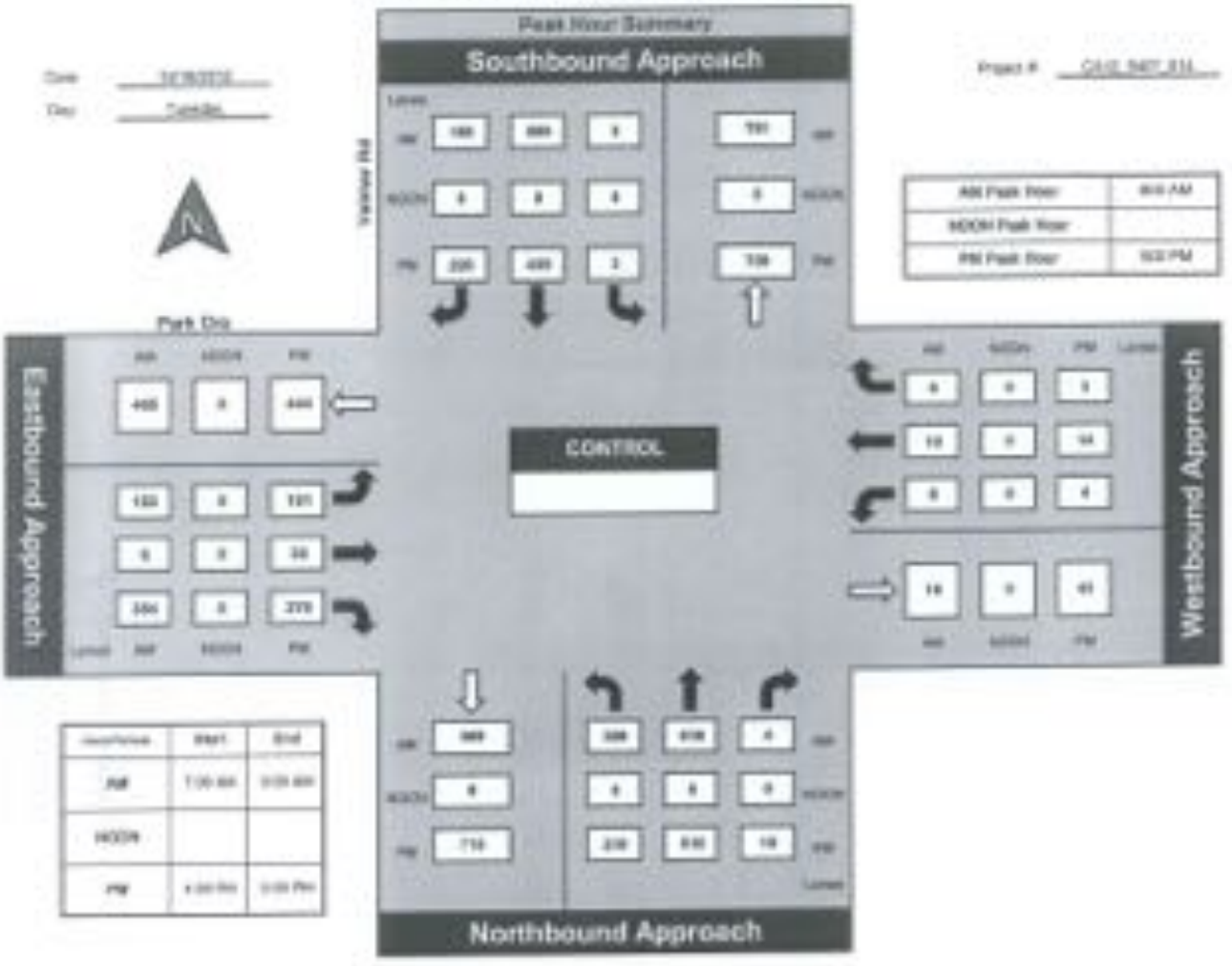
ITM Peak Hour Summary

Prepared by:

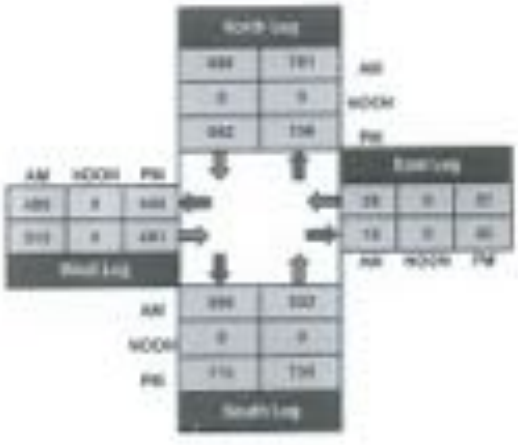
NDS

National Data & Surveying Services

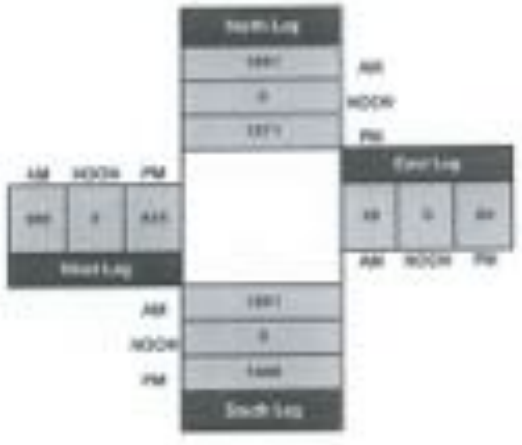
Valmar Rd and Park Dr , City of Calabasas



Total Ins & Outs



Total Volume Per Leg

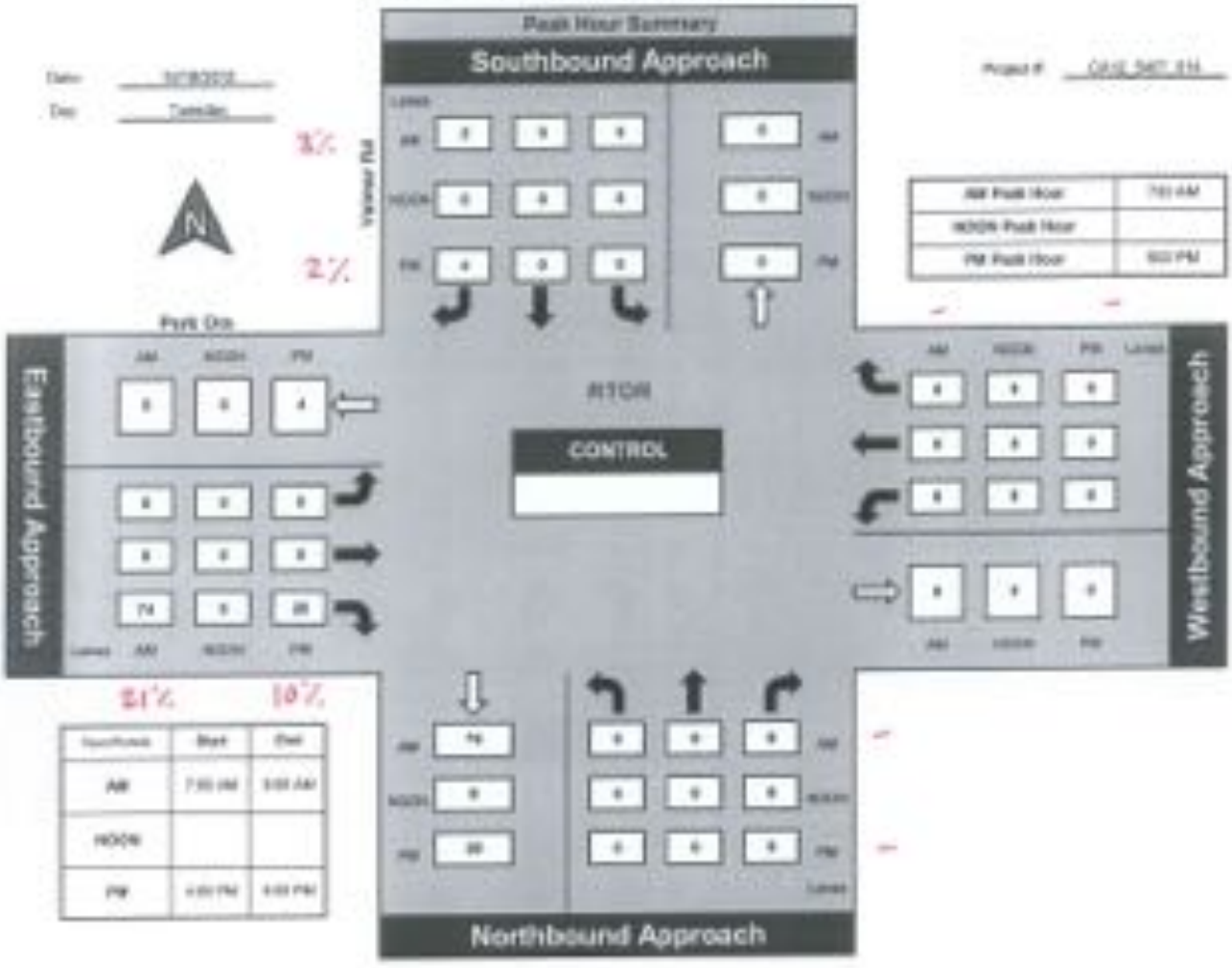


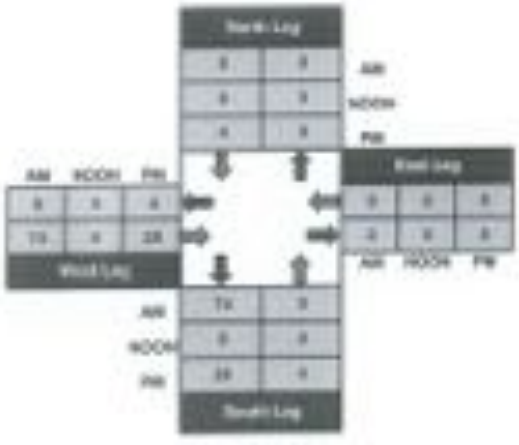
ITM Peak Hour Summary

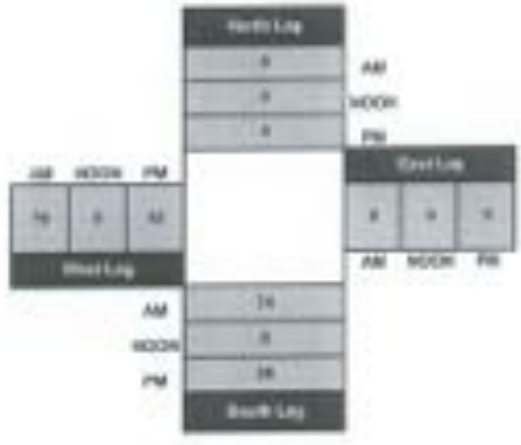
Prepared by:

National Data & Surveying Services

Valmar Rd and Park Dr, City of Calabasas







LEVEL OF SERVICE DEFINITIONS

Signalized Intersection Level of Service Definitions

LOS	Delay*	V/C Ratio	Definition
A	< 10.0	< 0.60	Progression is extremely favorable. Most vehicles arrive during the green phase. Many vehicles do not stop at all.
B	10.1 - 20.0	0.61 - 0.70	Good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20.1 - 35.0	0.71 - 0.80	Only fair progression, longer cycle lengths, or both, result in higher cycle lengths. Cycle lengths may fail to serve queued vehicles, and overflow occurs. Number of vehicles stopped is significant, though many still pass through intersection without stopping.
D	35.1 - 55.0	0.81 - 0.90	Congestion becomes more noticeable. Unfavorable progression, long cycle lengths and high v/c ratios result in longer delays. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 - 80.0	0.91 - 1.00	High delay values indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent.
F	> 80.0	> 1.00	Considered unacceptable for most drivers, this level occurs when arrival flow rates exceed the capacity of lane groups, resulting in many individual cycle failures. Poor progression and long cycle lengths may also contribute to high delay levels.

* Average control delay per vehicle in seconds.

Unsignalized Intersection Level of Service Definitions

The HCM[1] uses *control delay* to determine the level of service at unsignalized intersections. Control delay is the difference between the travel time actually experienced at the control device and the travel time that would occur in the absence of the traffic control device. Control delay includes deceleration from free flow speed, queue move-up time, stopped delay and acceleration back to free flow speed.

LOS	Control Delay Seconds per Vehicle
A	< 10.0
B	10.1 - 15.0
C	15.1 - 25.0
D	25.1 - 35.0
E	35.1 - 50.0
F	> 50.0

[1] Highway Capacity Manual, National Research Board, 2000

ASSOCIATED TRANSPORTATION ENGINEERS
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INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Reference 1	Ventura Boulevard/Parkway Calabasas
Reference 2	Ventura Boulevard/U.S. Highway 101 Northbound Ramps
Reference 3	Calabasas Road (W)/U.S. Highway 101 Southbound Ramps
Reference 4	Calabasas Road/Parkway Calabasas
Reference 5	Calabasas Road/Park Centre
Reference 6	Calabasas Road/Commons Way
Reference 7	Calabasas Road/Park Granada
Reference 8	Park Granada/Parkway Calabasas
Reference 9	Park Sorrento/Park Granada
Reference 10	Valley Circle Boulevard/U.S. Highway 101 Northbound Ramps
Reference 11	Calabasas Road (E)/U.S. Highway 101 Southbound Ramps
Reference 12	Calabasas Road/Mullholland Drive
Reference 13	Park Sorrento/Park Ora
Reference 14	Valmar Road/Park Ora

VILLAGE AT CALABASAS MIXED-USE PROJECT (#13000-)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 10-16-2012

TIME PERIOD: A.M. PEAK HOUR

N/S STREET: PARKWAY CALABASAS

E/W STREET: VENTURA BOULEVARD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING	37	74	77	3	48	2	1	3	25	680	62	120
(B) PROJECT-ADDED	0	0	0	0	0	0	0	0	0	1	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND LTR	SOUTH BOUND LTR	EAST BOUND L TR	WEST BOUND LL TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	37	37				-	-			
NBT	1	1600	74	74				0.107 *	0.107 *			
NBR (a)	0	0	48	60				-	-			
SBL	0	0	3	3				-	-			
SBT	1	1600	60	60				0.041 *	0.041 *			
SBR (b)	0	0	2	2				-	-			
EBL	1	1600	1	1				0.001	0.001			
EBT	1	1600	3	3				0.014 *	0.014 *			
EBR (c)	0	0	19	19				-	-			
WBL	2	2880	680	681				0.236 *	0.236 *			
WBT	1	1600	62	62				0.100	0.100			
WBR (d)	0	0	110	110				-	-			
							LOST TIME	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION	0.490	0.490			
							SCENARIO LEVEL OF SERVICE:	A	A			

NOTES:

(a) 22%

(b) 0%

(c) 24%

(d) 72%

VILLAGE AT CALABASAS MIXED-USE PROJECT (#13000)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: PARKWAY CALABASAS

E/W STREET: VENTURA BOULEVARD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A)	EXISTING:	57	74	77	1	68	2	1	3	21	688	62	139
(B)	AMBIENT GROWTH:	3	4	4	0	3	0	0	0	1	34	3	10
(C)	PROJECT-ADDED:	0	0	0	0	0	0	0	0	0	1	0	0
(D)	CUMULATIVE-ADDED:	0	0	1	0	0	0	0	0	0	1	0	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	LTR	LTR	L TR	LL TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	57	66	66	66	66	-	-	-	-	-
NBT	1	1600	74	80	80	80	80	0.107 *	0.116 *	0.116 *	0.116 *	0.116 *
NBR (a)	0	0	66	66	66	66	66	-	-	-	-	-
SBL	0	0	1	1	1	1	1	-	-	-	-	-
SBT	1	1600	68	69	69	69	69	0.041 *	0.044 *	0.044 *	0.044 *	0.044 *
SBR (b)	0	0	2	2	2	2	2	-	-	-	-	-
EBL	1	1600	1	1	1	1	1	0.001	0.001	0.001	0.001	0.001
EBT	1	1600	3	3	3	3	3	0.014 *	0.015 *	0.015 *	0.015 *	0.015 *
EBR (c)	0	0	19	21	21	21	21	-	-	-	-	-
WBL	2	2600	688	734	735	735	736	0.236 *	0.252 *	0.255 *	0.255 *	0.256 *
WBT	1	1600	62	67	67	67	67	0.038	0.116	0.116	0.116	0.116
WBR (d)	0	0	118	119	119	119	119	-	-	-	-	-
							LOST TIME	0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.498	0.538	0.539	0.539	0.539
							SCENARIO LEVEL OF SERVICE:	A	A	A	A	A

NOTES:

RTOR: (a) 22%
(b) 0%
(c) 24%
(d) 12%

Printed: 09/11/13

VILLAGE AT CALABASAS MIXED-USE PROJECT (P130001)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 10/16/2012

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: PARKWAY CALABASAS

E/W STREET: VENTURA BOULEVARD

CONTROL TYPE: SIGNAL

REF: 1_PM

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	10	53	31	3	223	3	1	3	133	830	39	45
(B) PROJECT-ADDED:	0	0	0	0	0	0	0	0	0	5	0	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	LTR	LTR	L TR	LL TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	12	12				-	-			
NBT	1	1680	53	53				0.053 *	0.053 *			
NBR (a)	0	0	20	20				-	-			
SBL	0	0	5	5				-	-			
SBT	1	1680	223	223				0.144 *	0.144 *			
SBR (b)	0	0	2	2				-	-			
EBL	1	1680	1	1				0.001	0.001			
EBT	1	1680	3	3				0.068 *	0.068 *			
EBR (c)	0	0	109	109				-	-			
WBL	2	2880	835	835				0.283 *	0.286 *			
WBT	1	1680	39	39				0.041	0.041			
WBR (d)	0	0	37	37				-	-			
							COST PAIR:	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.451	0.453			
							SCENARIO LEVEL OF SERVICE:	B	B			

NOTES:

RTOR: (a) 31%

(b) 0%

(c) 11%

(d) 38%

Printed: 10/17/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#130068)

REF: 1_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: PARKWAY CALABASAS

E/W STREET: VENTURA BOULEVARD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	12	33	31	5	335	3	1	2	122	830	25	45
(B) AMBIENT GROWTH:	1	4	2	0	16	0	0	0	10	66	2	4
(C) PROJECT-ADDED:	0	0	0	0	0	0	0	0	0	5	0	0
(D) CUMULATIVE-ADDED:	0	0	0	0	0	0	0	0	0	7	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LTR	LTR	L TR	LL TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	12	13	11	14	13	-	-	-	-	-
NBT	1	1600	53	57	57	57	57	0.033 *	0.036 *	0.036 *	0.036 *	0.036 *
NBR (a)	0	0	20	22	22	24	24	-	-	-	-	-
SBL	0	0	5	5	5	5	5	-	-	-	-	-
SBT	1	1600	223	241	241	241	241	0.144 *	0.155 *	0.155 *	0.155 *	0.155 *
SBR (b)	0	0	2	2	2	2	2	-	-	-	-	-
EBL	1	1600	1	1	1	1	1	0.001	0.001	0.001	0.001	0.001
EBT	1	1600	2	2	2	2	2	0.068 *	0.074 *	0.074 *	0.074 *	0.074 *
EBR (c)	0	0	109	117	117	117	117	-	-	-	-	-
WBL	2	2800	820	886	891	893	898	0.293 *	0.308 *	0.309 *	0.310 *	0.312 *
WBT	1	1600	29	31	31	31	31	0.041	0.044	0.044	0.044	0.044
WBR (d)	0	0	37	40	40	40	40	-	-	-	-	-
						COST DMD		0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
					TOTAL INTERSECTION CAPACITY UTILIZATION:			0.681	0.693	0.696	0.698	0.700
					SCENARIO LEVEL OF SERVICE:			B	B	B	B	B

NOTES:

R TOR: (a) 31%

(b) 0%

(c) 11%

(d) 12%

Printed: 03/11/13

VILLAGE AT CALABASAS MIXED-USE PROJECT (01/2008) REF: 2_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-10-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: U.S. 101 NB OFF-RAMP

E/W STREET: VENTURA BOULEVARD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING	811	8	119	0	8	3	6	70	0	0	32	3
(B) PROJECT-ADDED	1	0	0	0	0	0	0	0	0	0	0	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	LL R	LTR	T	TT

TRAFFIC SCENARIOS

SCENARIO 1 – EXISTING VOLUMES (A)

SCENARIO 2 – EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	2	3000	811	812				0.283 *	0.303 *			
NBT	0	0	8	8				-	-			
NBR (a)	1	1600	90	90				0.056	0.056			
SBL	0	0	0	0				-	-			
SBT	1	1600	0	0				0.002 *	0.002 *			
SBR (b)	0	0	3	3				-	-			
EBL	0	0	6	6				-	-			
EBT	1	1600	78	78				0.053 *	0.053 *			
EBR (c)	0	0	0	0				-	-			
WBL	0	0	0	0				-	-			
WBT	2	3200	32	32				0.011 *	0.011 *			
WBR (d)	0	0	2	2				-	-			
							LOST TIME:	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.448	0.448			
							SCENARIO LEVEL OF SERVICE:	A	A			

NOTES:

RTOR: (a) 24%
(b) 0%
(c) 0%
(d) 33%

Printed: 8/27/13

VILLAGE AT CALABASAS MIXED-USE PROJECT (#12000-)

REF: 2_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: **10-16-2012**

TIME PERIOD: ***A.M. PEAK HOUR***

N/S STREET: U.S. 101 NB OFF-RAMP

E/W STREET: VENTURA BOULEVARD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	831	0	139	0	0	3	0	70	0	0	82	3
(B) AMBIENT GROWTH:	68	1	16	0	0	0	0	6	0	0	3	0
(C) PROJECT-ADDED:	1	0	0	0	0	0	0	0	0	0	0	0
(D) CUMULATIVE-ADDED:	0	0	0	0	0	0	0	1	0	0	1	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LL R	LTR	T	TT

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A+B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A+B+C)

SCENARIO 4 = CUMULATIVE VOLUMES (A+B+D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A+B+C+D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	2	2800	891	876	877	876	877	0.282 *	0.304 *	0.305 *	0.306 *	0.305 *
NBT	0	0	0	0	0	0	0	-	-	-	-	-
NBR (4)	1	1600	60	60	58	58	58	0.056	0.061	0.061	0.061	0.061
SBL	0	0	0	0	0	0	0	-	-	-	-	-
SBT	1	1600	0	0	0	0	0	0.002 *	0.002 *	0.002 *	0.002 *	0.002 *
SBR (3)	0	0	1	1	1	1	1	-	-	-	-	-
EBL	0	0	6	6	6	6	6	-	-	-	-	-
EBT	1	1600	78	84	84	85	85	0.053 *	0.056 *	0.056 *	0.057 *	0.057 *
EBR (1)	0	0	0	0	0	0	0	-	-	-	-	-
WBL	0	0	0	0	0	0	0	-	-	-	-	-
WBT	2	3200	44	45	45	46	46	0.013 *	0.013 *	0.013 *	0.013 *	0.013 *
WBR (4)	0	0	2	2	2	2	2	-	-	-	-	-
							LOST TIME	0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.448	0.474	0.475	0.475	0.475
							SCENARIO LEVEL OF SERVICE:	A	A	A	A	A

NOTES:

R TOR: (a) 24%
(b) 0%
(c) 0%
(d) 31%

Printed: 10/31/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#130081)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: **10-16-2012**

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: U.S. 101 NB OFF-RAMP

E/W STREET: VENTURA BOULEVARD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING	618	0	37	1	0	11	1	48	0	0	264	3
(B) PROJECT-ADDED	1	0	0	0	0	0	0	0	0	0	0	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	LL R	LTR	T	TT

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	2	2880	618	619				0.215 *	0.216 *			
NBT	0	0	0	0				-	-			
NBR (a)	1	1440	0	0				0.000	0.000			
SBL	0	0	1	1				-	-			
SBT	1	1440	0	0				0.000 *	0.000 *			
SBR (b)	0	0	11	11				-	-			
EBL	0	0	1	1				-	-			
EBT	1	1440	48	48				0.026 *	0.026 *			
EBR (c)	0	0	0	0				-	-			
WBL	0	0	0	0				-	-			
WBT	2	3280	264	264				0.080 *	0.080 *			
WBR (d)	0	0	2	2				-	-			
							LOST TIME	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.433	0.433			
							SCENARIO LEVEL OF SERVICE:	A	A			

NOTES:

R TOR: (a) 70%
(b) 0%
(c) 0%
(d) 0%

Printed: 10/17/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#12000)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

REF: 2_PM

COUNT DATE: *10-16-2012*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: U.S. 101 NB OFF-RAMP

E/W STREET: VENTURA BOULEVARD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A)	EXISTING:	618	0	37	1	0	11	1	48	0	0	364	2
(B)	AMBIENT GROWTH:	39	0	2	0	0	1	0	3	0	0	23	0
(C)	PROJECT-ADDED:	3	0	0	0	0	0	0	0	0	0	0	0
(D)	CUMULATIVE/ADDED:	4	0	0	0	0	0	0	3	0	0	2	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS:	LL R	LTR	T	TT

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A+B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A+B+C)

SCENARIO 4 = CUMULATIVE VOLUMES (A+B+D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A+B+C+D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	2	2880	618	657	672	672	677	0.215 *	0.228 *	0.233 *	0.233 *	0.235 *
NBT	0	0	0	0	0	0	0	-	-	-	-	-
NBR (a)	1	1440	8	9	9	9	9	0.003	0.006	0.006	0.006	0.006
SBL	0	0	1	1	1	1	1	-	-	-	-	-
SBT	1	1440	0	0	0	0	0	0.000 *	0.000 *	0.000 *	0.000 *	0.000 *
SBR (b)	0	0	11	12	12	12	12	-	-	-	-	-
EBL	0	0	1	1	1	1	1	-	-	-	-	-
EBT	1	1440	48	48	48	48	48	0.026 *	0.028 *	0.028 *	0.029 *	0.029 *
EBR (c)	0	0	0	0	0	0	0	-	-	-	-	-
WBL	0	0	0	0	0	0	0	-	-	-	-	-
WBT	2	2880	364	385	387	387	387	0.126 *	0.134 *	0.135 *	0.135 *	0.135 *
WBR (d)	0	0	2	2	2	2	2	-	-	-	-	-
							LOST TIME	0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.433	0.459	0.469	0.468	0.482
							SCENARIO LEVEL OF SERVICE:	A	A	A	A	A

NOTES:

R TOR: (a) 70%
(b) 0%
(c) 0%
(d) 0%

Report: 12/17/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#120001) — REF: 3 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 10-16-2012

TIME PERIOD: A.M. PEAK HOUR

N/S STREET: U.S. 101 SB RAMPS (WEST)

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	0	0	0	498	6	37	250	333	0	0	387	40
(B) PROJECT-ADDED:	0	0	0	6	0	0	0	2	0	0	2	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS		LL R	L T	R T

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	0	0				-	-			
NBT	0	0	0	0				-	-			
NBR	0	0	0	0				-	-			
SBL	2	3200	498	504				0.156 *	0.158 *			
SBT	0	0	0	0				-	-			
SBR (a)	1	1600	37	37				0.023	0.023			
EBL	1	1600	250	250				0.156 *	0.156 *			
EBT	1	1600	333	334				0.199	0.169			
EBR	0	0	0	0				-	-			
WBL	0	0	0	0				-	-			
WBT	1	1600	387	389				0.248 *	0.249 *			
WBR (a)	1	1600	40	40				0.028	0.028			
							(CRIT TIME)	0.308 *	0.308 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.648	0.649			
							SCENARIO LEVEL OF SERVICE:	B	B			

NOTES:

(a) YIELD

Prepared: 10/31/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (FY2008)

REF: 3_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: U.S. 101 SB RAMPS (WEST)

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING	0	0	0	498	0	37	208	222	0	0	397	48
(B) AMBIENT GROWTH	0	0	0	48	0	3	39	18	0	0	32	4
(C) PROJECT-ADDED	0	0	0	6	0	6	0	2	0	0	2	0
(D) CUMULATIVE-ADDED	0	0	0	17	0	0	0	1	0	0	1	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS		LL R	L T	R T

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	0	0	0	0	0	-	-	-	-	-
NBT	0	0	0	0	0	0	0	-	-	-	-	-
NBR	0	0	0	0	0	0	0	-	-	-	-	-
SBL	2	3200	498	528	540	555	561	0.156 *	0.168 *	0.170 *	0.175 *	0.175 *
SBT	0	0	0	0	0	0	0	-	-	-	-	-
SBR (a)	1	1600	37	40	40	40	40	0.023	0.025	0.025	0.025	0.025
EBL	1	1600	208	270	270	270	270	0.156 *	0.169 *	0.169 *	0.169 *	0.169 *
EBT	1	1600	222	240	240	241	243	0.139	0.150	0.151	0.151	0.152
EBR	0	0	0	0	0	0	0	-	-	-	-	-
WBL	0	0	0	0	0	0	0	-	-	-	-	-
WBT	1	1600	397	429	431	430	432	0.248 *	0.268 *	0.269 *	0.269 *	0.270 *
WBR (a)	1	1600	48	48	48	48	48	0.030	0.030	0.030	0.030	0.030
						LOST TIME		0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
						TOTAL INTERSECTION CAPACITY UTILIZATION:		0.669	0.785	0.788	0.791	0.794
						SCENARIO LEVEL OF SERVICE:		B	C	C	C	C

NOTES:

(C)(B): (a) WIDE

Project: 8511213

VILLAGE AT CALABASAS MIXED-USE PROJECT (01/2008)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 10-16-2012

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: U.S. 101 SB RAMPS (WEST)

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING	0	0	0	309	0	12	320	595	0	0	930	269
(B) PROJECT-ADDED	0	0	0	12	0	0	0	3	0	0	3	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS		LL R	L T	R T

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	0	0				-	-			
NBT	0	0	0	0				-	-			
NBR	0	0	0	0				-	-			
SBL	2	3200	280	481				0.122 *	0.115 *			
SBT	0	0	0	0				-	-			
SBR (a)	1	1600	12	12				0.000	0.000			
EBL	1	1600	320	320				0.200 *	0.200 *			
EBT	1	1600	595	596				0.371	0.373			
EBR	0	0	0	0				-	-			
WBL	0	0	0	0				-	-			
WBT	1	1600	333	336				0.208 *	0.210 *			
WBR (a)	1	1600	269	269				0.168	0.168			
							(CRIT SUM)	0.160 *	0.168 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.639	0.659			
							SCENARIO LEVEL OF SERVICE:	B	B			

NOTES:

(a) YIELD

Printed: 10/31/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#13666)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10/10/2017*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: U.S. 101 SB RAMPS (WEST)

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	0	0	0	309	0	11	338	593	0	0	333	309
(B) AMBIENT GROWTH:	0	0	0	31	0	1	34	47	0	0	37	32
(C) PROJECT-ADDED:	0	0	0	0	0	12	0	3	0	0	3	0
(D) CUMULATIVE-ADDED:	0	0	0	37	0	1	0	10	0	0	8	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS		LL R	L T	R T

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	0	0	0	0	0	-	-	-	-	-
NBT	0	0	0	0	0	0	0	-	-	-	-	-
NBR	0	0	0	0	0	0	0	-	-	-	-	-
SBL	2	3200	389	420	439	447	447	0.122 *	0.131 *	0.131 *	0.140 *	0.140 *
SBT	0	0	0	0	0	0	0	-	-	-	-	-
SBR (a)	1	1600	12	13	25	38	38	0.008	0.008	0.016	0.011	0.019
EBL	1	1600	320	346	346	354	354	0.200 *	0.216 *	0.216 *	0.221 *	0.221 *
EBT	1	1600	593	640	643	650	653	0.371	0.400	0.402	0.406	0.408
EBR	0	0	0	0	0	0	0	-	-	-	-	-
WBL	0	0	0	0	0	0	0	-	-	-	-	-
WBT	1	1600	333	368	353	368	371	0.208 *	0.225 *	0.217 *	0.230 *	0.232 *
WBR (a)	1	1600	269	291	291	291	291	0.168	0.182	0.182	0.182	0.182
							LOST TIME	0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
							TOTAL INTERSECTION CAPACITY UTILIZATION	0.430	0.473	0.474	0.491	0.493
							SCENARIO LEVEL OF SERVICE:	B	B	B	B	B

NOTES:

(OTOR) (a) YIELD

Printed: 10/11/17

VILLAGE AT CALABASAS MIXED-USE PROJECT (FEIR)

REF: 4_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: PARKWAY CALABASAS (SPLIT PHASED)

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	12	634	28	76	389	305	100	306	293	28	130	176
(B) PROJECT-ADDED:	0	0	0	1	8	0	0	0	0	0	2	12

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	L TT TR	L LT T R	L TT R	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	1	1680	12	12				0.013	0.013			
NBT	3	4680	634	634				0.136 *	0.136 *			
NBR (A)	0	0	20	20				-	-			
SBL	0	0	76	77				-	-			
SBT	3	4680	380	380				0.093	0.093			
SBR (B)	1	1680	233	233				0.146 *	0.146 *			
EBL	1	1680	100	100				0.060	0.060			
EBT	2	3280	306	314				0.096	0.098			
EBR (C)	1	1680	252	252				0.150 *	0.150 *			
WBL	1	1680	28	28				0.018 *	0.018 *			
WBT	2	3280	130	132				0.041	0.041			
WBR (D)	1	1680	146	156				0.091	0.098			
							LOST TIME	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.413	0.413			
							SCENARIO LEVEL OF SERVICE:	A	A			

NOTES:

ICTCA: (B) 0.5%
(A) 2.3%
(C) 1.4%
(D) 1.7%

Printed: 10/17/12

VILLAGE AT CALABASAS AMENDED-USE PROJECT (#120001)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: PARKWAY CALABASAS (SPLIT PHASED)

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	32	634	39	76	389	365	186	206	253	28	139	176
(B) AMBIENT GROWTH:	4	91	2	6	30	24	9	24	33	2	10	14
(C) PROJECT-ADDED:	0	0	0	1	8	6	0	0	0	8	2	12
(D) CUMULATIVE-ADDED:	0	0	0	1	8	6	0	18	0	8	1	10

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS:	L TT TR	L LT T R	L TT R	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	1	1680	32	96	96	96	96	0.033	0.033	0.093	0.093	0.835
NBT	3	4800	634	685	685	685	685	0.136 *	0.147 *	0.147 *	0.147 *	0.147 *
NBR (a)	0	0	39	22	22	22	22	-	-	-	-	-
SBL	0	0	76	82	82	83	84	-	-	-	-	-
SBT	3	4800	389	419	419	419	419	0.095	0.103	0.103	0.103	0.103
SBR (b)	1	1680	233	252	252	252	252	0.148 *	0.158 *	0.158 *	0.158 *	0.158 *
EBL	1	1680	186	117	117	117	117	0.068	0.073	0.073	0.073	0.073
EBT	2	3200	306	339	339	346	356	0.096	0.103	0.106	0.109	0.111
EBR (c)	1	1680	253	272	271	271	272	0.158 *	0.170 *	0.170 *	0.170 *	0.170 *
WBL	1	1680	28	30	30	30	30	0.018 *	0.019 *	0.019 *	0.019 *	0.019 *
WBT	2	3200	130	149	143	141	143	0.041	0.044	0.044	0.044	0.045
WBR (d)	1	1680	146	158	168	170	180	0.091	0.094	0.100	0.101	0.111
						COST (Sec)		0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
						TOTAL INTERSECTION CAPACITY UTILIZATION:		0.413	0.436	0.436	0.436	0.436
						SCENARIO LEVEL OF SERVICE:		A	A	A	A	A

NOTES:

RTOR: (a) 0%

(b) 23%

(c) 14%

(d) 17%

Printed: 10/31/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (P120008)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: PARKWAY CALABASAS (SPLIT PHASED)

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

REF: 4_PM

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	43	701	43	208	420	411	105	571	369	36	101	474
(B) PROJECT ADDED:	0	0	0	7	0	0	0	15	0	0	3	7

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	L TT TR	L LT T R	L TT R	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENT	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	1	1689	43	43	43	43	43	0.039	0.039			
NBT	3	4599	701	701	701	701	701	0.155 *	0.155 *			
NBR (a)	0	0	43	43	43	43	43	-	-			
SBL	0	0	208	215	215	215	215	-	-			
SBT	3	4599	420	420	420	420	420	0.131	0.132			
SBR (b)	1	1689	333	333	333	333	333	0.288 *	0.288 *			
EBL	1	1689	105	105	105	105	105	0.066 *	0.066 *			
EBT	2	3399	571	586	586	586	586	0.179	0.183			
EBR (c)	1	1689	231	231	231	231	231	0.144	0.144			
WBL	1	1689	36	36	36	36	36	0.023	0.023			
WBT	2	3399	101	104	104	104	104	0.047	0.048			
WBR (d)	1	1689	490	497	497	497	497	0.281 *	0.286 *			
							LOST TIME	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION	0.680	0.687			
							SCENARIO LEVEL OF SERVICE:	A	B			

NOTES:

R TOR: (a) 0%
(b) 75%
(c) 74%
(d) 5%

Printed: 10/17/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (P12-0001)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 10-16-2012

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: PARKWAY CALABASAS (SPLIT PHASED)

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

AM: 4 PM

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A)	EXISTING:	43	781	41	288	430	431	185	571	269	34	101	474
(B)	AMBIENT GROWTH:	3	56	3	17	34	33	8	44	22	3	12	38
(C)	PROJECT-ADDED:	4	4	0	5	8	8	8	15	0	0	3	7
(D)	CUMULATIVE-ADDED:	4	8	0	2	8	5	8	29	0	0	3	31

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS:	L TT TR	L LT T R	L TT R	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	1	1900	43	68	68	68	68	0.019	0.043	0.043	0.043	0.043
NBT	3	4800	781	757	757	757	757	0.155 *	0.167 *	0.167 *	0.167 *	0.167 *
NBR (a)	0	0	43	46	46	46	46	-	-	-	-	-
SBL	0	0	288	225	230	237	253	-	-	-	-	-
SBT	3	4800	430	454	454	454	454	0.131	0.141	0.141	0.142	0.143
SBR (b)	1	1900	233	368	368	364	364	0.308 *	0.225 *	0.225 *	0.228 *	0.228 *
EBL	1	1900	185	113	113	121	121	0.066 *	0.071 *	0.071 *	0.076 *	0.076 *
EBT	2	3200	571	617	632	648	651	0.178	0.193	0.198	0.202	0.207
EBR (c)	1	1900	231	258	258	258	258	0.144	0.136	0.136	0.136	0.136
WBL	1	1900	36	39	39	39	39	0.023	0.024	0.024	0.024	0.024
WBT	2	3200	101	163	166	166	169	0.047	0.051	0.052	0.052	0.053
WBR (d)	1	1900	474	486	493	516	522	0.281 *	0.304 *	0.308 *	0.323 *	0.326 *
							COST TIME:	0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.693	0.641	0.646	0.658	0.669
							SCENARIO LEVEL OF SERVICE:	A	B	B	B	B

NOTES:

ETOR: (a) 0%

(b) 79%

(c) 14%

(d) 5%

Printed: 10/31/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#12000-)

REF: 5_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: PARK CENTRE

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A)	EXISTING:	35	0	58	0	0	0	68	351	30	35	511	0
(B)	PROJECT-ADDED:	0	0	0	0	0	0	0	9	0	0	54	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS:	LL R		L TT R	L TT

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	2	3200	35	35				0.008 *	0.008 *			
NBT	0	0	0	0				-	-			
NBR (a)	1	1600	58	58				0.036	0.036			
SBL	0	0	0	0				-	-			
SBT	0	0	0	0				-	-			
SBR (b)	0	0	0	0				-	-			
EBL	1	1600	68	68				0.025	0.025			
EBT	2	3200	351	360				0.110 *	0.113 *			
EBR (c)	1	1600	32	32				0.020	0.020			
WBL	1	1600	59	59				0.037 *	0.037 *			
WBT	2	3200	511	534				0.080	0.167			
WBR (d)	0	0	0	0				-	-			
							LOST TIME	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.255	0.358			
							SCENARIO LEVEL OF SERVICE:	A	A			

NOTES:

RTOR: (a) 44%

(b) 0%

(c) 16%

(d) 0%

Printed: 8/27/2013

VILLAGE AT CALABASAS MIXED-USE PROJECT (#12000-)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: PARK CENTRE

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

REF: 5 AM

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	39	0	18	0	0	0	68	331	38	59	313	0
(B) AMBIENT GROWTH:	2	0	1	0	0	0	3	28	3	5	25	0
(C) PROJECT-ADDED:	0	0	0	0	0	0	0	9	0	0	14	0
(D) CUMULATIVE-ADDED:	0	0	0	0	0	0	0	19	0	0	16	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LL R		LL TT R	L TT

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A+B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A+B+C)

SCENARIO 4 = CUMULATIVE VOLUMES (A+B+D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A+B+C+D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	2	3200	36	38	38	38	38	0.008 *	0.009 *	0.009 *	0.009 *	0.009 *
NBT	0	0	0	0	0	0	0	-	-	-	-	-
NBR (A)	1	1600	63	11	11	11	11	0.006	0.007	0.007	0.007	0.007
SBL	0	0	0	0	0	0	0	-	-	-	-	-
SBT	0	0	0	0	0	0	0	-	-	-	-	-
SBR (A)	0	0	0	0	0	0	0	-	-	-	-	-
EBL	1	1600	40	45	45	45	45	0.025	0.027	0.027	0.027	0.027
EBT	2	3200	344	379	388	396	407	0.108 *	0.118 *	0.121 *	0.124 *	0.127 *
EBR (C)	1	1600	32	34	34	34	34	0.020	0.021	0.021	0.021	0.021
WBL	1	1600	59	64	64	64	64	0.037 *	0.040 *	0.040 *	0.040 *	0.040 *
WBT	2	3200	312	337	351	353	367	0.098	0.105	0.110	0.110	0.111
WBR (D)	0	0	0	0	0	0	0	-	-	-	-	-
						(CRIT SUM)		0.108 *	0.118 *	0.121 *	0.124 *	0.127 *
						TOTAL INTERSECTION CAPACITY UTILIZATION:		0.355	0.367	0.379	0.373	0.376
						SCENARIO LEVEL OF SERVICE:		A	A	A	A	A

NOTES:

RATIOS: (a) 44%

(b) 0%

(c) 16%

(d) 0%

Printed: 03/11/13

VILLAGE AT CALABASAS MIXED-USE PROJECT (P120000)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 10-16-2012

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: PARK CENTRE

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

REF: 1_PM

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	48	0	51	0	0	0	3	750	39	60	482	0
(B) PROJECT-ADDED:	0	0	0	0	0	0	0	20	0	0	30	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	LL R		U TT R	L TT

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	2	3200	48	48				0.015	0.015			
NBT	0	0	0	0				-	-			
NBR (a)	1	1600	30	30				0.019 *	0.019 *			
SBL	0	0	0	0				-	-			
SBT	0	0	0	0				-	-			
SBR (b)	0	0	0	0				-	-			
EBL	1	1600	2	2				0.001	0.001			
EBT	2	3200	750	770				0.237 *	0.243 *			
EBR (c)	1	1600	51	51				0.032	0.032			
WBL	1	1600	60	60				0.051 *	0.051 *			
WBT	2	3200	482	482				0.151	0.151			
WBR (d)	0	0	0	0				-	-			
								(CRITICAL) 0.100 *	0.100 *			
								TOTAL INTERSECTION CAPACITY UTILIZATION:	0.487	0.493		
								SCENARIO LEVEL OF SERVICE:	A	A		

NOTES:

(a) 6.7%

(b) 0%

(c) 14%

(d) 0%

Printed: 6/5/2013

VILLAGE AT CALABASAS MIXED-USE PROJECT (P12-0000) REF: 5_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: PARK CENTRE

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	48	6	91	0	0	0	3	758	59	83	460	9
(B) AMBIENT GROWTH:	4	0	7	0	0	0	0	61	5	7	39	0
(C) PROJECT-ADDED:	0	0	0	0	0	0	0	39	0	0	18	0
(D) CUMULATIVE-ADDED:	0	0	0	0	0	0	0	31	0	0	34	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND LL R	SOUTH BOUND	EAST BOUND U TT R	WEST BOUND L TT

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A+B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A+B+C)

SCENARIO 4 = CUMULATIVE VOLUMES (A+B+D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A+B+C+D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	2	3200	48	52	52	52	52	0.015	0.016	0.016	0.016	0.016
NBT	0	0	0	0	0	0	0	-	-	-	-	-
NBR (a)	1	1600	30	32	32	32	32	0.019 *	0.020 *	0.020 *	0.020 *	0.020 *
SBL	0	0	0	0	0	0	0	-	-	-	-	-
SBT	0	0	0	0	0	0	0	-	-	-	-	-
SBR (b)	0	0	0	0	0	0	0	-	-	-	-	-
EBL	1	1600	2	2	2	2	2	0.001	0.001	0.001	0.001	0.001
EBT	2	3200	758	819	828	850	870	0.237 *	0.256 *	0.262 *	0.266 *	0.272 *
EBR (c)	1	1600	51	55	55	55	55	0.032	0.034	0.034	0.034	0.034
WBL	1	1600	82	89	89	89	89	0.051 *	0.056 *	0.056 *	0.056 *	0.056 *
WBT	2	3200	460	521	531	555	565	0.144	0.163	0.166	0.173	0.177
WBR (d)	0	0	0	0	0	0	0	-	-	-	-	-
							COST/SVR	0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.407	0.433	0.438	0.442	0.445
							SCENARIO LEVEL OF SERVICE:	A	A	A	A	A

NOTES:

RTOR: (a) 6.7%

(b) 0%

(c) 14%

(d) 0%

Printed: 10/31/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (FEIR#1)

REF: 4_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: COMMONS WAY

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A)	EXISTING:	55	6	49	1	2	3	23	374	60	34	393	48
(B)	PROJECT-ADDED:	0	0	0	0	0	0	0	0	0	0	34	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	L TR R	LTR	L T TR	L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	55	55				-	-			
NBT	2	3200	6	6				0.018 *	0.018 *			
NBR (a)	1	1600	49	49				0.031	0.031			
SBL	0	0	2	2				-	-			
SBT	1	1600	2	2				0.003 *	0.005 *			
SBR (b)	0	0	0	0				-	-			
EBL	1	1600	23	23				0.014 *	0.014 *			
EBT	2	3200	374	383				0.102	0.105			
EBR (c)	0	0	52	52				-	-			
WBL	1	1600	34	34				0.034	0.034			
WBT	2	3200	393	407				0.136 *	0.141 *			
WBR (d)	0	0	48	48				-	-			
							JOINT THRU	0.105 *	0.105 *			
				TOTAL INTERSECTION CAPACITY UTILIZATION:				0.271	0.276			
				SCENARIO LEVEL OF SERVICE:				A	A			

NOTES:

R TOR: (a) 55%
(b) 100%
(c) 13%
(d) 10%

Printed: 10/17/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#12000-)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: COMMONS WAY

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A)	EXISTING:	33	6	49	3	3	3	23	274	68	34	303	48
(B)	AMBIENT GROWTH:	4	0	4	0	0	0	3	33	1	4	37	6
(C)	PROJECT-ADDED:	0	0	0	0	0	0	0	9	0	0	14	0
(D)	CUMULATIVE-ADDED:	17	0	1	0	0	0	0	0	10	1	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND L TR R	SOUTH BOUND LTR	EAST BOUND L T TR	WEST BOUND L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	33	52	57	74	74	-	-	-	-	-
NBT	3	3280	6	6	6	6	6	0.018 *	0.020 *	0.020 *	0.025 *	0.025 *
NBR (M)	1	1600	20	22	22	23	23	0.013	0.014	0.014	0.014	0.014
SBL	0	0	2	2	2	2	2	-	-	-	-	-
SBT	1	1600	2	2	2	2	2	0.003 *	0.003 *	0.003 *	0.003 *	0.003 *
SBR (M)	0	0	0	0	0	0	0	-	-	-	-	-
EBL	1	1600	23	25	25	25	25	0.014 *	0.016 *	0.016 *	0.016 *	0.016 *
EBT	2	3200	174	206	305	206	305	0.102	0.100	0.113	0.115	0.116
EBR (2)	0	0	52	56	56	73	73	-	-	-	-	-
WBL	1	1600	34	39	38	42	42	0.034	0.036	0.036	0.039	0.039
WBT	2	3200	393	434	438	434	438	0.136 *	0.147 *	0.152 *	0.147 *	0.152 *
WBR (2)	0	0	45	47	47	47	47	-	-	-	-	-
						(cont'nue)		0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
						TOTAL INTERSECTION CAPACITY UTILIZATION:		0.271	0.286	0.291	0.291	0.296
						SCENARIO LEVEL OF SERVICE:		A	A	A	A	A

NOTES:

ACTUAL: (a) 31%
(b) 100%
(c) 13%
(d) 10%

Printed: 10/31/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#13068)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 10-10-2012

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: COMMONS WAY

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	64	8	112	41	3	94	3	794	39	99	367	4
(B) PROJECT-ADDED:	0	0	0	0	0	0	0	20	9	0	10	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	L TR R	LTR	L T TR	L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	64	64	64	64	64	-	-			
NBT	2	3200	8	8	8	8	8	0.039 *	0.020 *			
NBR (a)	1	1600	52	52	52	52	52	0.033	0.033			
SBL	0	0	41	41	41	41	41	-	-			
SBT	1	1600	3	3	3	3	3	0.030 *	0.030 *			
SBR (a)	0	0	4	4	4	4	4	-	-			
EBL	1	1600	3	3	3	3	3	0.002	0.002			
EBT	2	3200	794	814	814	814	814	0.270 *	0.277 *			
EBR (c)	0	0	71	71	71	71	71	-	-			
WBL	1	1600	99	99	99	99	99	0.006 *	0.006 *			
WBT	2	3200	367	377	377	377	377	0.115	0.118			
WBR (d)	0	0	2	3	3	3	3	-	-			
							CLEAT TIME:	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.476	0.483			
							SCENARIO LEVEL OF SERVICE:	A	A			

NOTES:

R-TOR: (a) 54%
(c) 71%
(d) 50%

Printed: 10/17/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (P12-0081)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: COMMONS WAY

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	44	0	102	43	3	14	3	784	79	98	367	4
(B) YEAR 2016:	1	0	9	1	0	1	0	64	6	7	29	0
(C) PROJECT-ADDED:	0	0	0	0	0	0	0	20	0	0	10	0
(D) CUMULATIVE-ADDED:	34	0	0	0	0	0	0	0	31	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND L TR R	SOUTH BOUND LTR	EAST BOUND L T TR	WEST BOUND L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	0	0	64	69	69	103	103	-	-	-	-	-
NBT	3	3289	0	0	0	0	0	0.020 *	0.002 *	0.022 *	0.032 *	0.032 *
NBR (a)	1	1600	22	26	26	39	39	0.013	0.015	0.013	0.021	0.021
SBL	0	0	41	44	44	44	44	-	-	-	-	-
SBT	1	1600	3	3	3	3	3	0.009 *	0.010 *	0.010 *	0.010 *	0.010 *
SBR (b)	0	0	4	4	4	4	4	-	-	-	-	-
EBL	1	1600	3	3	3	3	3	0.002	0.002	0.002	0.002	0.002
EBT	3	3200	784	858	878	858	878	0.270 *	0.292 *	0.290 *	0.291 *	0.307 *
EBR (c)	0	0	79	77	77	103	103	-	-	-	-	-
WBL	1	1600	90	97	97	103	103	0.056 *	0.061 *	0.061 *	0.064 *	0.064 *
WBT	3	3200	367	396	406	396	406	0.115	0.124	0.120	0.124	0.128
WBR (d)	0	0	2	2	2	2	2	-	-	-	-	-
						CRIT SUM		0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
					TOTAL INTERSECTION CAPACITY UTILIZATION:			0.476	0.587	0.512	0.529	0.538
					SCENARIO LEVEL OF SERVICE:			A	A	A	A	A

NOTES:

RTOR: (a) 54%
(b) 71%
(c) 10%
(d) 50%

Printed: 4/5/2013

VILLAGE AT CALABASAS MIXED-USE PROJECT (#12668)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 10-16-2012

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: PARK GRANADA

E/W STREET: CALABASAS ROAD

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	82	39	339	90	25	56	14	170	81	369	375	77
(B) PROJECT-ADDED:	14	0	21	0	0	0	0	0	0	0	0	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS:	L LT R	L T R	L T TR	LL TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	SCENARIO VOLUMES 2	SCENARIO VOLUMES 3	SCENARIO VOLUMES 4	SCENARIO VOLUMES 5	SCENARIO V/C RATIOS 1	SCENARIO V/C RATIOS 2	SCENARIO V/C RATIOS 3	SCENARIO V/C RATIOS 4	SCENARIO V/C RATIOS 5
NBL	0	0	82	96				-	-			
NBT	2	3200	39	39				0.044	0.045			
NBR (2)	1	1600	165	176				0.103 *	0.110 *			
SBL	1	1600	90	90				0.031 *	0.031 *			
SBT	1	1600	25	25				0.016	0.016			
SBR (1)	1	1600	56	56				0.021	0.021			
EBL	1	1600	14	14				0.009	0.009			
EBT	2	3200	170	170				0.075 *	0.078 *			
EBR (1)	0	0	82	99				-	-			
WBL	2	3200	369	369				0.115 *	0.115 *			
WBT	2	3200	375	375				0.117	0.117			
WBR (2)	1	1600	99	99				0.043	0.043			
								0.500 *	0.500 *			
TOTAL INTERSECTION CAPACITY UTILIZATION:								0.422	0.434			
SCENARIO LEVEL OF SERVICE:								A	A			

NOTES:

(1) 56% (RTOR + WB-LEFT OVERLAP)

(2) 6%

(3) 23%

(4) 10%

Printed: 05/15/13

VILLAGE AT CALABASAS MIXED-USE PROJECT (FEIR#)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2013*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: PASEO GRANADA

E/W STREET: PASEO SORRENTO

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING	67	349	88	308	239	113	79	89	92	33	78	133
(B) PROJECT-ADDED	0	0	0	33	0	0	0	5	0	6	1	23

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS	L T TR	L TT R	L TR	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A + B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	SCENARIO VOLUMES 2	SCENARIO VOLUMES 3	SCENARIO VOLUMES 4	SCENARIO VOLUMES 5	SCENARIO V/C RATIOS 1	SCENARIO V/C RATIOS 2	SCENARIO V/C RATIOS 3	SCENARIO V/C RATIOS 4	SCENARIO V/C RATIOS 5
NBL	1	1600	67	67				0.042	0.042			
NBT	3	5200	349	349				0.135 *	0.137 *			
NBR (a)	0	0	83	90				-	-			
SBL	1	1600	308	341				0.130 *	0.152 *			
SBT	2	3200	239	239				0.068	0.068			
SBR (b)	1	1600	113	133				0.085	0.089			
EBL	1	1600	79	79				0.049	0.049			
EBT	1	1600	89	82				0.081 *	0.085 *			
EBR (c)	0	0	80	80				-	-			
WBL	1	1600	33	39				0.021	0.024			
WBT	2	3200	75	76				0.023 *	0.024 *			
WBR (d)	1	1600	27	31				0.017	0.019			
								0.100 *	0.100 *			
			TOTAL INTERSECTION CAPACITY UTILIZATION					0.481	0.500			
			SCENARIO LEVEL OF SERVICE					A	A			

NOTES:

R TO RI: (a) 6%
(b) 70%
(c) 33%
(d) 80%

Printed: 10/17/13

VILLAGE AT CALABASAS MIXED-USE PROJECT (FY2008)

REF: 9_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: 10-16-2013

TIME PERIOD: P.M. PEAK HOUR

N/S STREET: PARK GRANADA

E/W STREET: PARK SORRENTO

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	47	349	88	188	219	122	79	69	92	33	71	110
(B) YEAR 2016:	5	38	7	17	18	10	6	7	7	3	6	10
(C) PROJECT-ADDED:	0	0	0	26	0	0	0	5	0	6	5	25
(D) CUMULATIVE-ADDED:	0	0	0	0	0	0	0	7	0	0	5	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS:	L T TR	L TT R	L TR	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A+B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A+B+C)

SCENARIO 4 = CUMULATIVE VOLUMES (A+B+D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A+B+C+D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	1	1600	47	73	73	78	78	0.043	0.045	0.045	0.049	0.049
NBT	2	3200	349	377	377	377	377	0.133 *	0.138 *	0.138 *	0.146 *	0.146 *
NBR (a)	0	0	83	89	93	89	87	-	-	-	-	-
SBL	1	1600	206	225	264	225	260	0.138 *	0.141 *	0.163 *	0.141 *	0.163 *
SBT	2	3200	219	237	237	237	237	0.068	0.074	0.074	0.074	0.074
SBR (b)	1	1600	110	119	119	119	119	0.069	0.074	0.074	0.074	0.074
EBL	1	1600	79	85	83	85	85	0.049	0.053	0.053	0.053	0.053
EBT	1	1600	69	96	99	103	106	0.043 *	0.101 *	0.101 *	0.107 *	0.109 *
EBR (c)	0	0	60	63	65	68	68	-	-	-	-	-
WBL	1	1600	33	36	42	36	42	0.021 *	0.023 *	0.026 *	0.023 *	0.026 *
WBT	2	3200	71	81	84	86	89	0.022	0.025	0.026	0.027	0.028
WBR (d)	1	1600	39	42	46	42	48	0.024	0.026	0.029	0.026	0.030
						LOST TIME		0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
						TOTAL INTERSECTION CAPACITY UTILIZATION:		0.479	0.511	0.548	0.517	0.545
						SCENARIO LEVEL OF SERVICE:		A	A	A	A	A

NOTES:

ATTCHD:

(a) 6%

(b) 10%

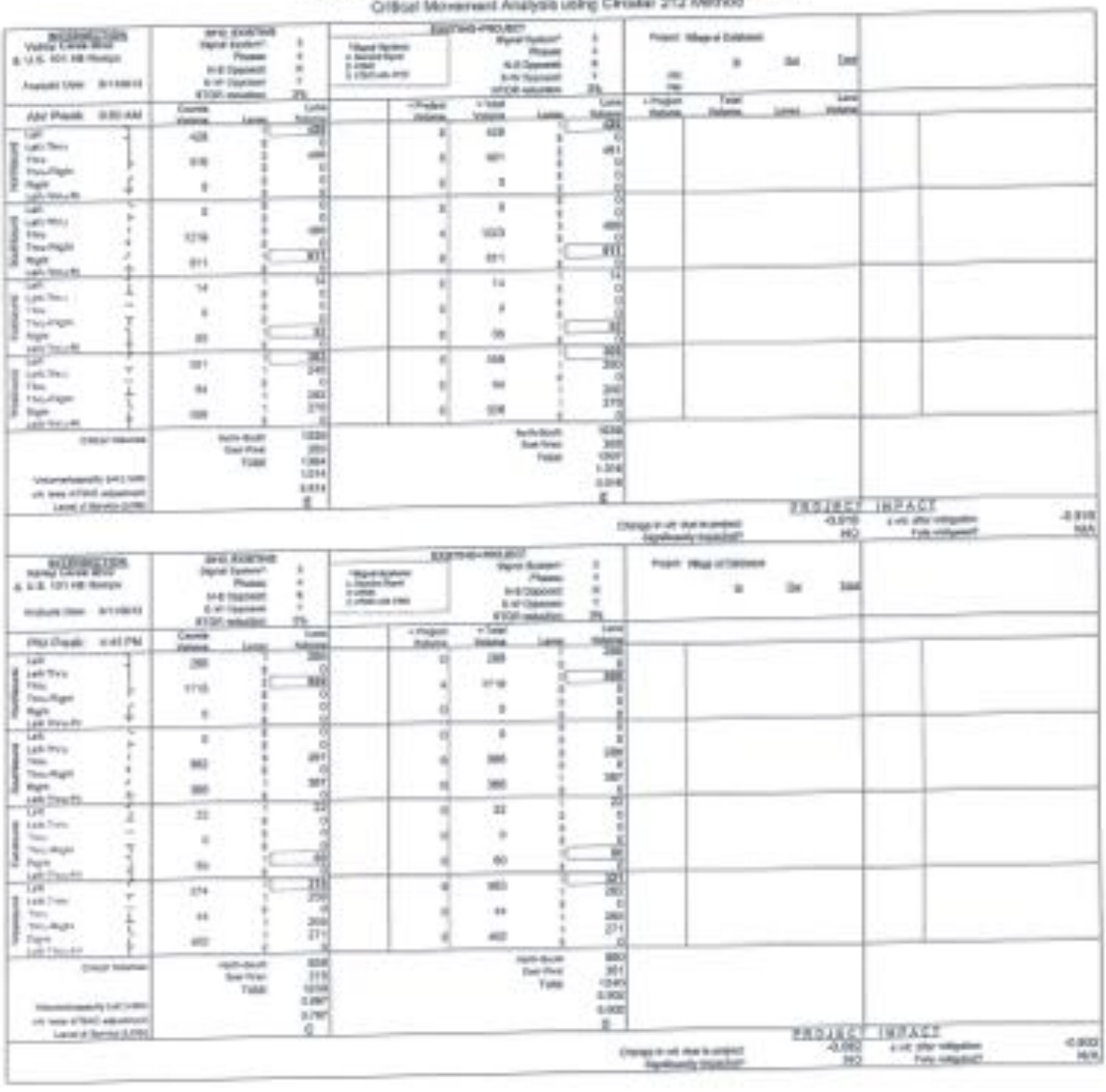
(c) 35%

(d) 80%

Printed: 8/5/2013

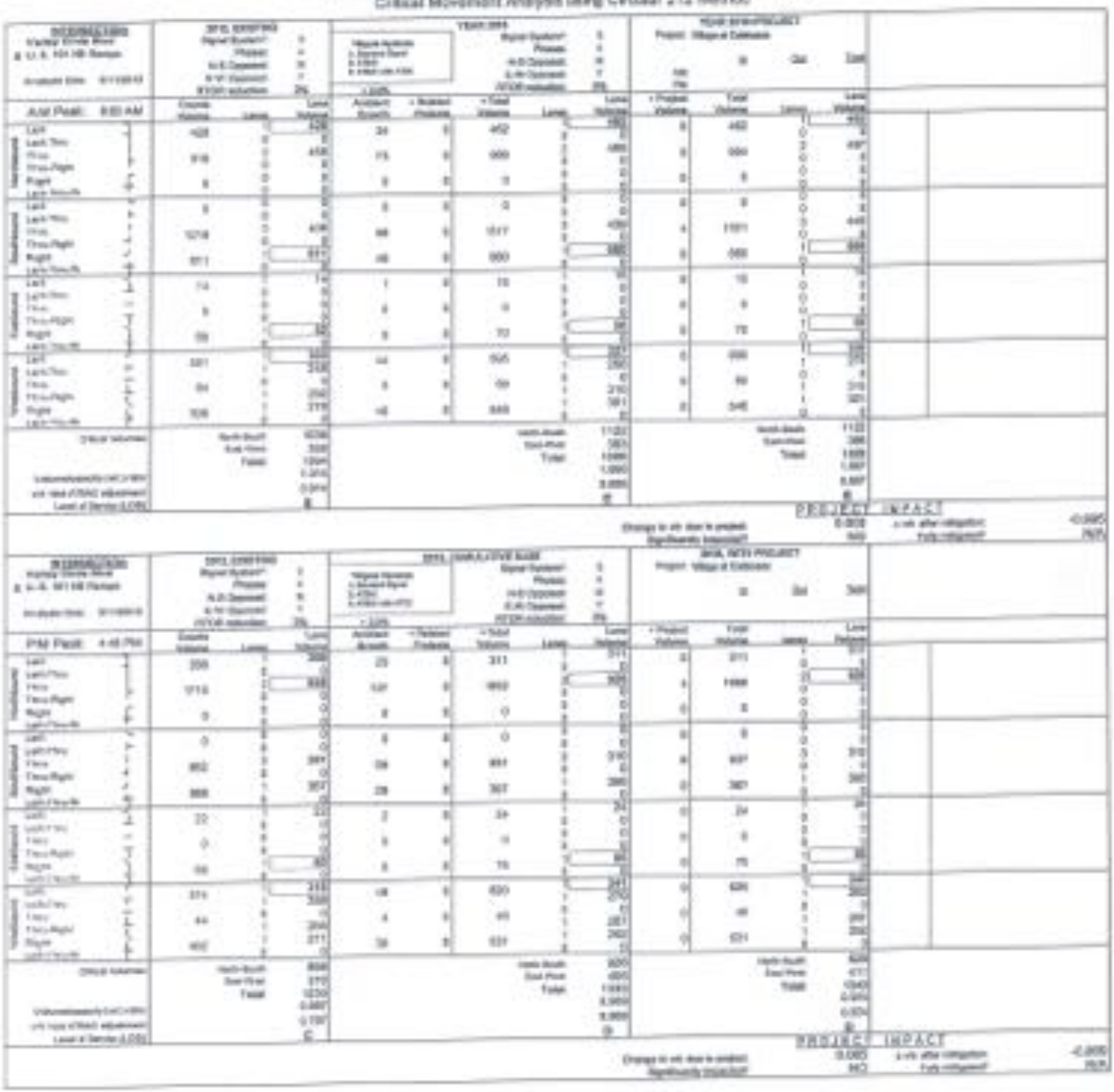
LADOT Bureau of Planning and Land Use Development

Critical Movement Analysis using Circular 212 Method



LADOT Bureau of Planning and Land Use Development

Critical Movement Analysis using Circular 212 Method



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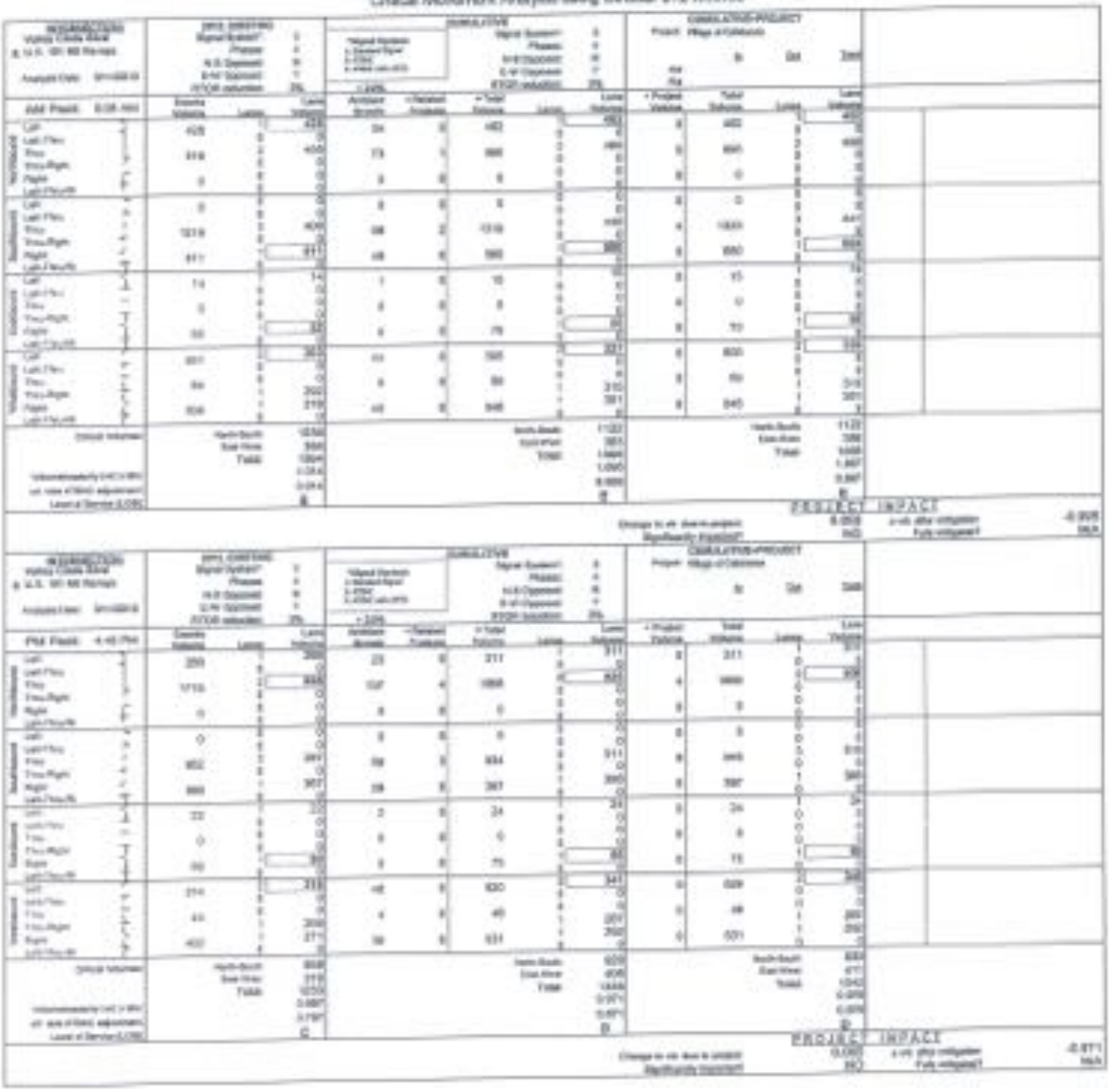
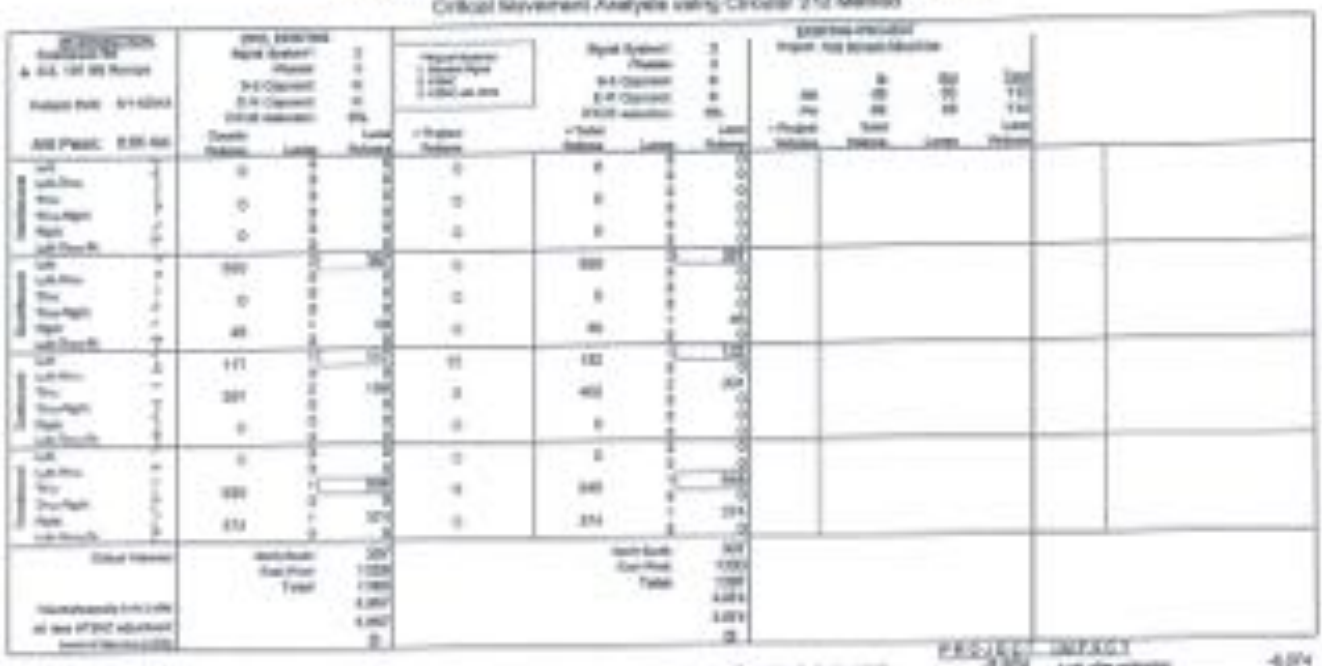
Critical Movement Analysis using Circular 212 Method

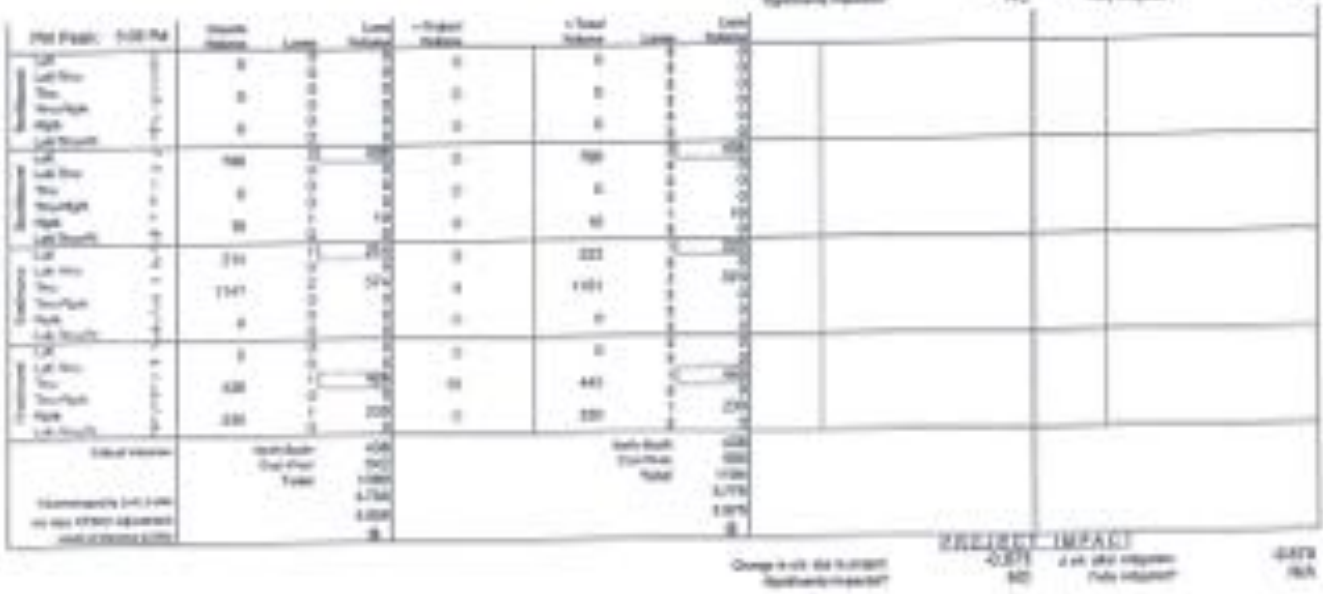


LADOT Bureau of Planning and Land Use Development

Critical Movement Analysis using Circular 212 Method



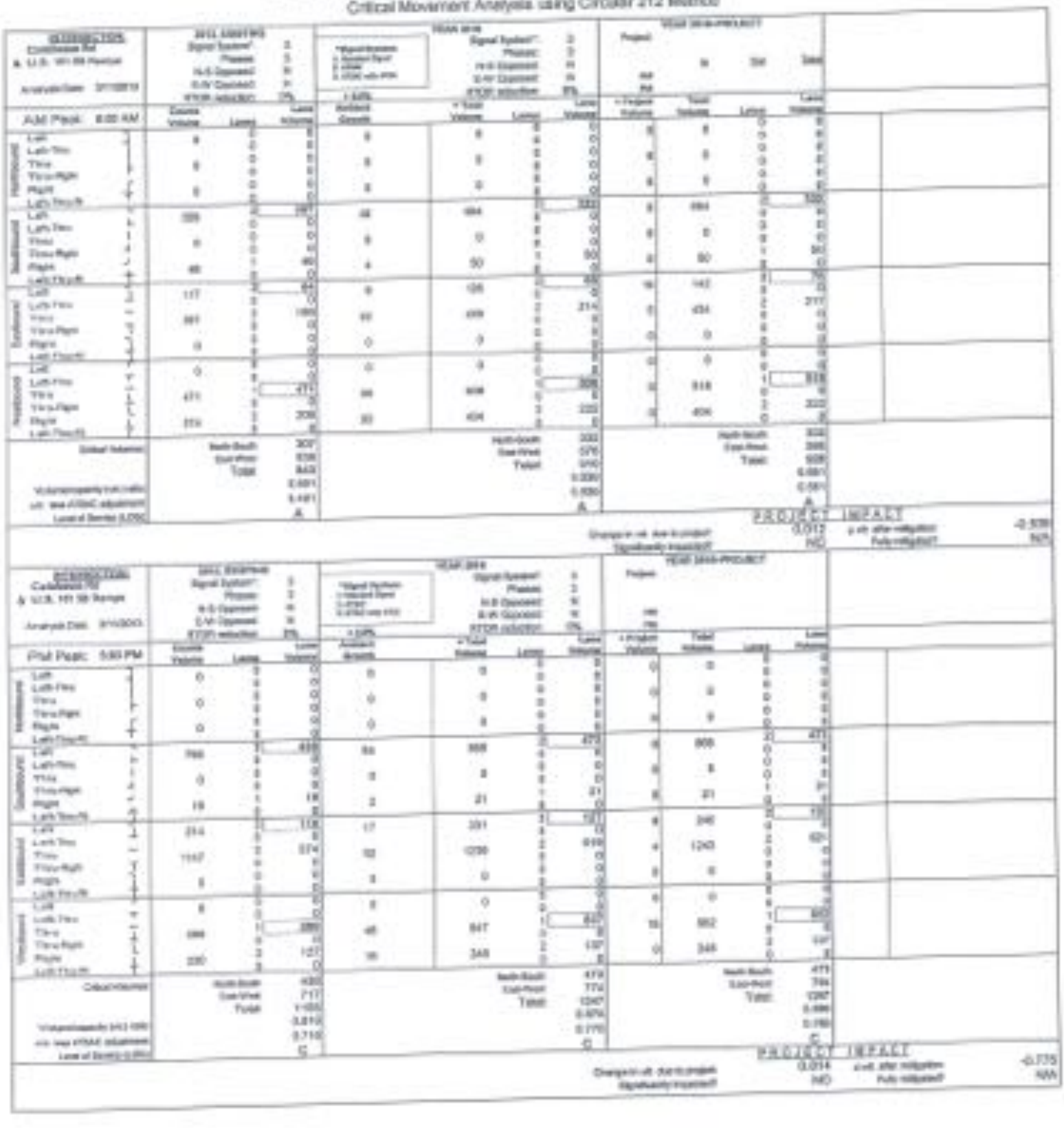
PROJECT IMPACT



PROJECT IMPACT

LADOT Bureau of Planning and Land Use Development

Critical Movement Analysis using Circular 212 Method



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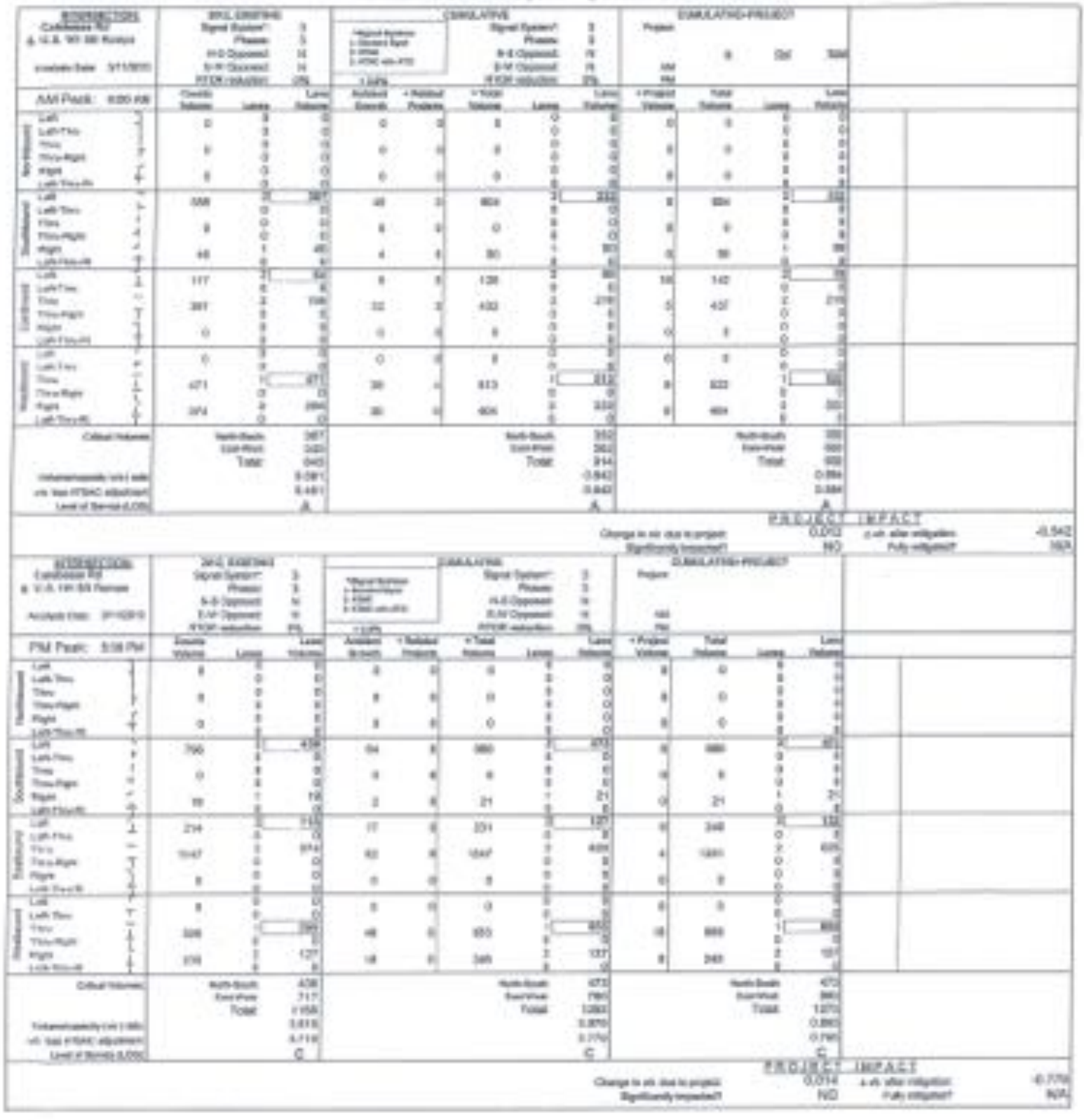
Critical Movement Analysis using Circular 212 Method



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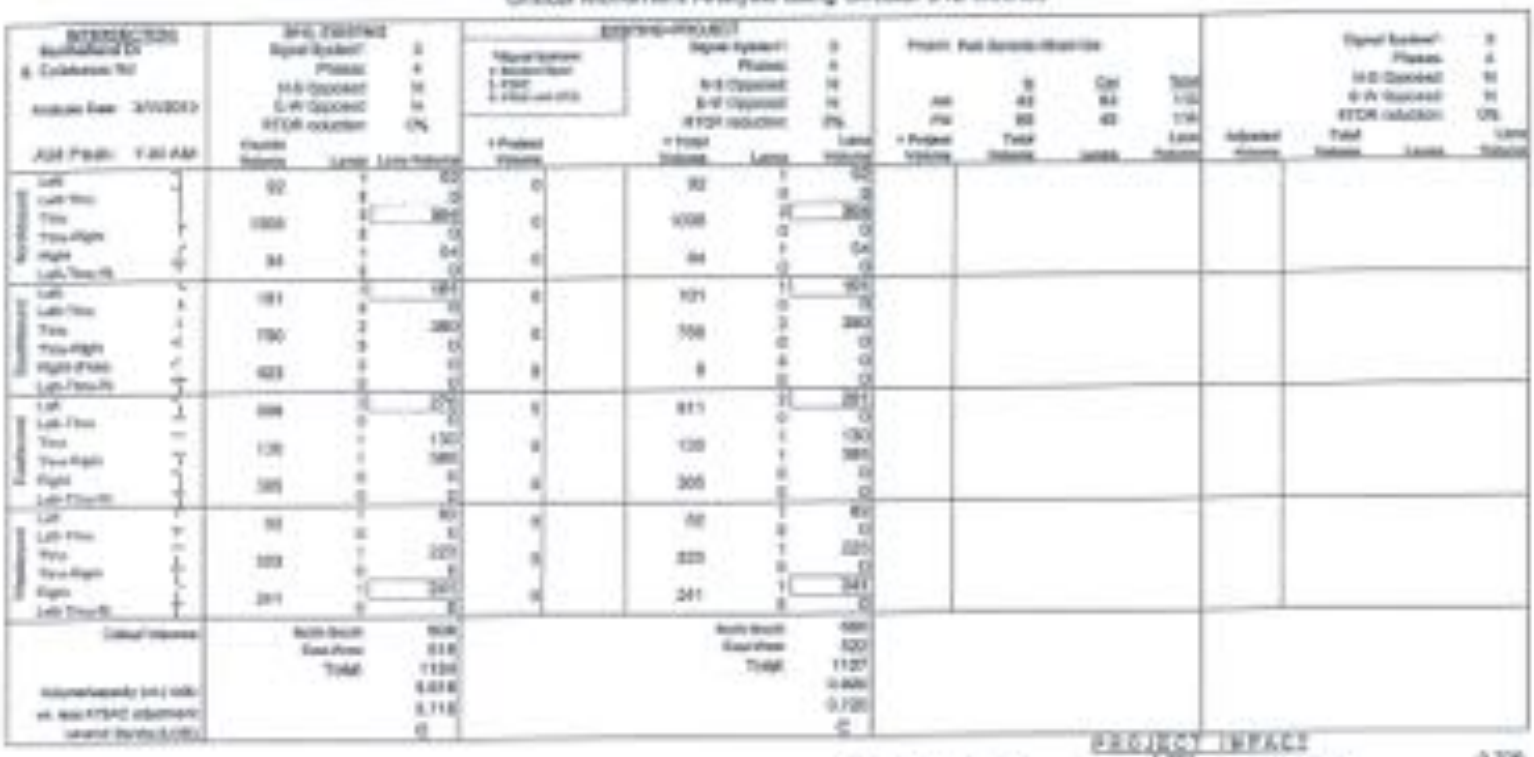
Critical Movement Analysis using Circular 212 Method



PROJECT IMPACT

Change in v/c due to project: -0.720 v/c after mitigation: -0.720
Significantly impacted? NO Fully mitigated? N/A

PROJECT IMPACT

Change in v/c due to project: -0.548 v/c after mitigation: -0.548
Significantly impacted? NO Fully mitigated? N/A

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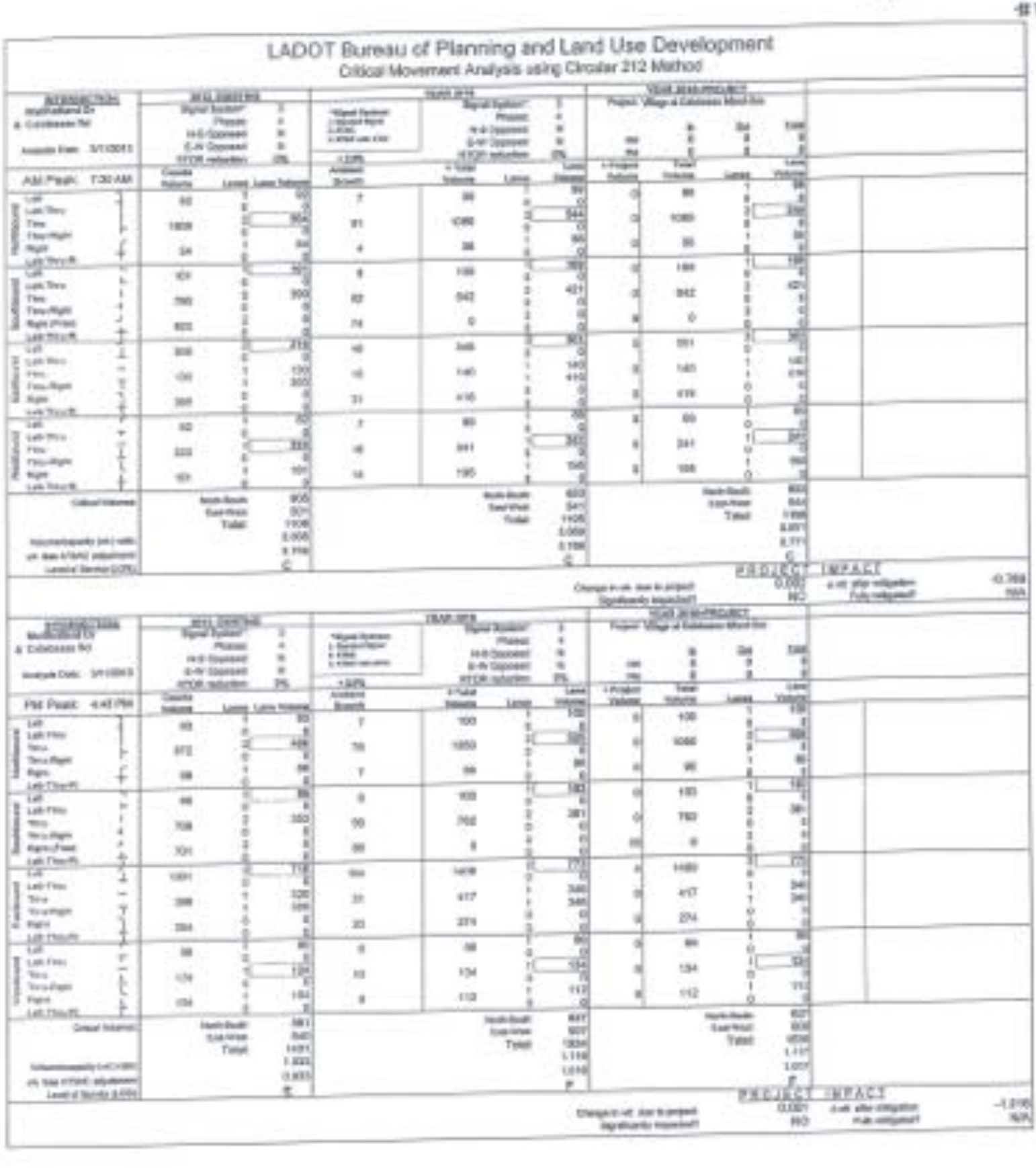
Critical Movement Analysis using Circular 212 Method



PROJECT IMPACT

PROJECT IMPACT

#12

LADOT Bureau of Planning and Land Use Development

Critical Movement Analysis using Circular 212 Method

| | | |

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MHP	Intersection	13_AM_EX
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	1/7/2013	Analysis Year	EXISTING
Analysis Time Period	A.M. PEAK HOUR		

Project ID: #12069 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK OWA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	16	367	0	0	247	211
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	163	0	9
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	16	367	247	211			163	9
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0			0.0	0.0
(LT-adj)	0.5	0.5	0.5	0.5			0.2	0.2
(RT-adj)	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
(HV-adj)	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.01	0.33	0.22	0.19			0.14	0.01
hd, final value (s)	6.12	5.62	5.55	4.86			6.07	5.27
x, final value	0.02	0.57	0.38	0.28			0.27	0.01
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	3.8	3.3	3.3	2.8			4.1	3.3

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	266	617	497	461			413	259
Delay (s/veh)	8.99	15.78	11.66	9.47			11.37	8.34
LOS	A	C	B	A			B	A
Approach: Delay (s/veh)	15.50		10.65				11.21	
LOS	C		B				B	
Intersection Delay (s/veh)	12.59							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	12_AM_EX+PR
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	1/7/2013	Analysis Year	EXISTING+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project ID #12059 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK ORA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	16	367	0	0	247	223
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	175	0	9
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	16	367	247	223			175	9
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0			0.0	0.0
hLT-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, Initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.01	0.33	0.22	0.20			0.16	0.01
hd, final value (s)	6.19	5.69	5.61	4.91			6.11	5.30
x, final value	0.03	0.58	0.38	0.30			0.30	0.01
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	3.9	3.4	3.3	2.6			4.1	3.3

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	266	817	497	473			425	259
Delay (s/veh)	9.07	16.15	11.81	9.74			11.68	8.38
LOS	A	C	B	A			B	A
Approach: Delay (s/veh)	15.86		10.83				11.52	
LOS	C		B				B	
Intersection Delay (s/veh)	12.81							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MAF	Intersection	13_PM_EX
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	5/7/2013	Analysis Year	EXISTING
Analysis Time Period	A.M. PEAK HOUR		

Project ID: #12088 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK ORA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	11	246	0	0	267	156
%Thru Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	247	0	12
%Thru Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	11	246	267	156			247	12
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicles	0.0	0.0	0.0	0.0			0.0	0.0
hLT-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.01	0.22	0.24	0.14			0.22	0.01
hd, final value (s)	6.39	5.88	5.71	5.00			5.80	5.00
x, final value	0.02	0.40	0.42	0.22			0.40	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	4.1	3.6	3.4	2.7			3.8	3.0

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	261	496	517	408			497	282
Delay (s/veh)	9.22	12.62	12.57	9.10			12.61	8.06
LOS	A	B	B	A			B	A
Approach: Delay (s/veh)	12.38		11.28				12.40	
LOS	B		B				B	
Intersection Delay (s/veh)	11.89							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	13_PM_EX+PR
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	3/7/2013	Analysis Year	EXISTING+PROJECT
Analysis Time Period	AM PEAK HOUR		

Project ID: #13065 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK ORIA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	11	246	0	0	267	172
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	259	0	12
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	11	246	267	172			259	12
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0			0.0	0.0
f_{LT-adj}	0.5	0.5	0.5	0.5			0.2	0.2
f_{RT-adj}	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
f_{HV-adj}	1.7	1.7	1.7	1.7			1.7	1.7
h_{adj}, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

h_d, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.01	0.22	0.24	0.15			0.23	0.01
h_d, final value (s)	5.46	5.95	5.76	5.05			5.83	5.03
x, final value	0.02	0.41	0.42	0.24			0.42	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	4.2	3.7	3.8	2.8			3.8	3.0

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	261	498	517	422			509	262
Delay (s/veh)	9.29	12.72	12.73	9.36			13.02	8.12
LOS	A	B	B	A			B	A
Approach: Delay (s/veh)	12.57		11.41				12.91	
LOS	B		B				B	
Intersection Delay (s/veh)	12.11							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MNF	Intersection	11_AM_2018
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	9/7/2013	Analysis Year	YEAR 2018
Analysis Time Period	A.M. PEAK HOUR		

Project ID: 8720000 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street:	PARK ORA	North/South Street:	PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	17	395	0	0	267	228
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	176	0	10
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	17	395	267	228			176	10
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicles	0.0	0.0	0.0	0.0			0.0	0.0
hLT-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.02	0.35	0.24	0.20			0.16	0.01
hd, final value (s)	6.25	5.74	5.67	4.97			6.23	5.43
x, final value	0.03	0.63	0.42	0.31			0.30	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	3.9	3.4	3.4	2.7			4.2	3.4

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	267	616	517	478			426	260
Delay (s/veh)	9.14	18.16	12.48	9.94			11.96	8.51
LOS	A	C	B	A			B	A
Approach: Delay (s/veh)	17.79		11.31				11.77	
LOS	C		B				B	
Intersection Delay (s/veh)	13.83							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	13_AM_2015+PR
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	1/7/2013	Analysis Year	YEAR 2015+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project ID: 21359 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK OVDA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	17	396	0	0	267	240
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	188	0	10
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	17	396	267	240			188	10
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0			0.0	0.0
hLT-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.02	0.35	0.24	0.21			0.17	0.01
hd, final value (s)	6.32	5.62	5.73	5.03			6.26	5.46
x, final value	0.03	0.64	0.43	0.34			0.33	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	4.0	3.5	3.4	2.7			4.3	3.5

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	267	808	517	490			438	260
Delay (s/veh)	9.21	18.68	12.66	10.25			12.30	8.55
LOS	A	C	B	B			B	A
Approach: Delay (s/veh)	18.29		11.52				12.11	
LOS	C		B				B	
Intersection Delay (s/veh)	14.13							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	13_PM_2018
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	1/7/2013	Analysis Year	YEAR 2018
Analysis Time Period	A.M. PEAK HOUR		

Project ID #12008 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK ORA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	12	266	0	0	288	171
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	267	0	13
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	12	266	288	171			267	13
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicles	0.0	0.0	0.0	0.0			0.0	0.0
hLT-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, Initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, Initial	0.01	0.24	0.26	0.15			0.24	0.01
hd, final value (s)	5.54	5.04	5.64	5.13			5.94	5.14
x, final value	0.02	0.45	0.47	0.24			0.44	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	4.2	3.7	3.5	2.8			3.9	3.1

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	262	516	538	421			517	263
Delay (s/veh)	9.39	13.58	13.64	9.49			13.60	8.24
LOS	A	B	B	A			B	A
Approach: Delay (s/veh)	13.40		12.09				13.35	
LOS	B		B				B	
Intersection Delay (s/veh)	12.80							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	12_PM_2018+PR
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	1/7/2013	Analysis Year	YEAR 2018+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project ID #12068 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK ORA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	12	266	0	0	288	185
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	279	0	13
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	12	266	288	185			279	13
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0			0.0	0.0
hLT-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
hd, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.01	0.24	0.26	0.16			0.25	0.01
hd, final value (s)	6.62	6.11	5.90	5.19			5.98	5.17
x, final value	0.02	0.45	0.47	0.27			0.46	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	4.3	3.8	3.6	2.9			4.0	3.2

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	262	516	538	436			529	263
Delay (s/veh)	9.47	13.82	13.84	9.78			14.10	8.27
LOS	A	B	B	A			B	A
Approach: Delay (s/veh)	13.63		12.26				13.84	
LOS	B		B				B	
Intersection Delay (s/veh)	13.07							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	13_AM_CU
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	1/7/2013	Analysis Year	CUMULATIVE
Analysis Time Period	A.M. PEAK HOUR		

Project ID: #13088 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK ORA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	17	396	0	0	267	232
%Thru in Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	178	0	10
%Thru in Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	17	396	267	232			178	10
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0			0.0	0.0
hLT-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.02	0.35	0.24	0.21			0.16	0.01
hd, final value (s)	6.26	5.76	5.68	4.98			6.24	5.44
x, final value	0.03	0.63	0.42	0.32			0.31	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	4.0	3.5	3.4	2.7			4.2	3.4

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	267	614	517	482			428	260
Delay (s/veh)	9.15	18.27	12.51	10.02			12.02	8.62
LOS	A	C	B	B			B	A
Approach Delay (s/veh)	17.89		11.35				11.83	
LOS	C		B				B	
Intersection Delay (s/veh)	13.09							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	13_AM_CUMPR
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	3/7/2013	Analysis Year	CUMULATIVE+PROJECT
Analysis Time Period	AM PEAK HOUR		

Project ID: 872008 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK DRA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	17	396	0	0	267	242
% Turns Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	190	0	10
%Turns Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	17	396	267	242			190	10
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicles	0.0	0.0	0.0	0.0			0.0	0.0
hLT-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.02	0.35	0.24	0.22			0.17	0.01
hd, final value (s)	6.33	5.63	5.74	5.04			6.27	5.47
x, final value	0.03	0.64	0.43	0.34			0.33	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	4.0	3.5	3.4	2.7			4.3	3.5

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	267	607	517	492			440	260
Delay (s/veh)	9.23	18.77	12.69	10.31			12.36	8.55
LOS	A	C	B	B			B	A
Approach: Delay (s/veh)	18.38		11.56				12.17	
LOS	C		B				B	
Intersection Delay (s/veh)	14.18							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	MW
Agency/Co.	ATE
Date Performed	1/7/2013
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	12_PM_CU
Jurisdiction	CITY OF CALABASAS
Analysis Year	CUMULATIVE

Project ID 812009 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK ORA

North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	12	266	0	0	288	174
% Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	272	0	13
% Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	12	266	288	174			272	13
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				1	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0			0.0	0.0
hLT-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.01	0.24	0.26	0.15			0.24	0.01
hd, final value (s)	6.57	6.06	5.86	5.16			5.95	5.15
x, final value	0.02	0.45	0.47	0.25			0.45	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	4.3	3.8	3.6	2.9			4.0	3.1

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	262	516	538	424			522	263
Delay (s/veh)	9.42	13.86	13.72	9.57			13.79	8.25
LOS	A	B	B	A			B	A
Approach Delay (s/veh)	13.48		12.15				13.53	
LOS	B		B				B	
Intersection Delay (s/veh)	12.90							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	MMF	Intersection	12_PM_CU+PR
Agency/Co.	ATE	Jurisdiction	CITY OF CALABASAS
Date Performed	1/7/2013	Analysis Year	CUMULATIVE+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project ID: #12002 - VILLAGE AT CALABASAS MIXED-USE PROJECT

East/West Street: PARK ORA | North/South Street: PARK SORRENTO

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	12	266	0	0	288	188
%Thurs Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	284	0	13
%Thurs Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	T	T	R			L	R
PHF	1.00	1.00	1.00	1.00			1.00	1.00
Flow Rate (veh/h)	12	266	288	188			284	13
% Heavy Vehicles	4	4	4	4			4	4
No. Lanes	2		2		0		2	
Geometry Group	5		5				7	
Duration, T	1.00							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	1.0	0.0	0.0	0.0			1.0	0.0
Prop. Right-Turns	0.0	0.0	0.0	1.0			0.0	1.0
Prop. Heavy Vehicle	0.0	0.0	0.0	0.0			0.0	0.0
hd,T-adj	0.5	0.5	0.5	0.5			0.2	0.2
hRT-adj	-0.7	-0.7	-0.7	-0.7			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.6	0.1	0.1	-0.6			0.3	-0.5

Departure Headway and Service Time

hd, initial value (s)	3.20	3.20	3.20	3.20			3.20	3.20
x, initial	0.01	0.24	0.26	0.17			0.25	0.01
hd, final value (s)	6.65	6.14	5.92	5.21			5.98	5.18
x, final value	0.02	0.45	0.47	0.27			0.47	0.02
Move-up time, m (s)	2.3		2.3				2.0	
Service Time, t_s (s)	4.3	3.8	3.6	2.9			4.0	3.2

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	262	516	538	438			534	263
Delay (s/veh)	8.50	13.91	13.92	9.86			14.31	8.28
LOS	A	B	B	A			B	A
Approach: Delay (s/veh)	13.72		12.32				14.04	
LOS	B		B				B	
Intersection Delay (s/veh)	13.18							
Intersection LOS	B							

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VILLAGE AT CALABASAS MIXED-USE PROJECT (PT2008-)

REF: 14_AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: VALMAR ROAD

E/W STREET: PARK ORA

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	309	619	4	1	439	326	153	6	334	6	10	7
(B) PROJECT-ADDED:	6	8	0	0	8	6	6	0	6	0	8	8

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS:	L T TR	L T TR	L TR	LTR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	1	1689	309	315				0.183 *	0.187 *			
NBT	2	3283	619	619				0.190	0.190			
NBR (a)	0	0	4	4				-	-			
SBL	1	1689	1	1				0.892	0.892			
SBT	2	3283	439	439				0.206 *	0.208 *			
SBR (b)	0	0	326	326				-	-			
EBL	1	1683	153	159				0.896	0.899			
EBT	1	1683	6	6				0.079 *	0.181 *			
EBR (c)	0	0	288	294				-	-			
WBL	0	0	6	6				-	-			
WBT	1	1683	10	10				0.016 *	0.016 *			
WBR (d)	0	0	7	7				-	-			
							LOST TIME:	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.494	0.702			
							SCENARIO LEVEL OF SERVICE:	B	B			

NOTES:

RTOR: (a) 0%
(b) 0%
(c) 21%
(d) 0%

Printed: 10/17/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#12000)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: VALMAR ROAD

E/W STREET: PARK ORA

CONTROL TYPE: SIGNAL

ID#: 14_AM

TRAFFIC VOLUME SUMMARY

VOLUMES		NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A)	EXISTING:	309	619	4	3	599	166	153	6	594	6	18	9
(B)	YEAR 2016:	28	59	0	0	41	13	12	0	28	0	1	1
(C)	PROJECT-ADDED:	6	8	0	0	0	6	6	0	6	0	0	0
(D)	CUMULATIVE-ADDED:	2	8	0	0	0	8	0	0	2	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND L T TR	SOUTH BOUND L T TR	EAST BOUND L TR	WEST BOUND LTR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	1	1600	309	334	340	336	342	0.193 *	0.209 *	0.213 *	0.210 *	0.214 *
NBT	2	3200	619	668	680	668	668	0.195	0.210	0.213	0.210	0.210
NBR (a)	0	0	4	4	4	4	4	-	-	-	-	-
SBL	1	1600	3	3	3	3	3	0.002	0.002	0.002	0.002	0.002
SBT	2	3200	599	550	550	550	550	0.211 *	0.220 *	0.220 *	0.220 *	0.220 *
SBR (b)	0	0	166	179	180	179	180	-	-	-	-	-
EBL	1	1600	153	160	171	163	171	0.096	0.103	0.107	0.102	0.107
EBT	1	1600	6	6	6	6	6	0.179 *	0.193 *	0.196 *	0.194 *	0.196 *
EBR (c)	0	0	288	302	307	304	308	-	-	-	-	-
WBL	0	0	6	6	6	6	6	-	-	-	-	-
WBT	1	1600	10	11	11	11	11	0.016 *	0.017 *	0.017 *	0.017 *	0.017 *
WBR (d)	0	0	9	10	10	10	10	-	-	-	-	-
							LOST TIME	0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
							TOTAL INTERSECTION CAPACITY UTILIZATION:	0.699	0.747	0.756	0.749	0.757
							SCENARIO LEVEL OF SERVICE:	B	C	C	C	C

NOTES:

RTOR: (a) 0%
(b) 0%
(c) 21%
(d) 0%

Prepared: 10/17/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (#120080)

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: VALMAR ROAD

E/W STREET: PARK ORA

CONTROL TYPE: SIGNAL

RUN: 14_PM

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	218	515	18	3	439	208	191	38	370	4	14	3
(B) PROJECT-ADDED:	7	0	0	0	0	7	6	0	6	0	0	0

GEOMETRICS

EXISTING GEOMETRICS	NORTH BOUND L T TR	SOUTH BOUND L T TR	EAST BOUND L TR	WEST BOUND LTR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A+B)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	SCENARIO VOLUMES 2	SCENARIO VOLUMES 3	SCENARIO VOLUMES 4	SCENARIO VOLUMES 5	SCENARIO V/C RATIOS 1	SCENARIO V/C RATIOS 2	SCENARIO V/C RATIOS 3	SCENARIO V/C RATIOS 4	SCENARIO V/C RATIOS 5
NBL	1	1600	218	217				0.131 *	0.136 *			
NBT	2	3200	515	515				0.164	0.164			
NBR (a)	0	0	18	18				-	-			
SBL	1	1600	3	3				0.002	0.002			
SBT	2	3200	439	439				0.208 *	0.208 *			
SBR (b)	0	0	230	227				-	-			
EBL	1	1600	191	197				0.119	0.123			
EBT	1	1600	38	38				0.152 *	0.115 *			
EBR (c)	0	0	370	370				-	-			
WBL	0	0	4	4				--	--			
WBT	1	1600	14	14				0.013 *	0.013 *			
WBR (d)	0	0	3	3				--	--			
							LOST TIME	0.100 *	0.100 *			
							TOTAL INTERSECTION CAPACITY UTILIZATION	0.683	0.810			
							SCENARIO LEVEL OF SERVICE:	A	B			

NOTES:

ETOB: (a) 0%
(b) 0%
(c) 21%
(d) 0%

Printed: 10/31/12

VILLAGE AT CALABASAS MIXED-USE PROJECT (P13088) REF: 14_PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *10-16-2012*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: VALMAR ROAD

E/W STREET: PARK ORA

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	230	111	66	3	429	228	191	30	270	4	14	3
(B) YEAR 2016:	17	41	1	0	55	10	10	1	23	0	1	0
(C) PROJECT ADDED:	7	6	6	0	0	7	6	0	6	0	0	0
(D) CUMULATIVE ADDED:	3	0	0	0	0	0	0	0	3	0	0	0

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
EXISTING GEOMETRICS:	L T TR	L T TR	L TR	LTR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)

SCENARIO 2 = YEAR 2016 VOLUMES (A + B)

SCENARIO 3 = YEAR 2016 + PROJECT VOLUMES (A + B + C)

SCENARIO 4 = CUMULATIVE VOLUMES (A + B + D)

SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A + B + C + D)

LEVEL OF SERVICE CALCULATIONS

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	5	SCENARIO V/C RATIOS 1	2	3	4	5
NBL	1	1600	230	227	234	230	237	0.131 *	0.142 *	0.146 *	0.144 *	0.148 *
NBT	2	3200	333	596	596	596	596	0.164	0.177	0.177	0.177	0.177
NBR (a)	0	0	30	11	11	11	11	-	-	-	-	-
SBL	1	1600	3	3	3	3	3	0.002	0.002	0.002	0.002	0.002
SBT	2	3200	439	474	474	474	474	0.206 *	0.223 *	0.223 *	0.223 *	0.223 *
SBR (b)	0	0	220	236	243	236	243	-	-	-	-	-
EBL	1	1600	191	206	212	206	212	0.119	0.129	0.133	0.129	0.133
EBT	1	1600	30	32	32	32	32	0.152 *	0.164 *	0.167 *	0.166 *	0.169 *
EBR (c)	0	0	213	230	235	234	239	-	-	-	-	-
WBL	0	0	4	4	4	4	4	-	-	-	-	-
WBT	1	1600	14	13	13	13	13	0.013 *	0.014 *	0.014 *	0.014 *	0.014 *
WBR (d)	0	0	3	3	3	3	3	-	-	-	-	-
						LOST TIME:		0.100 *	0.100 *	0.100 *	0.100 *	0.100 *
						TOTAL INTERSECTION CAPACITY UTILIZATION:		0.693	0.743	0.823	0.847	0.859
						SCENARIO LEVEL OF SERVICE:		A	B	B	B	B

NOTES:

R TO M: (a) 0%

(b) 0%

(c) 21%

(d) 0%

Prepared: 10/31/12

SHARED PARKING DEMAND CALCULATION WORKSHEET

#12345 - VILLAGE AT CALABASAS MIXED-USE PROJECT
SHARED PARKING DEMAND ANALYSIS
15% shared-use reduction for nonresidential uses

UNMET PEAK PARKING DEMAND - WEEKDAY

LAND USE	SIZE	DEMAND RATE	WEEKDAY %	PEAK DEMAND
Condo Guests	80 Units	0.10 (a)	100	20
Commercial (Visitor)	3,790 KSF	2.00 (b)	8.65	8
Commercial (Employee)	3,790 KSF	4.15 (b)	100	16
Restaurant (Visitor)	7,800 KSF	8.00 (c)	8.65	64
Restaurant (Employee)	7,800 KSF	1.50 (c)	100	11
Outdoor Seating (Visitor)	1,950 KSF	9.00 (c)	8.65	8
Outdoor Seating (Employee)	1,950 KSF	1.50 (c)	100	2

(a) Assumes City's 0.10 rate for residential guests
(b) ULI Rates for Community Shopping Center
(c) ULI Rates for Family Restaurant

PROPOSED PARKING SUPPLY	
294	Total Parking Spaces
152	Reserved for Residents
142	Shared Parking Spaces

Time	Condo Guests		Commercial				Restaurant				Restaurant - Outdoor Seating				Total Shared Demand
			Visitor		Employee		Visitor		Employee		Visitor		Employee		
	Peak	%	Peak	%	Peak	%	Peak	%	Peak	%	Peak	%	Peak	%	
6:00	0%	0	1%	0	10%	0	39%	12	5%	0	38%	2	50%	1	23
7:00	18%	3	8%	0	15%	0	48%	37	70%	8	88%	5	75%	1	49
8:00	33%	6	18%	1	40%	1	60%	20	85%	9	90%	6	88%	1	86
9:00	38%	6	35%	3	70%	3	70%	46	95%	9	70%	6	95%	1	97
10:00	38%	6	60%	5	85%	3	60%	46	100%	11	80%	7	100%	2	77
11:00	28%	5	83%	6	95%	3	80%	46	100%	11	80%	7	100%	2	83
12:00	24%	5	90%	6	100%	3	100%	51	100%	11	100%	8	100%	2	86
13:00	23%	5	100%	6	100%	3	90%	46	100%	11	90%	7	100%	2	84
14:00	23%	5	88%	6	100%	3	80%	37	100%	11	80%	4	100%	2	86
15:00	20%	4	80%	6	100%	3	69%	34	75%	8	69%	3	75%	1	83
16:00	20%	4	80%	6	100%	3	63%	34	70%	8	63%	3	75%	1	82
17:00	45%	11	88%	8	98%	3	70%	40	85%	10	75%	6	95%	1	79
18:00	80%	16	93%	8	93%	2	80%	43	90%	10	80%	6	90%	1	81
19:00	90%	20	93%	8	90%	2	80%	43	90%	10	80%	6	85%	1	80
20:00	100%	20	83%	7	90%	2	80%	43	90%	10	90%	6	85%	1	80
21:00	100%	20	53%	5	75%	2	60%	32	90%	9	60%	6	50%	1	70
22:00	100%	20	33%	3	45%	1	58%	28	85%	7	55%	4	68%	1	72
23:00	80%	21	43%	4	18%	0	58%	37	80%	7	80%	4	68%	1	81
0:00	50%	13	0%	0	4%	0	28%	11	35%	4	28%	2	38%	1	33

Shared Spaces Provided	Reserve Spaces
142	123
142	89
142	87
142	73
142	59
142	58
142	63
142	59
142	61
142	56
142	58
142	65
142	59
142	44
142	68
142	69
142	78
142	91
142	108

Replacement Spaces	Reserve Depth
13	107
13	66
13	74
13	62
13	63
13	46
13	59
13	45
13	50
13	52
13	53
13	80
13	43
13	31
13	33
13	59
13	57
13	69
13	66

ULI PEAK PARKING DEMAND - WEEKEND

LAND USE	SIZE	DEMAND RATE	WEEKDAY USE	PEAK DEMAND
Condo Guests	80 Units	0.20 /du	1.00	20
Commercial (Visitor)	2.700 KSF	3.20 /ksf	0.60	10
Commercial (Employee)	2.700 KSF	0.80 /ksf	1.00	2
Restaurant (Visitor) - Family	7.000 KSF	12.70 /ksf	0.65	75
Restaurant (Employee)	7.000 KSF	2.20 /ksf	1.00	15
Outdoor Seating (Visitor)	1.000 KSF	12.70 /ksf	0.65	11
Outdoor Seating (Employee)	1.000 KSF	2.20 /ksf	1.00	2

(a) Assumes ODA 0.20 rate for residential guests

(b) ULI Rates for Community Shopping Center

(c) ULI Rates for Family Restaurant

PROPOSED PARKING SUPPLY	
304	Total Parking Spaces
162	Reserved for Residents
142	Shared Parking Spaces

Time	Condo Guests		Commercial				Restaurant				Restaurant - Outdoor Seating				Total Shared Demand
			Visitor		Employee		Visitor		Employee		Visitor		Employee		
	Peak	SE	Peak	SE	Peak	E	Peak	SE	Peak	SE	Peak	E	Peak	E	
6:00	8%	0	1%	0	10%	0	23%	10	58%	0	23%	3	60%	1	31
7:00	28%	6	9%	0	15%	0	50%	56	78%	12	58%	8	75%	2	83
8:00	25%	6	15%	1	40%	1	55%	48	58%	14	58%	7	80%	2	70
9:00	25%	5	35%	3	75%	2	75%	57	28%	14	75%	8	90%	2	83
10:00	25%	5	60%	6	85%	3	88%	64	100%	16	88%	9	100%	2	108
11:00	25%	5	80%	8	88%	3	88%	68	100%	16	98%	10	100%	2	112
12:00	28%	6	90%	9	100%	3	100%	78	100%	16	100%	11	100%	2	121
13:00	28%	6	100%	9	100%	4	98%	68	100%	16	98%	10	100%	2	113
14:00	25%	5	95%	9	100%	3	58%	38	100%	16	58%	5	100%	2	76
15:00	20%	5	80%	8	100%	3	40%	24	75%	12	40%	3	75%	2	69
16:00	20%	3	80%	8	100%	3	40%	24	75%	12	40%	3	75%	2	69
17:00	40%	11	90%	9	95%	3	75%	57	88%	16	75%	9	88%	2	104
18:00	80%	19	88%	9	88%	3	88%	61	88%	16	88%	9	98%	2	113
19:00	100%	28	88%	9	88%	3	80%	61	88%	16	88%	9	88%	2	124
20:00	100%	28	88%	7	88%	3	88%	61	88%	16	88%	9	88%	2	122
21:00	100%	28	80%	5	78%	2	80%	48	88%	13	58%	7	88%	2	99
22:00	100%	28	30%	3	48%	1	55%	42	88%	16	50%	6	88%	1	99
23:00	80%	21	10%	1	13%	0	80%	38	83%	16	30%	3	68%	1	77
0:00	30%	11	0%	0	0%	0	20%	19	30%	6	20%	2	28%	1	41

Shared Spaces Provided	Reserve Spaces
142	111
142	79
142	68
142	58
142	57
142	38
142	21
142	28
142	64
142	73
142	73
142	38
142	23
142	18
142	20
142	42
142	53
142	49
142	101

Replacement Spaces	Reserve Supply
13	85
13	66
13	55
13	37
13	24
13	17
13	8
13	16
13	37
13	80
13	83
13	20
13	10
13	5
13	1
13	33
13	39
13	52
13	55

CUMULATIVE PROJECT LIST/TRIP GENERATION CALCULATIONS

Associated Transportation Engineers
Cumulative Project Trip Generation Worksheet - With In/Out Splits

Land Use	Size	ADT		AM						PM					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
Entrada/Calabasas Blvd															
Residential Condos	76	5.81	453	0.440	34	15%	6	85%	28	0.52	41	66%	27	34%	14
26706 Malibu Hills															
Senior Condos	80	5.81	349	0.440	29	15%	4	85%	22	0.52	31	66%	20	34%	11
Canyon Oaks/Messenger															
Residential Condos	150	5.81	872	0.440	99	15%	10	85%	99	0.52	78	66%	51	34%	27
Commercial	25	110.32	2,758	2.600	87	62%	42	38%	25	9.48	237	48%	114	52%	123
Vidovich (LA County)															
Retail	20778		1140		34	62%	21	38%	13		83	48%	40	52%	43
Office	33748		371		82	88%	46	12%	9		58	17%	9	83%	41
Mureau Road (LA County)															
Senior Living Facility	200	3.48	696	0.130	26	38%	10	62%	16	0.16	32	62%	20	37%	12
Western Calabasas Sub-Total:			**6,839**		**369**		**139**		**167**		**552**		**291**		**271**
24433 Calabasas Road (Makarios)															
Auto Dealership	22500		180		8		0		8		26	45%	10	55%	16
Commerce															
Walk In Bank	4	150.00	600	6.000	24	57%	14	43%	10	12.00	48	44%	21	56%	27

Appendix J:

FEMA Letter

Federal Emergency Management Agency

Washington, D.C. 20472

MAY 15 2008

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:
Case No.: 08-09-0141R

The Honorable Mary Sue Maurer
Mayor, City of Calabasas
26135 Mureau Road
Calabasas, CA 91302

Community: City of Calabasas, CA
Community No.: 060749

184

Dear Mayor Maurer:

This responds to a request that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) comment on the effects that a proposed project would have on the flood hazard data for your community. In a letter dated December 31, 2007, Mr. Christopher Ming H. Neo, P.E., requested that FEMA evaluate the effects that a new hydrologic and hydraulic analysis, up-to-date topographic information, and a proposed project along McCoy Canyon Creek from approximately 1,100 feet downstream of Park Sorrento to approximately 675 feet downstream would have on the flood hazards. The proposed project will consist of the placement of fill behind a proposed retaining wall and channelization along McCoy Canyon Creek. The proposed area of revision will extend from approximately 1,380 feet downstream of Park Sorrento to approximately 100 feet upstream along McCoy Canyon Creek.

All data required to complete our review of this request for a Conditional Letter of Map Revision (CLOMR) were submitted with letters from Mr. Neo.

The City of Calabasas does not have a separately printed Flood Insurance Rate Map (FIRM) and is designated Zone C, an area of minimal flooding. The City of Calabasas is located on FIRM Panel 065043 0612 B for the unincorporated areas of Los Angeles County; however, the FIRM panel is not printed because the entire panel is designated Zone C. Because no flood hazard data exists, the submitted information included an analysis of the existing conditions for McCoy Canyon Creek.

The submitted existing conditions HEC-RAS hydraulic computer model, dated April 26, 2008, based on a new hydrologic analysis and updated topographic information, was used as the base conditions model in our review of the proposed conditions model for this CLOMR request. We reviewed the submitted data and determined that the proposed project meets the minimum floodplain management criteria of the National Flood Insurance Program (NFIP). We believe that, if the proposed project is constructed as shown on the submitted plans entitled "Site Development Plan," prepared by Pacific Coast Civil, Inc., dated August 24, 2007, and the data listed below are received, the floodplain boundaries of the base (1-percent-annual-chance) flood will be delineated as shown on the submitted topographic work map entitled "McCoy Canyon Creek Floodplain Exhibit (Proposed Condition), the Village at Calabasas," prepared by Pacific Coast Civil, Inc., dated April 7, 2008.

As a result of the proposed project, the base flood water-surface elevations (WSELs) will increase and decrease compared to the existing conditions base flood WSELs along the revised reach of McCoy Canyon Creek. The maximum increase in base flood WSEL, 2.7 feet, will occur approximately

820 feet downstream of Park Sorrento. The maximum decrease in base flood WSEL, 0.4 foot, will occur approximately 720 feet downstream of Park Sorrento.

As a result of the proposed project, the width of the Special Flood Hazard Area (SFHA), the area that would be inundated by the base flood, will increase in some areas and decrease in other areas compared to the existing conditions SFHA width. The maximum increase in SFHA width, approximately 25 feet, will occur approximately 820 feet downstream of Park Sorrento. The maximum decrease in SFHA width, approximately 50 feet, will occur approximately 900 feet downstream of Park Sorrento.

Because the FIRM panel is not currently printed for your community, the effects of this project on the flood hazard areas cannot be mapped until a request for the Physical Map Revision (PMR) is submitted. The City of Calabasas will remain in an area designated as Zone C until revised through the PMR process.

Upon completion of the project, your community may submit the data listed below and request that we make a final determination issuing the effective FIRM and FIS report.

- Detailed application and certification forms, which were used in processing this request, must be used for requesting final revisions to the maps. Therefore, when the map revision request for the area covered by this letter is submitted, Form 1, entitled "Overview & Concurrence Form," must be included. (A copy of this form is enclosed.)

- The detailed application and certification forms listed below are required. Please submit new forms (copies of which are enclosed).

  Form 2, entitled "Riverine Hydrology & Hydraulics Form"

  Form 3, entitled "Riverine Structures Form"

  Hydraulic analyses, for as-built conditions, of the base flood, and a topographic work map showing the revised floodplain boundaries must be submitted with Form 2.

- Effective October 1, 2007, FEMA revised the fee schedule for reviewing and processing requests for conditional and final modifications to published flood information and maps. In accordance with this schedule, the current fee for this map revision request is $4,800 and must be received before we can begin processing the request. Please note, however, that the fee schedule is subject to change, and requesters are required to submit the fee in effect at the time of the submittal. Payment of this fee shall be made in the form of a check or money order, made payable in U.S. funds to the National Flood Insurance Program, or by credit card (Visa or MasterCard only). The payment, along with the revision application, must be forwarded to the following address:

  FEMA National Service Provider
  3601 Eisenhower Avenue
  Alexandria, VA 22304-6425

- As-built plans, certified by a registered professional engineer, of all proposed project elements

- Community acknowledgment of the map revision request

The basis of this CLOMR is, in whole or in part, a channel-modification project. NFIP regulations, as cited in Paragraph 60.3(b)(7), require that communities assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management regulations. Consequently, the ultimate responsibility for maintenance of the modified channel rests with your community.

This CLOMR is based on minimum floodplain management criteria established under the NFIP. Your community is responsible for approving all floodplain development and for ensuring all necessary permits required by Federal or State law have been received. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction in the SFHA. If the State, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.

If you have any questions regarding floodplain management regulations for your community or the NFIP in general, please contact the Consultation Coordination Officer (CCO) for your community. Information on the CCO for your community may be obtained by calling the Director, Mitigation Division of FEMA in Oakland, California, at (510) 627-7175. If you have any questions regarding this CLOMR, please call our Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627).

Sincerely,

Craig S. Kennedy, CFM, Program Specialist
Engineering Management Branch
Mitigation Directorate

For: William R. Blanton Jr., CFM, Chief
Engineering Management Branch
Mitigation Directorate

Enclosures

cc: Mr. Robert B. Yalda
Director
Public Works
City of Calabasas

Ms. Yvonne B. Burke
Los Angeles County Supervisor

D2 Development and Construction, Inc.

Mr. Christopher Ming Hoe Neo, P.E.
Pacific Coast Civil South, Inc.