Planning for Success.

September 15, 2022

Erin Walters, Associate Planner
Town of Los Gatos
110 E Main Street
Los Gatos, CA 95030

Re: 15475 Los Gatos Blvd CUP Modification and Variance Applications (Drive-Thru)
CEQA Compliance - Categorical Exemption Findings

Dear Erin,

EMC Planning Group has been asked to prepare documentation to assist the Town of Los Gatos with CEQA compliance for the proposed McDonalds Drive-Thru.

Project Description

The 1.3-acre project site is located at 15475 Los Gatos Boulevard in the Town of Los Gatos. The project site is comprised of one parcel, APN 424-19-065. The property includes an existing one-story McDonalds restaurant with 92 surface parking spaces. The site has two access points, both from Los Gatos Boulevard. The site is designated as Mixed-Use Commercial in the General Plan and zoned Restricted Highway Commercial (CH). According to the Town's Code of Ordinances Section 29.10.045, Uses Prohibited, a drive-in restaurant (also identified as a drive-thru restaurant) is prohibited in all zones, including Restricted Highway Commercial Zone. Therefore, a variance is required.

The proposed project includes the addition of a single, drive-thru lane to the existing McDonald's restaurant with an entrance at the southwest side of the property. New order and pick-up windows are proposed on the eastern side of the building with no altering of the exterior design. The existing ADA parking stalls facing Los Gatos Boulevard would be reconfigured to fit the new drive-thru lane and several parking stalls on the south side of the property are proposed for removal to accommodate the drive-thru.

The entrance to the drive-thru would be marked by a gateway sign and clearance bar. Two ordering windows are proposed in a tandem configuration, one in front of the other. Each order window would have an order canopy with a built-in speaker box and an outdoor digital menu board. Pavement markings, such as arrows and drive-thru signs, would be used to help guide the vehicular flow within the property. The proposed project also includes landscape improvements.

The proposed project does not include any grading or construction.

The project site plan can be found in Attachment A.

Categorical Exemption (CEQA Guidelines Sections 15301, 15303, and 15304)

Section 21084 of the California Public Resources Code requires the CEQA Guidelines to include a list of classes of projects which have been determined not to have a significant effect on the environment and which shall, therefore, be exempt from the provisions of CEQA. In response to that mandate, the California Secretary for Resources has found that the following classes of projects listed in this article do not have a significant effect on the environment, and they are declared to be categorically exempt from the requirement for the preparation of environmental documents.

The CEQA Guidelines identifies 33 classes of project types that are categorically exempt. The proposed project qualifies for three different classes described below:

Class 1 exemption, Existing Facilities, which is defined in the CEQA Guidelines section 15301, as follows:

> Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use. The types of "existing facilities" itemized below are not intended to be all-inclusive of the types of projects which might fall within Class 1. The key consideration is whether the project involves negligible or no expansion of use.

Class 3 exemption, New Construction or Conversion of Small Structures, which is defined in the CEQA Guidelines section 15303, as follows:

Class 3 consists of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. The numbers of structures described in this section are the maximum allowable on any legal parcel. Examples of this exemption include, but are not limited to:

a. One single-family residence, or a second dwelling unit in a residential zone. In urbanized areas, up to three single-family residences may be constructed or converted under this exemption.

b. A duplex or similar multi-family residential structure, totaling no more than four dwelling units. In urbanized areas, this exemption applies to apartments, duplexes and similar structures designed for not more than six dwelling units.

c. A store, motel, office, restaurant or similar structure not involving the use of significant amounts of hazardous substances, and not exceeding 2500 square feet in floor area. In urbanized areas, the exemption also applies to up to four such commercial buildings not exceeding 10,000 square feet in floor area on sites zoned for such use if not involving the use of significant amounts of hazardous substances where all necessary public services and facilities are available and the surrounding area is not environmentally sensitive.

d. Water main, sewage, electrical, gas, and other utility extensions, including street improvements, of reasonable length to serve such construction.

e. Accessory (appurtenant) structures including garages, carports, patios, swimming pools, and fences.

f. An accessory steam sterilization unit for the treatment of medical waste at a facility occupied by a medical waste generator, provided that the unit is installed and operated in accordance with the Medical Waste Management Act (Section

> 117600, et seq., of the Health and Safety Code) and accepts no offsite waste.

Class 4 exemption, Minor Alterations to Land, which is defined in the CEQA Guidelines section 15304, as follows:

> Class 4 consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes. Examples include, but are not limited to:
>
> a. Grading on land with a slope of less than 10 percent, except that grading shall not be exempt in a waterway, in any wetland, in an officially designated (by federal, state, or local government action) scenic area, or in officially mapped areas of severe geologic hazard such as an Alquist-Priolo Earthquake Fault Zone or within an official Seismic Hazard Zone, as delineated by the State Geologist.
>
> b. New gardening or landscaping, including the replacement of existing conventional landscaping with water efficient or fire-resistant landscaping.
>
> c. Filling of earth into previously excavated land with material compatible with the natural features of the site;
>
> d. Minor alterations in land, water, and vegetation on existing officially designated wildlife management areas or fish production facilities which result in improvement of habitat for fish and wildlife resources or greater fish production;
>
> e. Minor temporary use of land having negligible or no permanent effects on the environment, including carnivals, sales of Christmas trees, etc.;
>
> f. Minor trenching and backfilling where the surface is restored;
>
> g. Maintenance dredging where the spoil is deposited in a spoil area authorized by all applicable state and federal regulatory agencies;

h. The creation of bicycle lanes on existing rights-of-way.

i. Fuel management activities within 30 feet of structures to reduce the volume of flammable vegetation, provided that the activities will not result in the taking of endangered, rare, or threatened plant or animal species or significant erosion and sedimentation of surface waters. This exemption shall apply to fuel management activities within 100 feet of a structure if the public agency having fire protection responsibility for the area has determined that 100 feet of fuel clearance is required due to extra hazardous fire conditions.

Exceptions (CEQA Guidelines Section 15300.2)

CEQA Guidelines section 15300.2 identifies the following situations where a project otherwise exempt, would not be due to unusual circumstances.

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

Findings and Evidence

We have evaluated the proposed project to determine if it qualifies for the Class 1, 3, and 4 exemptions, and if so, whether any of the exceptions presented above would apply. The following findings with evidence are presented.

Class 1, Existing Facilities, Categorical Exemption

Evidence. As identified in the CEQA Guidelines, the key consideration for a project's qualification under this exemption is whether the project involves negligible or no expansion of use. The proposed project includes the addition of a single drive-thru lane to the existing McDonald's restaurant. The drive-thru consists of new order and pick-up windows on the eastern side of the building with no altering of the exterior design. To accommodate the drive-thru lane, the existing ADA parking stalls facing Los Gatos Boulevard would be reconfigured and several parking stalls on the south side of the property are proposed for removal. The proposed project does not include any grading or construction.

A traffic impact analysis was conducted for the proposed project, which concluded that the addition of the drive thru lane could result in a new increase in vehicle trips by 267, or about 18 percent over existing conditions (Table 6). The traffic impact analysis concluded that the project would have no significant impact associated with vehicle miles traveled (VMT). The traffic impact analysis is included as Attachment B.

An environmental noise assessment was also conducted for the proposed project, which concluded that project-related noise levels resulting from the proposed addition of drive-thru operations at the existing McDonalds restaurant would not be expected to exceed the Town of Los Gatos noise level standards as long as the 3M Model XT-1 intercom system noise levels are adjusted to be set at or below 89 dB (at four feet) between the hours of 6am and 1pm, at or below 93 dB (at four feet) between the hours of

1pm and 10pm, and at or below 82 dB (at four feet) between the hours of 10pm and 6am (pages 9 and 10). It is expected that the Town of Los Gatos would require this as a condition of project approval.

Further, traffic noise exposure along Los Gatos Boulevard would not increase as a result of the proposed project (Table V). The environmental noise assessment is included as Attachment C.

The addition of a drive-thru lane, with minor alterations to the existing McDonald's building, reconfiguring a few parking stalls, pavement markings and a gateway sign and clearance bar, and other minor miscellaneous features accommodating the drive-thru use, would be considered a negligible expansion of the existing use of the fast-food restaurant, resulting in no significant traffic or noise impacts. Therefore, the proposed project consists of the minor alteration of an existing structure involving negligible expansion of the existing use, consistent with the Class 1, Existing Facilities, exemption.

Class 3, New Construction or Conversion of Small Structures, Categorical Exemption

Evidence. The proposed project includes the addition of a single drive-thru lane to the existing McDonald's restaurant. The drive-thru consists of new order and pick-up windows on the eastern side of the building with no altering of the exterior design. To accommodate the drive-thru lane, the existing ADA parking stalls facing Los Gatos Boulevard would be reconfigured and several parking stalls on the south side of the property are proposed for removal. Pavement markings, a gateway sign and clearance bar, and other minor miscellaneous features accommodating the drive-thru use are also proposed; however, the proposed project does not include any grading or construction.

Consistent with the example identified in subsection "c" under Class 3, the proposed project is a restaurant not involving the use of any amount of hazardous substances and not exceeding 2,500 square feet in floor area. The project does not include an increase in floor area. The project site is also located within an urbanized area; therefore, the exemption applies to commercial buildings not exceeding 10,000 square feet in floor area on sites zoned for such use if not involving the use of significant amounts of hazardous substances and where all necessary public services and facilities are available and the surrounding area is not environmentally sensitive. The existing McDonald's restaurant is less than 10,000 square feet in floor area; does not involve the use of any amounts of

hazardous substances; all necessary public services and facilities are available; and the project site's surrounding area includes all commercial uses, not environmentally sensitive areas. The project is also consistent with the example identified in subsection "e" under Class 3 because its proposed drive-thru feature can be categorized as an accessory structure to the existing McDonald's restaurant.

However, Town Code of Ordinances Section 29.10.045 indicates that a drive-in restaurant (also identified as a drive-thru restaurant) is prohibited in all zones, including the project site's Restricted Highway Commercial Zone. Therefore, a variance is required.

As discussed above under the Class 1 exemption, the proposed project would not result in significant traffic or noise impacts. Therefore, with an approved variance, the proposed project could fall under the Class 3 Categorical Exemption.

Class 4, Minor Alterations to Land, Categorical Exemption

Evidence. The proposed project involves minor alterations in the condition of vegetation. A *Tree Inventory, Assessment, and Protection Report* (tree report) was prepared for the proposed project by Monarch Consulting Arborists on April 28, 2021 (Attachment D). The tree report's inventory contains 46 trees comprised of nine different species, all located in the parking lot islands around the perimeter of the site (refer to Appendix A of the tree report for a visual). Of the 46 trees within the inventory, 20 are in good condition, 22 are in fair condition, one in poor condition, one in very poor condition, and two coast redwoods are dead. Only the two dead coast redwoods (identified as tree numbers 489 and 491 in the tree report) are to be removed and replaced with two coast live oaks, which are water efficient species. The remaining trees are to remain. The project site's existing landscaped areas are to remain with some proposed new trees, shrubs, and groundcover additions that are drought tolerant species.

Therefore, the proposed project consists of minor alterations in the condition of vegetation, which do not involve the removal of healthy, mature, or scenic trees and is consistent with the example identified in subsection "b" under Class 4, the proposed project includes new landscaping, including the replacement of existing conventional landscaping with water efficient landscaping.

Exceptions

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

Evidence. The project qualifies for Class 3 and Class 4 exemptions, which are two of the specified classes of exemptions to which this exception could apply. However, the project site is located within an urbanized area of the Town of Los Gatos surrounded by commercial uses on all sides. The project site is not located in an area where the project could impact an environmental resource of hazardous or critical concern where designated, precisely mapping, or officially adopted pursuant to law by federal, state, or local agencies. Therefore, the location exception does not apply to the project.

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

Evidence. There are no plans for successive projects of the same type in the Town of Los Gatos. Therefore, there is no cumulative impact of successive projects of the same type in the same place.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

Evidence. Case law makes clear that application of this exception must proceed in two steps. The first is to determine whether a proposed project involves "unusual circumstances." If the answer to that question is in the affirmative, the second step is to consider whether those unusual circumstances will give rise to potentially significant environmental effects. (*Berkeley Hillside Preservation v. City of Berkeley* (2015) 60 Cal.4th 1086, 1097-1105 (*Berkeley Hillside*.) As explained below, the proposed project does not involve any unusual circumstances with

respect to its location, size, environmental setting, physical attributes, surrounding land uses, or planning context – factors considered relevant under case law. (See *Berkeley Hillside*, *supra*, 60 Cal.4th at pp. 1118–1119; *San Lorenzo Valley Community Advocates for Responsible Education v. San Lorenzo Valley Unified School Dist*. (2006) 139 Cal.App.4th 1356, 1381; *McQueen v. Bd. of Directors* (1988) 202 Cal.App.3d 1136, 1149; *Lewis v. Seventeenth Dist. Agricultural Assn*. (1985) 165 Cal.App.3d 823, 828–829; *City of Pasadena v. State of California* (1993) 14 Cal.App.4th 810, 826–827; *Bloom v. McGurk* (1994) 26 Cal.App.4th 1307, 1315–1316; and *Voices for Rural Living v. El Dorado Irrigation Dist*. (2012) 209 Cal.App.4th 1096, 1109.)

The proposed project (drive-thru) is consistent with the General Plan land use designation of Mixed-Use Commercial. However, the Town's Code of Ordinances Section 29.10.045 prohibits drive-in restaurants in all zones, including the site's Restricted Highway Commercial Zone, and, therefore, the proposed project would require a variance. The project site is located on a currently developed, highly-disturbed flat parcel surrounded by urban development within the Town of Los Gatos. There is nothing unusual about the project site and nothing unusual about the proposed project as an addition of a drive-thru component to an existing McDonalds fast-food restaurant. The project features (pavement markings, gateway signs, clearance bar, etc.) are typical project features that do not differ from other projects in the Class 1, 3, and 4 exemptions.

The Town had a traffic impact analysis prepared for the proposed project by TJW Engineering, Inc. on November 19, 2021 and it concluded that the project would have no significant vehicle miles traveled (VMT) impacts. Refer to Attachment B for the full analysis. An environmental noise assessment was also prepared for the proposed project and concluded that project-related noise levels resulting from the proposed addition of drive-thru operations at the existing McDonalds restaurant would not be expected to exceed the Town of Los Gatos noise level standards as long as the 3M Model XT-1 intercom system noise levels are adjusted to be set at or below 89 dB (at four feet) between the hours of 6am and 1pm, at or below 93 dB (at four feet) between the hours of 1pm and 10pm, and at or below 82 dB (at four feet) between the hours of 10pm and 6am (pages 9 and 10). It is

expected that the Town of Los Gatos would require this as a condition of project approval (Table V). Further, traffic noise exposure along Los Gatos Boulevard would not be increased as a result of the proposed project. Refer to Attachment C for the full assessment.

Therefore, there are no unusual circumstances regarding conditions of the project site or in the immediate vicinity.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

Evidence. The project site is located approximately 1.4 miles northeast of the nearest eligible state scenic highways, State Routes 9 and 17 (California Department of Transportation 2022). Therefore, implementation of the proposed project would not substantially damage scenic resources, rock outcroppings, and historic buildings within a state scenic highway.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

Evidence. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 (California Department of Toxic Substances Control 2022) and, as a result, would not create a significant hazard to the public or the environment.

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

Evidence. The proposed project involves minor alterations to an existing McDonalds fast-food restaurant. There are no historical resources located on the project site and the site is located just under two miles northeast from the Town's Historic Districts.

Please contact either of us if you have any questions or comments.

Sincerely,

Teri Wissler Adam
Senior Principal

Shoshana Lutz
Associate Planner

Attachments:

A Project Site Plan
B Traffic Impact Analysis
C Environmental Noise Assessment
D Tree Inventory, Assessment, and Protection Report

REFERENCES

Core States Group. January 17, 2022. Project Plans.

California Department of Transportation (Caltrans). "California State Scenic Highway System Map." Accessed April 21, 2022. https://www.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa

California Department of Toxic Substances Control. "EnviroStor Database." Accessed April 21, 2022. https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=losgatos

Google Earth. 2022.

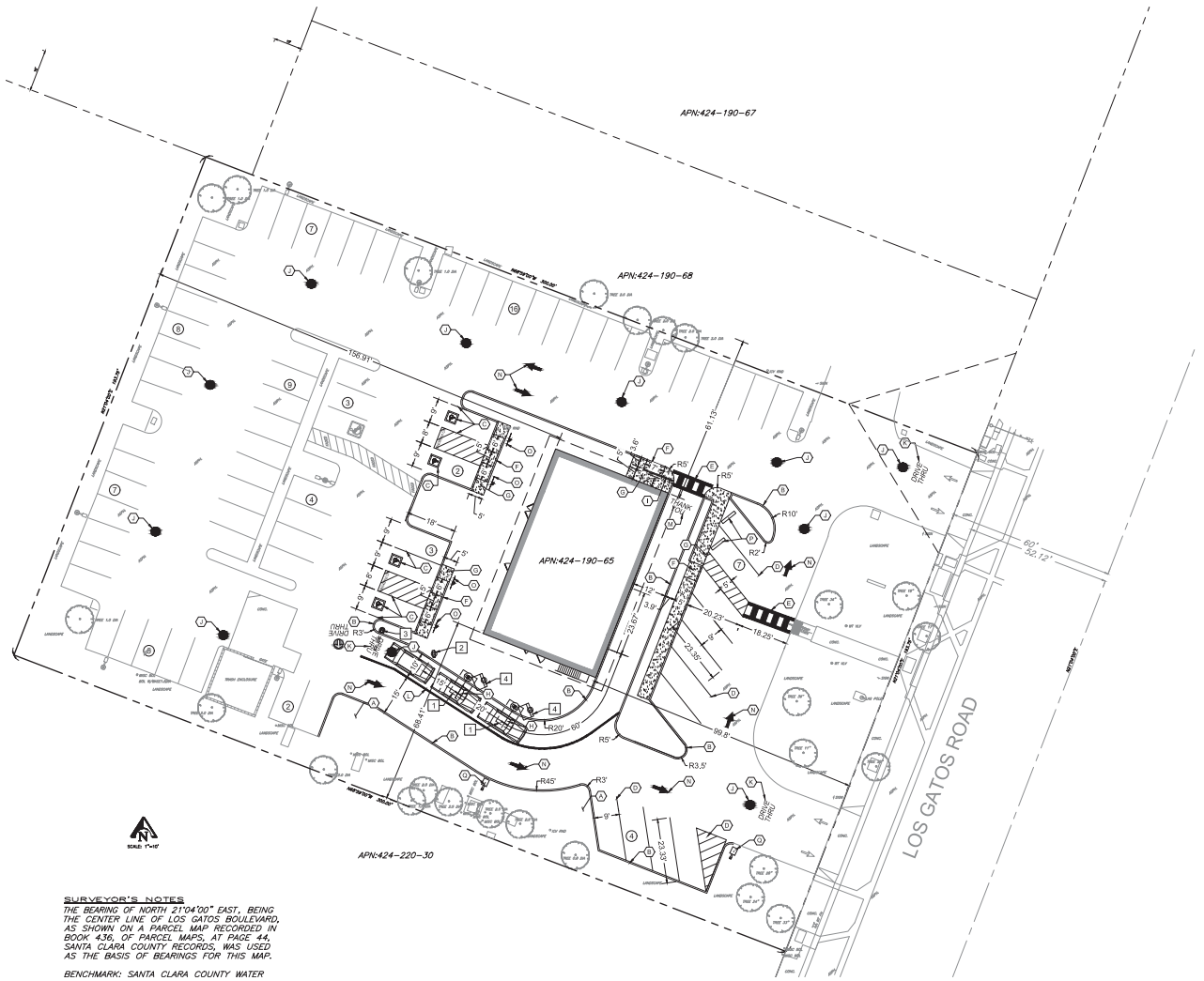
WJV Acoustics, Inc. April 18, 2022. *Environmental Noise Assessment, McDonalds Drive-Thru 15475 Los Gatos Boulevard Los Gatos, California*. Visalia, CA.

TJW Engineering, Inc. November 19, 2021. *Traffic Impact Analysis – 15475 Los Gatos Road* McDonalds. Irvine, California.

Project Site Plan

A

ATTACHMENT



SURVEYOR'S NOTES

THE BEARING OF NORTH 21°04'00" EAST, BEING THE CENTER LINE OF LOS GATOS BOULEVARD, AS SHOWN ON A PARCEL MAP RECORDED IN BOOK 436, OF PARCEL MAPS, AT PAGE 44, SANTA CLARA COUNTY RECORDS, WAS USED AS THE BASIS OF BEARINGS FOR THIS MAP.

BENCHMARK: SANTA CLARA COUNTY WATER

GENERAL NOTES:

APPLICANT/OWNER: MCDONALD'S CORPORATION
2527 CAMINO RAMON ST. 300
SAN RAMON, CA 94583

1) SITE ADDRESS: 15475 LOS GATOS ROAD
LOS GATOS, CA 95032
SANTA CLARA COUNTY, STATE OF CALIFORNIA

2) A.P.N. 424-19-065

3) ZONING DATA: 29.60.420
ZONED: CH - HIGHWAY COMMERCIAL
EXISTING USE: RESTAURANT
PROPOSED USE: RESTAURANT
(PERMITTED)

	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA:	N/A N/A	1.334 AC. (58,125 S.F.)	1.334 AC. (58,125 S.F.)
MIN. LOT FRONTAGE:	N/A	195.03'	195.03'
MIN. LOT WIDTH:	N/A	301.65'	301.65'
MIN. FRONT YARD:	15'	99.80' (E)	99.80' (E)
MIN. SIDE YARD:	0'	61.01' (S) 61.13' (N)	61.01' (S) 61.13' (N)
MIN. REAR YARD:	0'	156.91' (W)	156.91' (W)
MAX. IMPERVIOUS SURFACE:	N/A	79.56% (46,244 S.F.)	78.46% (46,607 S.F.)
MAX. HEIGHT:	35'	16'-1"	16'-1"

4) PARKING REQUIREMENTS:
29.10.150

1 SPACE PER 235 SQUARE FEET OF NET PUBLIC AREA.

4,267 S.F. X (1/235) = 19 SPACES
REQUIRED = 19 SPACES

EXISTING McDONALD'S AREA PARKING: 92 SPACES (INCLUDING 4 ACCESSIBLE SPACES)
PROPOSED McDONALD'S AREA PARKING: 77 SPACES (INCLUDING 4 ACCESSIBLE SPACES)

PARKING STALL DIMENSIONS:
EXISTING: VARIES
REQUIRED: 9'X18'
PROPOSED: 9'X18'

4) ALL EXISTING FEATURES ARE TO REMAIN UNLESS OTHERWISE NOTED.
5) ALL PAVEMENT MARKINGS SHALL BE LONG LIFE EPOXY.
6) PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.
7) ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.
8) ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
9) SOLID WASTE TO BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
10) ALL EXCAVATED UNSUITABLE MATERIAL MUST BE TRANSPORTED TO AN APPROVED DISPOSAL LOCATION.
11) CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS, AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.

SITE LEGEND

- EXISTING PROPERTY BOUNDARY LINE
- EXISTING ADJOINING PROPERTY LINE
- EXISTING UTILITY EASEMENT
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVEMENT
- PROPOSED CURB AND GUTTER
- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED BUILDING
- PROPOSED SIDEWALK
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- EXISTING STORMWATER STRUCTURES
- EXISTING SANITARY STRUCTURES
- EXISTING WATER STRUCTURE
- EXISTING ELECTRIC STRUCTURE
- PROPOSED PARKING COUNT

SITE KEY NOTES:

A. PROPOSED LANDSCAPE AREA.
B. PROPOSED CONCRETE CURB.
C. PROPOSED ACCESSIBLE PARKING STRIPING. MUST BE LONG LIFE EPOXY.
D. PROPOSED PARKING STRIPING (TYP.). MUST BE LONG LIFE EPOXY.
E. PROPOSED CROSSWALK STRIPING.
F. PROPOSED ACCESSIBLE CURB RAMP WITH 3' DEEP DETECTABLE WARNING.
G. PROPOSED CONCRETE SIDEWALK.
H. DETECTOR LOOP(S) TO BE INSTALLED / REPLACED AT EXISTING DRIVE THRU WINDOWS AS DIRECTED BY MCDONALD'S CONSTRUCTION MANAGER.
I. PROPOSED GUARDRAIL.
J. PROPOSED YELLOW DRIVE-THRU DIRECTION PAVEMENT MARKINGS.
K. PROPOSED YELLOW PAINTED "DRIVE THRU" PAVEMENT MARKINGS.
L. PROPOSED 6" WIDE YELLOW PAINTED STRIPE.
M. PROPOSED YELLOW PAINTED "THANK YOU" PAVEMENT PARKING.
N. PROPOSED DIRECTIONAL SITE ARROWS.
O. PROPOSED ADA PARKING SIGN AND POST.
P. PROPOSED WHEEL STOP.
Q. PROPOSED LOT LIGHT.

SIGN LEGEND:

1. PROPOSED SPRINGBOARD CANOPY.
2. PROPOSED DIGITAL PRE-BROWSE MENU BOARD.
3. PROPOSED WELCOME POINT GATEWAY.
4. PROPOSED OUTDOOR DIGITAL MENU BOARD (ODMB).

*VERIFY SIGNAGE WITH SIGN ORDER REQUEST FORM.
*VERIFY LOCATIONS WITH McDONALD'S REPRESENTATIVE.

GRAPHIC SCALE
20 10 5 0 20
1" = 20'

CORE STATES GROUP
4200 JURUPA STREET, SUITE 402
ONTARIO, CA 91761
PHONE (909) 467-8840
TVINCENT@CORE-STATES.COM

CLIENT

McDonald's USA, LLC

811 Know what's below. Call before you dig.

REV	DATE	COMMENT	BY

DOCUMENT
PRELIMINARY SITE PLANS
FOR MCDONALDS AT
LOS GATOS, CA

SITE LOCATION
15475 LOS GATOS BLVD.
LOS GATOS, CA 95032

(004-0582)

ENGINEER SEAL

SHEET TITLE
PRELIMINARY SITE PLAN

JOB #:	MCD30686
DATE:	10/13/2021
SCALE:	1" = 20'
DRAWN BY:	KC
CHECKED BY:	ZM

SHEET NO.
PSP-A

User: KCARTER Plot Date/Time: Oct. 14, 21 - 10:23:48 Drawing: P:\MDonalds\MMP\Los Gatos, CA\15475 Los Gatos Blvd\(004-0582) MCD-30686\DWG\PLT\Drawings\Preinstall\mMCD-30686-PSITE dwg Layout:

Traffic Impact Analysis

B

ATTACHMENT

TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

November 19, 2021

Mr. Mike Yao
CORE STATES GROUP
4240 East Jurupa Street, Suite 402
Ontario, CA 91761

Subject: Traffic Impact Analysis - 15475 Los Gatos Road McDonalds

Dear Mr. Yao:

TJW ENGINEERING, INC. (TJW) is pleased to submit this traffic impact analysis for the proposed circulation and drive-through configuration changes at the McDonalds restaurant at 15475 Los Gatos Road in the Town of Los Gatos.

This traffic study has been prepared to meet the traffic study requirements for the Town of Los Gatos and assesses the forecast traffic operations associated with the proposed project and its impact on the local street network. This report is being submitted to you for review and forwarded to the Town of Los Gatos.

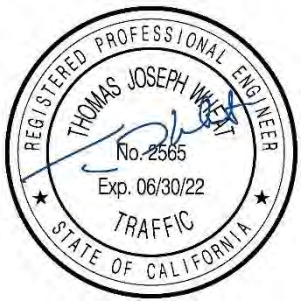
Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

Thomas Wheat, PE, TE
President

David Chew, PTP
Transportation Planner

Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*



Jeffrey Chinchilla, PE
Project Engineer

Table of Contents

Lis of Tables

List of Exhibits

Introduction

This traffic impact analysis (TIA) analyzes the projected traffic operations associated with the proposed circulation and drive-through configuration changes at the McDonalds restaurant at 15475 Los Gatos Road in the Town of Los Gatos. The purpose of this TIA is to evaluate potential circulation system deficiencies that may result from the changes to the existing site and to recommend improvements to achieve acceptable operations, if applicable. This analysis has been prepared in coordination with the Town of Los Gatos via a scoping agreement (see Appendix) and is pursuant to applicable Town of Los Gatos and County of Santa Clara traffic impact analysis guidelines.

Project Description

The proposed project changes the configuration of the existing McDonalds restaurant to include a new drive-thru lane and window. **Exhibit 1** shows the project location. **Exhibit 2** shows the proposed project site plan.

Study Area

In addition to project driveways, the following intersection in the vicinity of the project site have been included in the intersection level of service (LOS) analysis:

1. Los Gatos Blvd/Los Gatos Village Center Driveway.

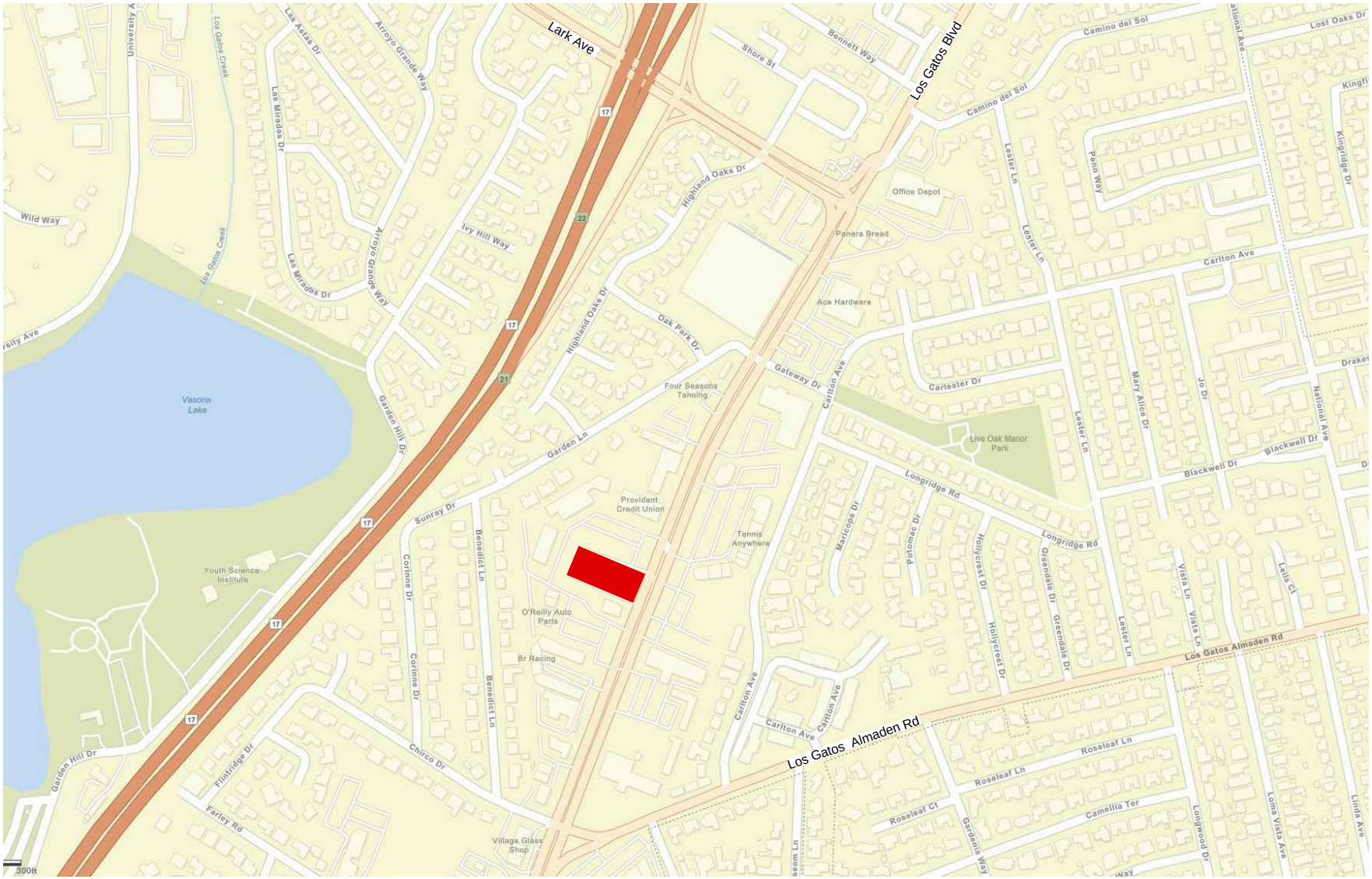
This traffic analysis follows the *Santa Clara Valley Transportation Authority Congestion Management Program Transportation Impact Analysis Guidelines*.

Exhibit 3 shows the location of the study intersections which are analyzed for the following study scenarios:

- Existing Conditions
- Background Conditions (Existing + Approved Projects)
- Background Conditions Plus Project (Existing + Approved Projects + Project)

Traffic operations are evaluated for the following time periods:

- Weekday AM Peak Hour occurring within 7:00 AM to 9:00 AM; and
- Weekday PM Peak Hour occurring within 4:00 PM to 6:00 PM.



Legend:

Project Location

Exhibit 1: Project Location

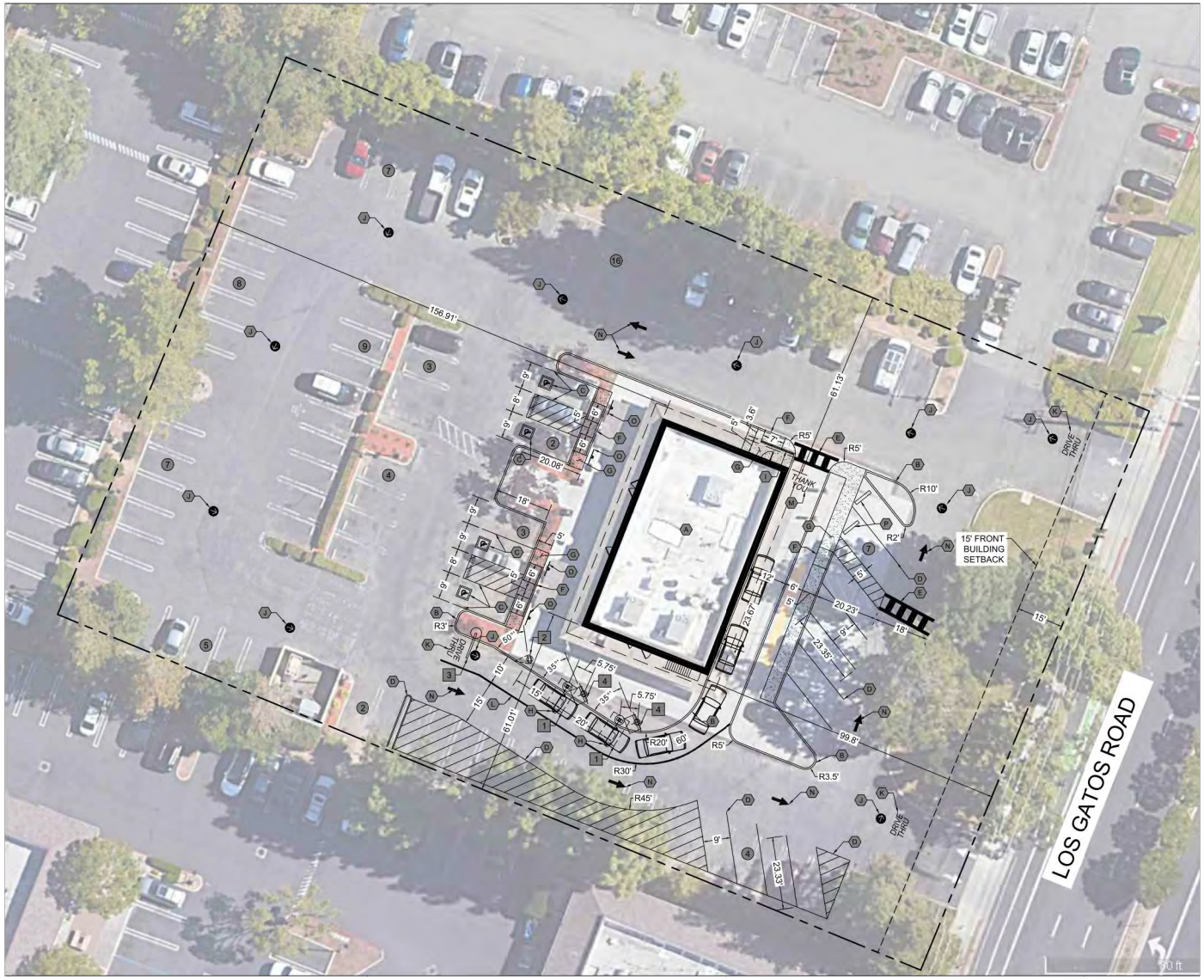


Exhibit 2: Proposed Project Site Plan

Legend:

- Project Site
- Study Intersection Location

Exhibit 3: Proposed TIA Study Area

Intersection Analysis Methodology

Level of Service (LOS) is commonly used to describe the quality of flow on roadways and at intersections using a range of LOS from LOS A (free flow with little congestion) to LOS F (severely congested conditions). The definitions for LOS for interruption of traffic flow differ depending on the type of traffic control (traffic signal, unsignalized intersection with side street stops, unsignalized intersection with all-way stops). The *Highway Capacity Manual (HCM) 6* (Transportation Research Board, 2016) methodology expresses the LOS of an intersection in terms of delay time for the intersection approaches. The HCM methodology utilizes different procedures for different types of intersection control.

Table 1 describes the general characteristics of traffic flow and accompanying delay ranges at signalized intersections.

Table 1

HCM – LOS & Delay Ranges – Signalized Intersections

Level of Service	Description	Delay (in seconds)
A	Very favorable progression; most vehicles arrive during green signal and do not stop. Short cycle lengths.	0 – 10.00
B	Good progression, short cycle lengths. More vehicles stop than for LOS A.	10.01 – 20.00
C	Fair progression; longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, though many vehicles still pass through without stopping.	20.01 – 35.00
D	Progression less favorable, longer cycle length and high flow/capacity ratio. The proportion of vehicles that pass through without stopping diminishes. Individual cycle failures are obvious.	35.01 – 55.00
E	Severe congestion with some long-standing queues on critical approaches. Poor progression, long cycle lengths and high flow/capacity ratio. Individual cycle failures are frequent.	55.01 – 80.00
F	Very poor progression, long cycle lengths and many individual cycle failures. Arrival flow rates exceed capacity of intersection.	> 80.01

Source: Transportation Research Board, *Highway Capacity Manual*, HCM6 Edition (Washington D.C., 2016).

The Town of Los Gatos traffic impact study guidelines require signalized intersection operations be analyzed utilizing the HCM 6th Edition methodology. Intersection LOS for signalized intersections is based on the intersections average control delay for all movements at the intersection during the peak hour. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Collected peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. It is a common practice in LOS analysis to conservatively use a peak 15-minute flow rate applied to the entire hour to derive flow rates in vehicles per hour that are used in the LOS analysis. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume. PHF = [Hourly Volume]/

[4 * Peak 15-Minute Volume]. The use of a 15-minute PHF produces a more detailed and conservative analysis compared to analyzing vehicles per hour. Existing PHFs, obtained from the existing traffic counts have been used for all analysis scenarios in this study.

The Town of Los Gatos traffic study guidelines also require unsignalized intersection operations be analyzed utilizing the HCM 6th Edition methodology. Intersection operation for unsignalized intersections is based on the weighted average control delay expressed in seconds per vehicle.

At a two-way or side-street stop-controlled intersection, LOS is calculated for each stop-controlled minor street movement, for the left-turn movement(s) from the major street, and for the intersection as a whole. For approaches consisting of a single lane, the delay is calculated as the average of all movements in that lane. For all-way stop-controlled intersection, LOS is computed for the intersection as a whole.

Table 2 describes the general characteristics of traffic flow and accompanying delay ranges at unsignalized intersections.

Table 2

HCM – LOS & Delay Ranges – Unsignalized Intersections

Level of Service	Description	Delay (in seconds)
A	Little or no delays.	0 – 10.00
B	Short traffic delays.	10.01 – 15.00
C	Average traffic delays.	15.01 – 25.00
D	Long traffic delays. Multiple vehicles in queue.	25.01 – 35.00
E	Very long delays. Demand approaching capacity of intersection	35.01 – 50.00
F	Very constrained flow with extreme delays and intersection capacity exceeded.	> 50.01

Source: Transportation Research Board, *Highway Capacity Manual*, HCM6 Edition (Washington D.C., 2016).

This analysis utilizes *PTV Vistro 2022* analysis software for all signalized and unsignalized intersections. Vistro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis specified in Chapter 16 of the HCM. The level of service and capacity analysis performed within Vistro takes the optimization and coordination of signalized intersections within a network into consideration.

Vehicle Miles Traveled (VMT) Analysis

Senate Bill (SB) 743 was adopted in 2013 requiring the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts within the California Environmental Quality Act (CEQA). For land use projects, OPR has identified Vehicle Miles Traveled (VMT) as the new metric for transportation analysis under CEQA. The regulatory changes to the CEQA guidelines that implement SB 743 were approved on December 28th, 2018 with an implementation date of July 1st, 2020 as the new metric.

Consistent with the new metric of VMT for analysis of transportation impacts under CEQA, this analysis follows the VMT guidelines set forth by the Town of Los Gatos.

Based on VMT guidelines, local serving retail projects are considered to have no significant VMT impacts. Since the proposed project can be considered to be local serving retail, the proposed project is projected to have no significant VMT impacts.

Performance Criteria

The Town of Los Gatos requires traffic impact analysis reports be consistent with the TIA guidelines adopted by the *Santa Clara County Transportation Authority (VTA) Congestion Management Program* (CMP). The CMP level of service standard is LOS E.

If a development is projected to cause LOS at an intersection to fall from LOS E or better to LOS F under project conditions, the project is expected to cause a deficiency at the intersection.

Existing Conditions

Exhibit 4 shows existing conditions and roadway geometry at study area intersections.

Existing Traffic Volumes

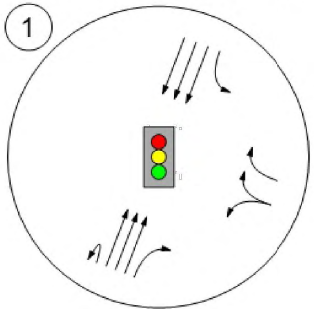
To determine the existing operation of the study intersections, AM and PM peak period traffic counts were collected on Tuesday, October, 12 2021. **Exhibit 5** shows existing AM and PM peak hour volumes at the study intersections.

Existing Conditions Intersection Level of Service Analysis

Existing conditions AM and PM peak hour intersection analysis is shown in **Table 3**. Calculations are based on the existing geometrics at the study area intersections as shown in **Exhibit 4.** HCM analysis sheets are provided in the Appendix.

As shown in **Table 3**, the study intersections are currently operating at an acceptable LOS during the AM and PM peak hours for existing conditions.

Los Gatos/Los Gatos Village



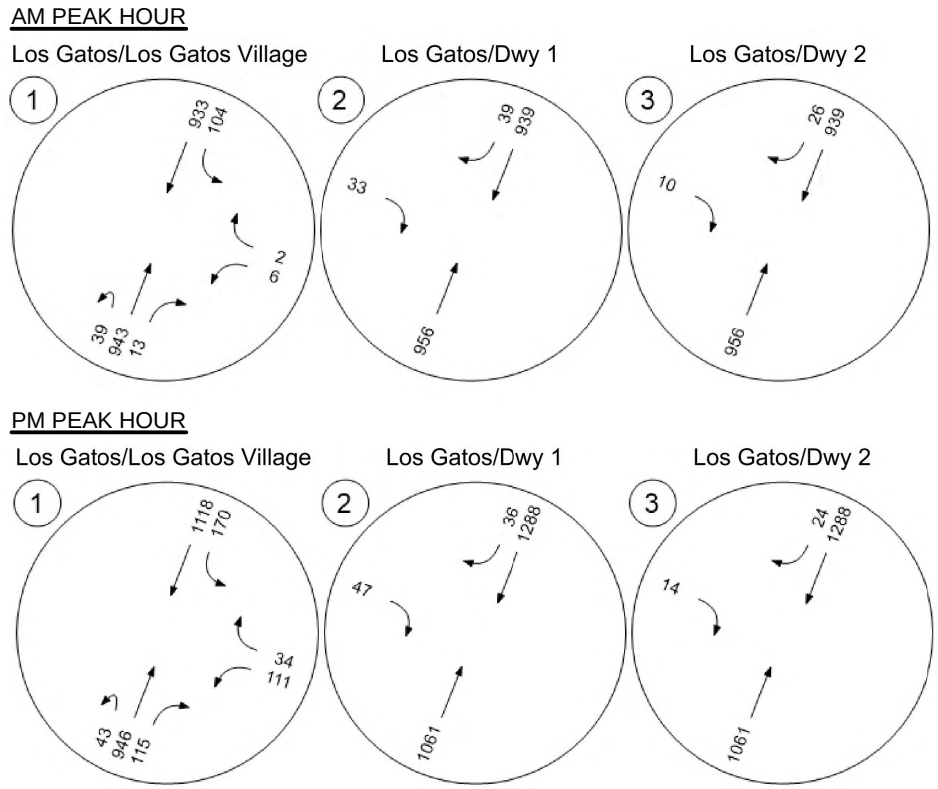
Legend:

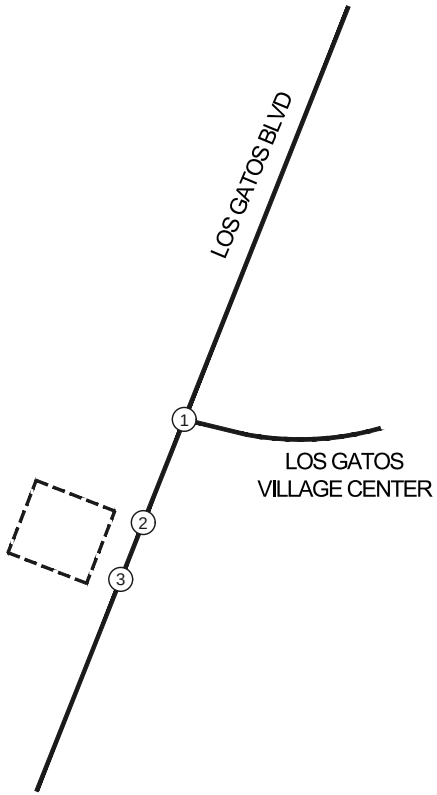
Project Site

Study Intersection Location

Not to Scale

Exhibit 4: Lane Geometry and Intersection Controls





Legend:

Project Site

Study Intersection Location

Exhibit 5: Existing AM/PM Peak Hour Volumes

Table 3

Intersection Analysis – Existing Conditions

Intersection			Control Type	Peak Hour	Existing Conditions	
					Delay[1]	LOS
1	Los Gatos	Los Gatos Village Sq	Signal	AM	6.8	A
				PM	12.4	B
2	Los Gatos	Dwy 1	OWSC	AM	13.4	B
				PM	16.6	C
3	Los Gatos	Dwy 2	OWSC	AM	13.0	B
				PM	15.5	C

Note: TWSC = Two-Way Stop-Control, OWSC = One-Way Stop-Control; Delay shown in seconds per vehicle.

1 = Per the Highway Capacity Manual 6th Edition, overall average delay and LOS are shown for signalized intersections.

Background Conditions (Existing + Approved Projects)

Background Conditions traffic analysis is intended to identify baseline conditions in the near-term including cumulative project.

Background Conditions Volumes

Background conditions volumes include existing and recently approved projects in the vicinity of the proposed project.

Coordination with the Town of Los Gatos was conducted to determine approved projects within the surrounding area. **Exhibit 6** shows the location of nearby cumulative developments. A summary of cumulative projects land uses is shown in **Table 4**.

Exhibit 7 shows background conditions AM and PM peak hour volumes at the study intersections.

Background Conditions Intersection Level of Service Analysis

Background conditions AM and PM peak hour intersection analysis is shown in **Table 5**. HCM analysis sheets are provided in the Appendix.

As shown in **Table 5**, the study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for background conditions.

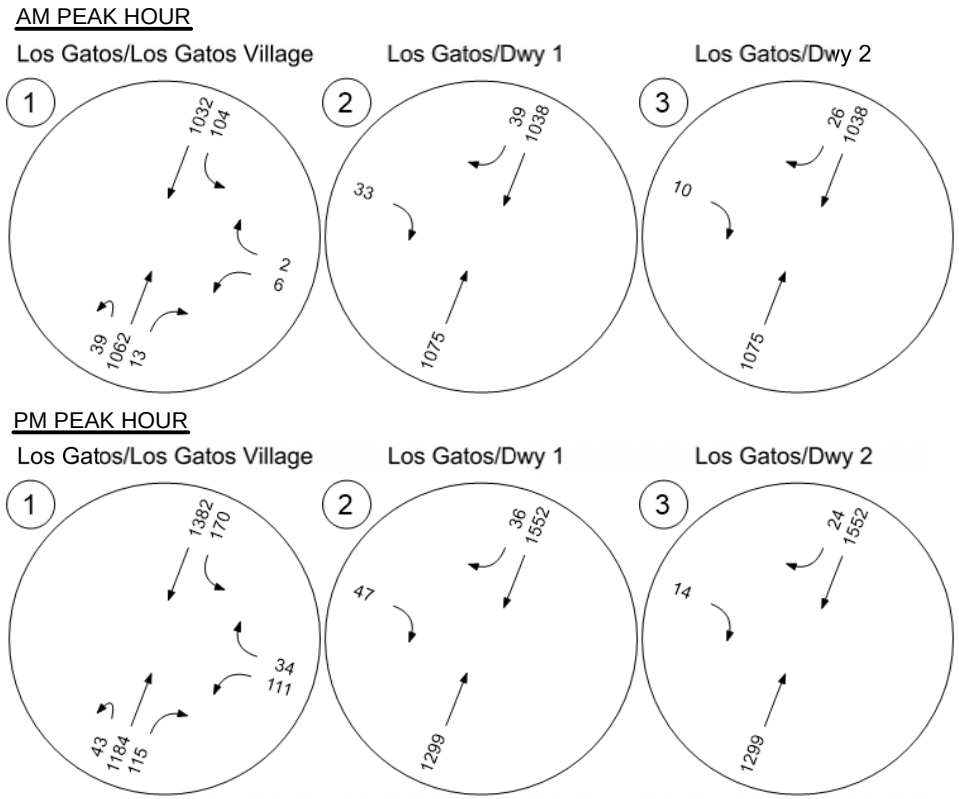
Exhibit 6: Cumulative Projects Map

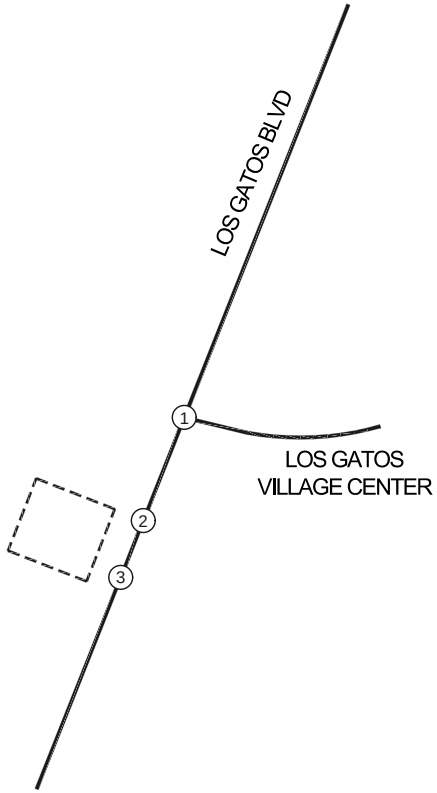
Table 4

Cumulative Projects List

TAZ	Project	Land Use	Qty	Units	AM Peak Hour			PM Peak Hour			Daily
					In	Out	Total	In	Out	Total	
1	400 Blossom Hill Rd	Assisted Living	114.00	Beds	12	8	21	11	17	27	296
	16212 Los Gatos Blvd	Strip Retail (<40k TSF)	7.05	TSF	10	7	17	23	23	46	384
		Small Office	4.27	TSF	6	1	7	3	6	9	61
	Subtotal				28	16	45	37	46	82	741
2	405 Alberto Way	General Office	155.00	DU	207	28	236	38	185	223	1,680
	110 Wood Road	Senior Housing Multi	174.00	DU	12	23	35	24	19	44	564
	Subtotal				207	28	236	38	185	223	1,680
3	14926 Los Gatos Blvd	Strip Retail (<40k TSF)	6.10	TSF	9	6	14	20	20	40	332
		Muli-Family (Low Rise)	5.00	DU	0	2	2	2	1	3	34
	105 Newell Ave	Single Family Detached	4.00	DU	1	2	3	2	1	4	38
	North 40 Specific Plan	Multi-Use	-	-	422	263	685	690	836	1,526	15,757
	Subtotal				432	273	705	714	858	1,573	16,161
Total					**639**	**301**	**941**	**752**	**1,043**	**1,796**	**17,841**

1: DU = Dwelling Units, TSF = Thousand Square Feet; 2: Source: Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017 (unless otherwise noted)





Legend:

- Project Site
- Study Intersection Location

Exhibit 7: Background Conditions AM/PM Peak Hour Volumes

Table 5
Intersection Analysis – Background Conditions

Intersection			Control Type	Peak Hour	Background Conditions	
					Delay[1]	LOS
1	Los Gatos	Los Gatos Village Sq	Signal	AM	6.6	A
				PM	12.0	B
2	Los Gatos	Dwy 1	OWSC	AM	14.1	B
				PM	19.7	C
3	Los Gatos	Dwy 2	OWSC	AM	13.6	B
				PM	18.0	C

Note: TWSC = Two-Way Stop-Control, OWSC = One-Way Stop-Control; Delay shown in seconds per vehicle.
1 = Per the Highway Capacity Manual 6th Edition, overall average delay and LOS are shown for signalized intersections.

Background plus Project Conditions

Background plus project traffic conditions analysis is intended to identify baseline conditions in the near-term with the proposed project.

Background plus Project Conditions Volumes

Background plus project conditions include existing, recently approved projects, and proposed project volumes.

Proposed project volumes are based on the *Institute of Transportation Engineers (ITE) Trip Generation Manual* (10th Edition, 2017) and are shown in **Table 6**. After appropriate pass-by trip reductions, the project is expected to generate 267 new daily trips, 32 new AM peak hour trips, and 10 new PM peak hour trips.

Table 6
Proposed Project Trip Generation

Land Use[1]	Qty	Unit[2]	Daily Trips (ADTs)		AM Peak Hour					PM Peak Hour					Pass By %
			Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume			
							In	Out	Total			In	Out	Total	
Existing Restaurant (No Drive-Thru) (ITE 933)	4.27	TSF	346.23	1,477	25.10	60:40	65	43	108	28.34	50:50	60	61	121	50%
Existing Restaurant (With Drive-Thru) (ITE 934)	4.27	TSF	470.95	2,011	40.19	51:49	88	84	172	32.67	52:48	73	67	140	
Increase in Trips				534			23	41	64			13	6	19	
Pass-By Discount				-267			-11	-21	-32			-6	-3	-9	
Net Increase in Trips				**267**			**11**	**21**	**32**			**7**	**3**	**10**	

1: Rates from ITE Trip Generation Manual (10th Edition, 2017), Pass-By Rates from ITE Trip Generation Handbook (3rd Edition)
2: TSF = Thousand Square Feet

Based on the potential interaction between the proposed land use and surrounding regional access routes, projected trip distribution for the proposed project is shown in **Exhibit 8**.

Exhibit 8 shows background conditions AM and PM peak hour volumes at the study intersections.

Background plus Project Conditions Intersection Level of Service Analysis

Background plus project conditions AM and PM peak hour intersection analysis is shown in **Table 7**. HCM analysis sheets are provided in the Appendix.

As shown in **Table 7**, the study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for background plus projects conditions.

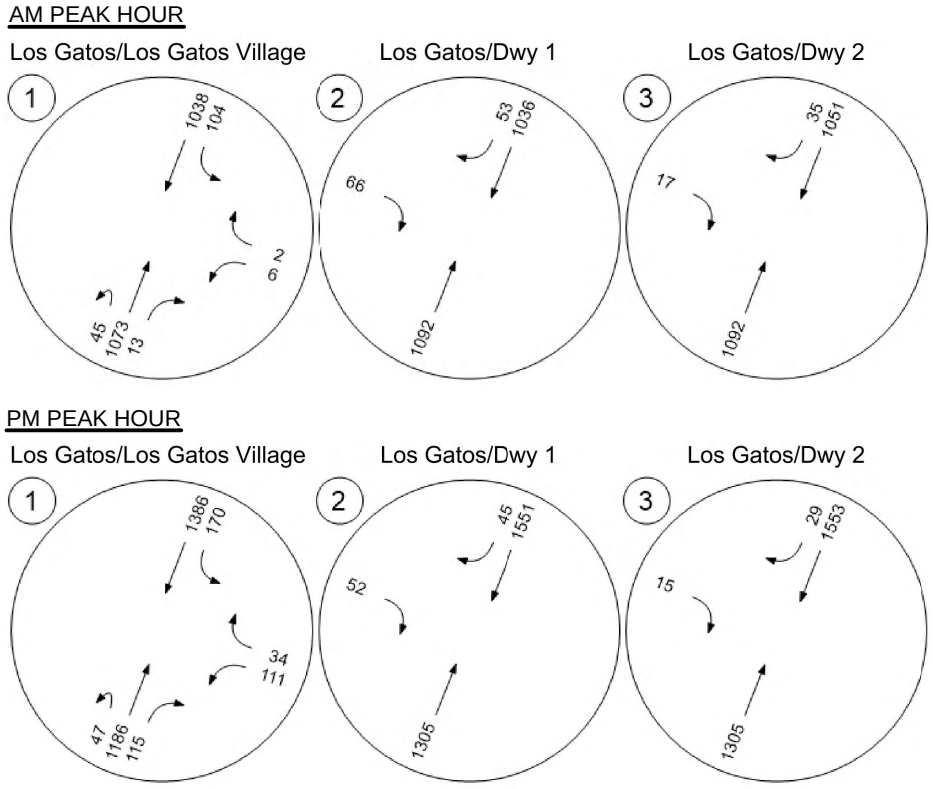
Table 7
Intersection Analysis –Background plus Project Conditions

Intersection			Control Type	Peak Hour	Background Conditions		Background + Project Conditions		Change	Deficient?
					Delay[1]	LOS	Delay[1]	LOS		
1	Los Gatos	Los Gatos Village Sq	Signal	AM	6.6	A	6.7	A	0.1	No
				PM	12.0	B	12.1	B	0.1	No
2	Los Gatos	Dwy 1	OWSC	AM	14.1	B	14.9	B	0.8	No
				PM	19.7	C	20.0	C	0.3	No
3	Los Gatos	Dwy 2	OWSC	AM	13.6	B	13.8	B	0.2	No
				PM	18.0	C	18.0	C	0.0	No

Note: TWSC = Two-Way Stop-Control, OWSC = One-Way Stop-Control; Delay shown in seconds per vehicle.
1 = Per the Highway Capacity Manual 6th Edition, overall average delay and LOS are shown for signalized intersections

Conclusion

As previously shown in **Table 7** the study intersections are projected to operate at an acceptable LOS when proposed project traffic is added to background conditions. Based on Town of Los Gatos and Santa Clara County thresholds, there are no deficiencies expected at the study intersections.



Legend:

XX% Percent Trip Distribution

Project Site

Study Intersection Location

Exhibit 8: Trip Distribution and Background plus Project Conditions AM/PM Peak hour Volumes

APPENDIX

SCOPING AGREEMENT

Scoping Agreement for Traffic Impact Analysis

This form acknowledges the requirements for the traffic impact analysis of the following project. The analysis will follow the local jurisdiction's traffic impact analysis guidelines.

Project Name:	Los Gatos Road McDonald's
Project Address:	15475 Los Gatos Blvd, Los Gatos, CA
Project Description:	Addition of Drive-Thru Lane to Existing McDonald's Restaurant
	See attached site plan exhibit

	Consultant	Developer
Name:	TJW Engineering	Core States Group
Address:	9841 Irvine Center Dr, Suite 200	4240 East Jurupa St, Suite 402
	Irvine, CA	Ontario, CA 91761
Telephone:	949-878-3509	909-467-8937
Email:	Jeffrey@tjwengineering.com	myao@core-states.com

Trip Generation Source: ITE Trip Generation Manual, 10th Edition (2017)

Current GP Land Use:	Commercial	Proposed Land Use:	Commercial
Current Zoning:	CH-Highway Commercial	Proposed Zoning:	CH-Highway Commercial

Is the project screened from LOS analysis? [ ] Yes [X] No

Justification:	

Is the project screened from VMT analysis? [X] Yes [ ] No

Justification:	The project can be considered to be local serving retail. Local serving retail projects are considered to have no significant VMT impacts.

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	See attached trip generation table					
PM Trips						
Daily						

Internal Trip Capture: [ ] Yes [X] No N/A % Trip Discount

Pass-By Allowance: [X] Yes [ ] No 50 % Trip Discount

Trip Distribution: See attached exhibit

Study Intersections:

1. Los Gatos Blvd/Los Gatos Village Center Dwy
2.
3.
4.
5.
6.
7.
8.
9.
10.

Analysis Scenarios:

1. Existing Conditions
2. Background Conditions (EX + Approved Projects)
3. Background Plus Project Conditions (EX + Approved Projects + Project)
4.
5.
6.
7.
8.
9.
10.

Additional Notes:	TJW Engineering requests a list of recently approved projects within the vicinity of the proposed project. These projects will be included in the Background Conditions scenarios.

Signatures:

(Jeffrey Chinchilla)

Consultant's Representative

09/23/2021

Date

Town of Los Gatos (Approved By)

Date

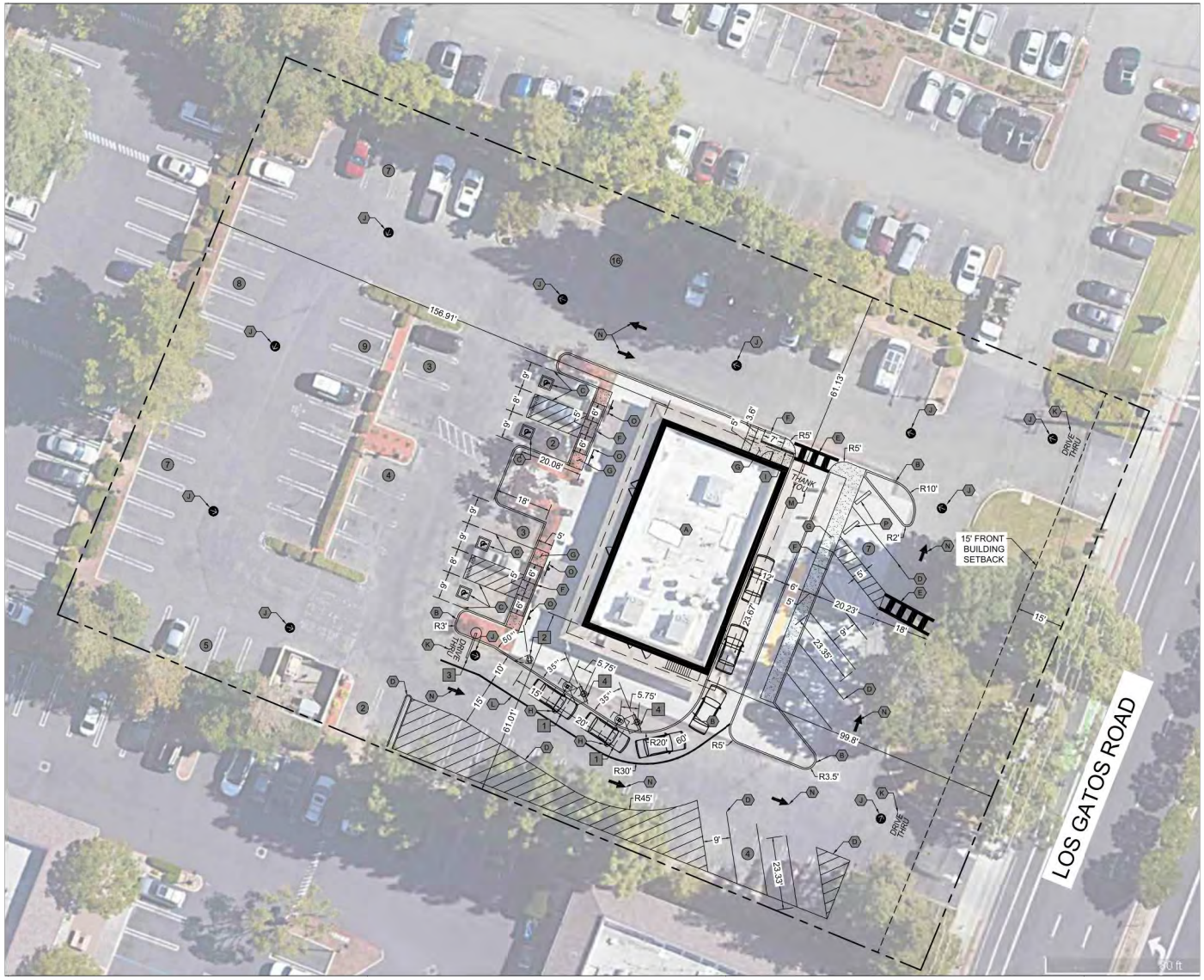


Exhibit 1: Project Site Plan

Table 1
Proposed Project Trip Generation

Land Use[1]	Qty	Unit[2]	Daily Trips (ADTs)		AM Peak Hour					PM Peak Hour					Pass By %
			Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume			
							In	Out	Total			In	Out	Total	
Existing Restaurant (No Drive-Thru) (ITE 933)	4.27	TSF	346.23	1,477	25.10	60:40	65	43	108	28.34	50:50	60	61	121	50%
Existing Restaurant (With Drive-Thru) (ITE 934)	4.27	TSF	470.95	2,011	40.19	51:49	88	84	172	32.67	52:48	73	67	140	
Increase in Trips				534			23	41	64			13	6	19	
Pass-By Discount				-267			-11	-21	-32			-6	-3	-9	
Net Increase in Trips				**267**			**11**	**21**	**32**			**7**	**3**	**10**	

1: Rates from ITE Trip Generation (10th Edition, 2017)

2: TSF = Thousand Square Feet

Legend:

XX%	Percent Trip Distribution
----	Project Site
○	Study Intersection Location

Exhibit 2: Study Area and Trip Distribution

EXISTING TRAFFIC COUNTS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

City of Los Gatos
N/S: Los Gatos Boulevard
E/W: Los Gatos Village Square Driveway
Weather: Clear

File Name : 01_LGS_Los Gatos_LGVS AM
Site Code : 99921567
Start Date : 10/12/2021
Page No : 1

Groups Printed- Total Volume

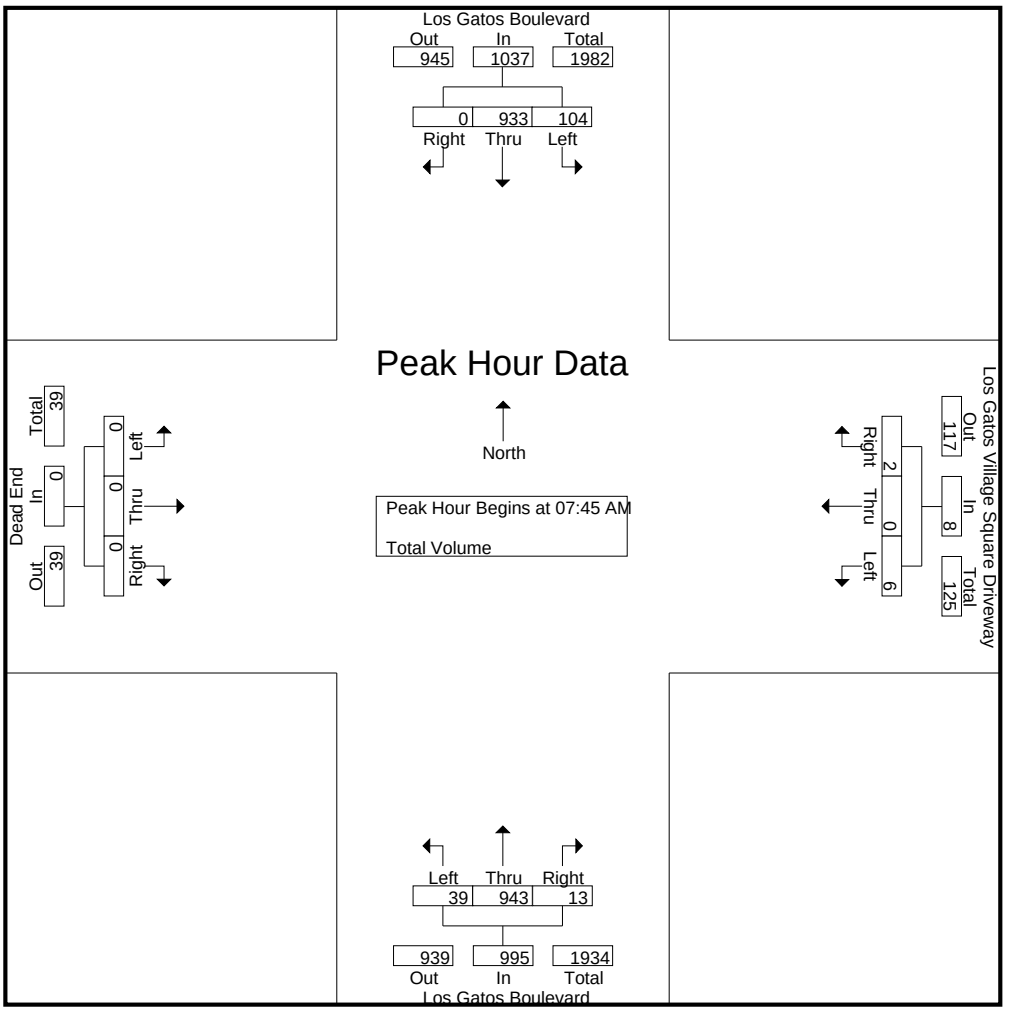
	Los Gatos Boulevard Southbound				Los Gatos Village Square Driveway Westbound				Los Gatos Boulevard Northbound				Dead End Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	98	0	106	0	0	0	0	5	98	1	104	0	0	0	0	210
07:15 AM	15	115	0	130	0	0	0	0	5	115	1	121	0	0	0	0	251
07:30 AM	15	187	0	202	0	0	0	0	6	135	0	141	0	0	0	0	343
07:45 AM	35	281	0	316	0	0	0	0	3	183	0	186	0	0	0	0	502
Total	73	681	0	754	0	0	0	0	19	531	2	552	0	0	0	0	1306
08:00 AM	12	213	0	225	1	0	0	1	11	274	2	287	0	0	0	0	513
08:15 AM	23	222	0	245	4	0	1	5	18	268	5	291	0	0	0	0	541
08:30 AM	34	217	0	251	1	0	1	2	7	218	6	231	0	0	0	0	484
08:45 AM	33	218	0	251	2	0	1	3	11	186	6	203	0	0	0	0	457
Total	102	870	0	972	8	0	3	11	47	946	19	1012	0	0	0	0	1995
Grand Total	175	1551	0	1726	8	0	3	11	66	1477	21	1564	0	0	0	0	3301
Apprch %	10.1	89.9	0		72.7	0	27.3		4.2	94.4	1.3		0	0	0		
Total %	5.3	47	0	52.3	0.2	0	0.1	0.3	2	44.7	0.6	47.4	0	0	0	0	

	Los Gatos Boulevard Southbound				Los Gatos Village Square Driveway Westbound				Los Gatos Boulevard Northbound				Dead End Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**35**	**281**	0	**316**	0	0	0	0	3	183	0	186	0	0	0	0	502
08:00 AM	12	213	0	225	1	0	0	1	11	**274**	2	287	0	0	0	0	513
08:15 AM	23	222	0	245	**4**	0	**1**	**5**	**18**	268	5	**291**	0	0	0	0	**541**
08:30 AM	34	217	0	251	1	0	1	2	7	218	**6**	231	0	0	0	0	484
Total Volume	104	933	0	1037	6	0	2	8	39	943	13	995	0	0	0	0	2040
% App. Total	10	90	0		75	0	25		3.9	94.8	1.3		0	0	0		
PHF	.743	.830	.000	.820	.375	.000	.500	.400	.542	.860	.542	.855	.000	.000	.000	.000	.943

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

City of Los Gatos
N/S: Los Gatos Boulevard
E/W: Los Gatos Village Square Driveway
Weather: Clear

File Name : 01_LGS_Los Gatos_LGVS AM
Site Code : 99921567
Start Date : 10/12/2021
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				08:00 AM				07:00 AM			
+0 mins.	**35**	**281**	0	**316**	1	0	0	1	11	**274**	2	287	0	0	0	0
+15 mins.	12	213	0	225	**4**	0	**1**	**5**	**18**	268	5	**291**	0	0	0	0
+30 mins.	23	222	0	245	1	0	1	2	7	218	**6**	231	0	0	0	0
+45 mins.	34	217	0	251	2	0	1	3	11	186	6	203	0	0	0	0
Total Volume	104	933	0	1037	8	0	3	11	47	946	19	1012	0	0	0	0
% App. Total	10	90	0		72.7	0	27.3		4.6	93.5	1.9		0	0	0	
PHF	.743	.830	.000	.820	.500	.000	.750	.550	.653	.863	.792	.869	.000	.000	.000	.000

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

City of Los Gatos
N/S: Los Gatos Boulevard
E/W: Los Gatos Village Square Driveway
Weather: Clear

File Name : 01_LGS_Los Gatos_LGVS PM
Site Code : 99921567
Start Date : 10/12/2021
Page No : 1

Groups Printed- Total Volume

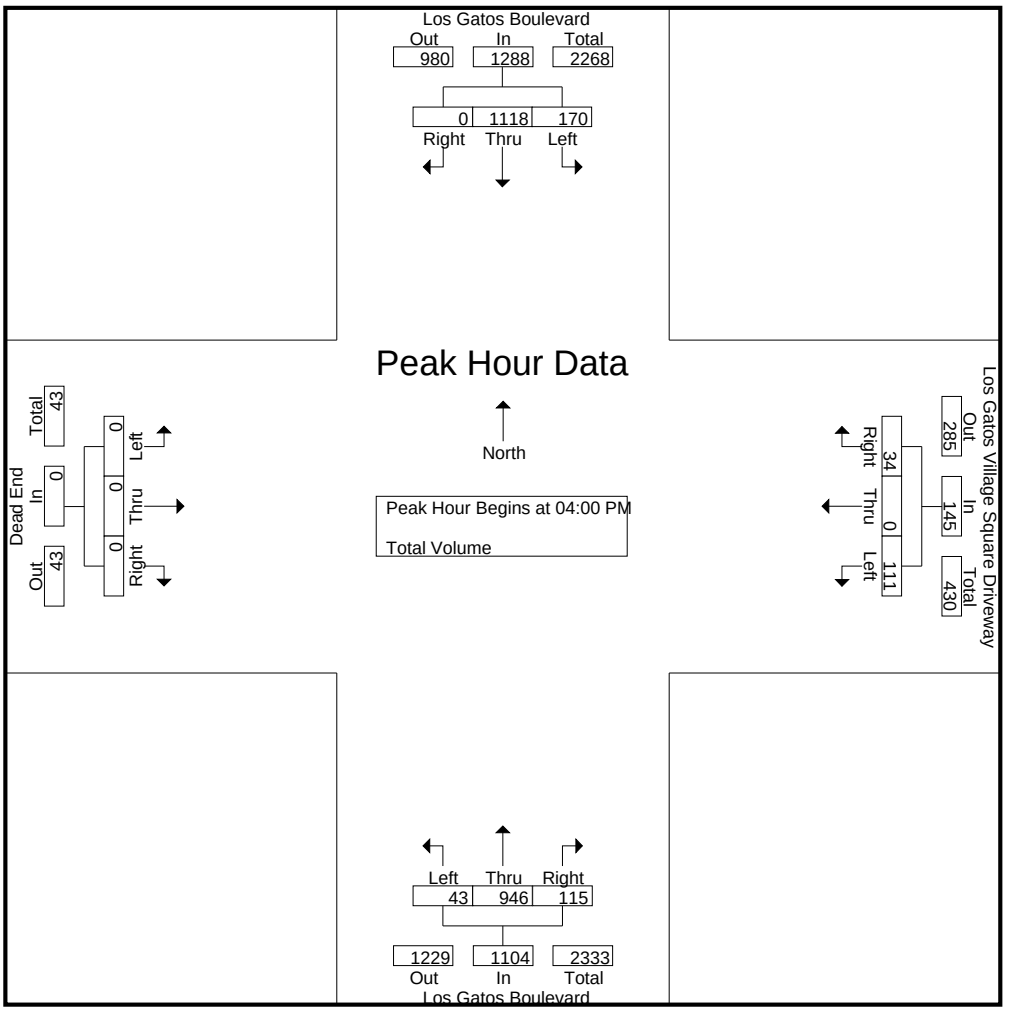
	Los Gatos Boulevard Southbound				Los Gatos Village Square Driveway Westbound				Los Gatos Boulevard Northbound				Dead End Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	45	303	0	348	28	0	12	40	6	257	31	294	0	0	0	0	682
04:15 PM	38	266	0	304	29	0	8	37	14	223	25	262	0	0	0	0	603
04:30 PM	43	268	0	311	24	0	6	30	6	216	29	251	0	0	0	0	592
04:45 PM	44	281	0	325	30	0	8	38	17	250	30	297	0	0	0	0	660
Total	170	1118	0	1288	111	0	34	145	43	946	115	1104	0	0	0	0	2537
05:00 PM	43	290	0	333	26	0	6	32	5	253	18	276	0	0	0	0	641
05:15 PM	36	259	0	295	27	0	7	34	9	222	22	253	0	0	0	0	582
05:30 PM	34	280	0	314	20	0	7	27	4	234	27	265	0	0	0	0	606
05:45 PM	42	248	0	290	24	0	6	30	7	172	19	198	0	0	0	0	518
Total	155	1077	0	1232	97	0	26	123	25	881	86	992	0	0	0	0	2347
Grand Total	325	2195	0	2520	208	0	60	268	68	1827	201	2096	0	0	0	0	4884
Apprch %	12.9	87.1	0		77.6	0	22.4		3.2	87.2	9.6		0	0	0		
Total %	6.7	44.9	0	51.6	4.3	0	1.2	5.5	1.4	37.4	4.1	42.9	0	0	0	0	

	Los Gatos Boulevard Southbound				Los Gatos Village Square Driveway Westbound				Los Gatos Boulevard Northbound				Dead End Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**45**	**303**	0	**348**	28	0	**12**	**40**	6	**257**	**31**	294	0	0	0	0	**682**
04:15 PM	38	266	0	304	29	0	8	37	14	223	25	262	0	0	0	0	603
04:30 PM	43	268	0	311	24	0	6	30	6	216	29	251	0	0	0	0	592
04:45 PM	44	281	0	325	**30**	0	8	38	**17**	250	30	**297**	0	0	0	0	660
Total Volume	170	1118	0	1288	111	0	34	145	43	946	115	1104	0	0	0	0	2537
% App. Total	13.2	86.8	0		76.6	0	23.4		3.9	85.7	10.4		0	0	0		
PHF	.944	.922	.000	.925	.925	.000	.708	.906	.632	.920	.927	.929	.000	.000	.000	.000	.930

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

City of Los Gatos
N/S: Los Gatos Boulevard
E/W: Los Gatos Village Square Driveway
Weather: Clear

File Name : 01_LGS_Los Gatos_LGVS PM
Site Code : 99921567
Start Date : 10/12/2021
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	**45**	**303**	0	**348**	28	0	**12**	**40**	6	**257**	**31**	294	0	0	0	0
+15 mins.	38	266	0	304	29	0	8	37	14	223	25	262	0	0	0	0
+30 mins.	43	268	0	311	24	0	6	30	6	216	29	251	0	0	0	0
+45 mins.	44	281	0	325	**30**	0	8	38	**17**	250	30	**297**	0	0	0	0
Total Volume	170	1118	0	1288	111	0	34	145	43	946	115	1104	0	0	0	0
% App. Total	13.2	86.8	0		76.6	0	23.4		3.9	85.7	10.4		0	0	0	
PHF	.944	.922	.000	.925	.925	.000	.708	.906	.632	.920	.927	.929	.000	.000	.000	.000

HCM ANALYSIS SHEETS

Existing Conditions

Intersection Level Of Service Report
Intersection 1: Los Gatos/Los Gatos Village Sq

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.274

Intersection Setup

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Approach	Northbound			Southbound		Westbound	
Lane Configuration							
Turning Movement	U-turn	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1
Entry Pocket Length [ft]	225.00	100.00	200.00	225.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00		25.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			Yes		Yes	

Volumes

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Base Volume Input [veh/h]	39	943	13	104	933	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	943	13	104	933	6	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	236	3	26	233	2	1
Total Analysis Volume [veh/h]	39	943	13	104	933	6	2
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	1	6	0	5	2	7	0
Auxiliary Signal Groups							
Lead / Lag	Lead	-	-	Lead	-	Lead	-
Minimum Green [s]	5	10	0	5	10	5	0
Maximum Green [s]	30	30	0	30	30	30	0
Amber [s]	4.1	4.1	0.0	4.1	4.1	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	38	26	0	38	26	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0
Pedestrian Clearance [s]	0	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.1	3.1	0.0	3.1	3.1	2.0	0.0
Minimum Recall	No	No		No	No	No	
Maximum Recall	No	No		No	No	No	
Pedestrian Recall	No	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.10	5.10	5.10	5.10	5.10	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.10	3.10	3.10	3.10	3.10	2.00	2.00
g_i, Effective Green Time [s]	3	67	67	7	72	1	1
g / C, Green / Cycle	0.04	0.75	0.75	0.08	0.80	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.02	0.21	0.01	0.06	0.20	0.00	0.00
s, saturation flow rate [veh/h]	1603	4584	1431	1603	4584	1603	1431
c, Capacity [veh/h]	57	3432	1071	132	3645	18	16
d1, Uniform Delay [s]	42.90	3.58	2.87	40.54	2.37	44.18	44.07
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.13	0.20	0.02	9.89	0.17	10.14	3.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.27	0.01	0.79	0.26	0.33	0.12
d, Delay for Lane Group [s/veh]	56.03	3.78	2.89	50.43	2.54	54.32	47.40
Lane Group LOS	E	A	A	D	A	D	D
Critical Lane Group	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.05	1.31	0.05	2.57	0.83	0.18	0.06
50th-Percentile Queue Length [ft/ln]	26.24	32.76	1.19	64.25	20.79	4.61	1.48
95th-Percentile Queue Length [veh/ln]	1.89	2.36	0.09	4.63	1.50	0.33	0.11
95th-Percentile Queue Length [ft/ln]	47.23	58.98	2.14	115.65	37.42	8.29	2.67

Movement, Approach, & Intersection Results

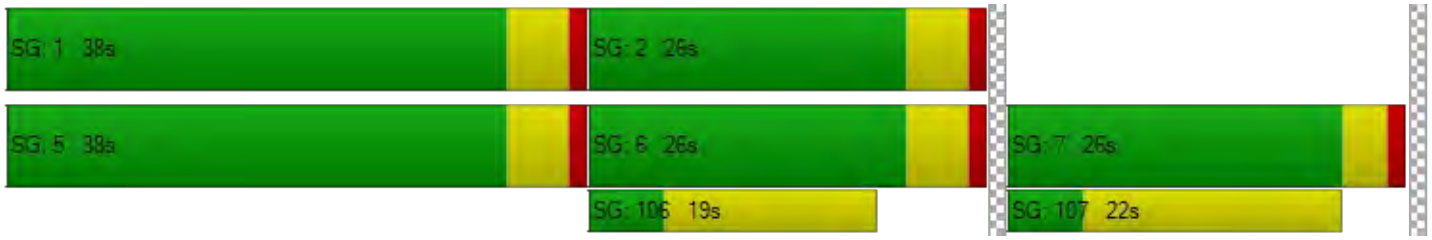
d_M, Delay for Movement [s/veh]	56.03	3.78	2.89	50.43	2.54	54.32	47.40
Movement LOS	E	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	5.82			7.35		52.59	
Approach LOS	A			A		D	
d_I, Intersection Delay [s/veh]	6.78						
Intersection LOS	A						
Intersection V/C	0.274						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.46	36.46	36.46
l_p,int, Pedestrian LOS Score for Intersection	3.002	2.918	1.976
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	464	464	489
d_b, Bicycle Delay [s]	26.54	26.54	25.70
l_b,int, Bicycle LOS Score for Intersection	2.107	2.130	1.573
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Los Gatos/Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 1	
Base Volume Input [veh/h]	0	956	939	39	0	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	956	939	39	0	33
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	239	235	10	0	8
Total Analysis Volume [veh/h]	0	956	939	39	0	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.39
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	5.74
d_A, Approach Delay [s/veh]	0.00		0.00		13.39	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Los Gatos/Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 2	
Base Volume Input [veh/h]	0	956	939	26	0	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	956	939	26	0	10
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	239	235	7	0	3
Total Analysis Volume [veh/h]	0	956	939	26	0	10
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.96
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	1.66
d_A, Approach Delay [s/veh]	0.00		0.00		12.96	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Los Gatos/Los Gatos Village Sq

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.382

Intersection Setup

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Approach	Northbound			Southbound		Westbound	
Lane Configuration							
Turning Movement	U-turn	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1
Entry Pocket Length [ft]	225.00	100.00	200.00	225.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00		25.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			Yes		Yes	

Volumes

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Base Volume Input [veh/h]	43	946	115	170	1118	111	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	946	115	170	1118	111	34
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	237	29	43	280	28	9
Total Analysis Volume [veh/h]	43	946	115	170	1118	111	34
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	1	6	0	5	2	7	0
Auxiliary Signal Groups							
Lead / Lag	Lead	-	-	Lead	-	Lead	-
Minimum Green [s]	5	10	0	5	10	5	0
Maximum Green [s]	30	30	0	30	30	30	0
Amber [s]	4.1	4.1	0.0	4.1	4.1	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	25	33	0	31	39	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0
Pedestrian Clearance [s]	0	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.1	3.1	0.0	3.1	3.1	2.0	0.0
Minimum Recall	No	No		No	No	No	
Maximum Recall	No	No		No	No	No	
Pedestrian Recall	No	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.10	5.10	5.10	5.10	5.10	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.10	3.10	3.10	3.10	3.10	2.00	2.00
g_i, Effective Green Time [s]	3	56	56	11	64	8	8
g / C, Green / Cycle	0.04	0.62	0.62	0.13	0.71	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.21	0.08	0.11	0.24	0.07	0.02
s, saturation flow rate [veh/h]	1603	4584	1431	1603	4584	1603	1431
c, Capacity [veh/h]	61	2859	892	205	3271	146	130
d1, Uniform Delay [s]	42.84	8.04	6.94	38.32	4.89	39.98	38.12
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.13	0.31	0.30	8.34	0.29	7.93	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.33	0.13	0.83	0.34	0.76	0.26
d, Delay for Lane Group [s/veh]	56.97	8.35	7.24	46.66	5.17	47.91	39.17
Lane Group LOS	E	A	A	D	A	D	D
Critical Lane Group	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.16	2.58	0.86	4.03	2.07	2.72	0.74
50th-Percentile Queue Length [ft/ln]	29.11	64.51	21.50	100.81	51.80	67.91	18.44
95th-Percentile Queue Length [veh/ln]	2.10	4.64	1.55	7.26	3.73	4.89	1.33
95th-Percentile Queue Length [ft/ln]	52.40	116.12	38.71	181.46	93.25	122.24	33.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.97	8.35	7.24	46.66	5.17	47.91	39.17
Movement LOS	E	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	10.13			10.65		45.86	
Approach LOS	B			B		D	
d_I, Intersection Delay [s/veh]	12.43						
Intersection LOS	B						
Intersection V/C	0.382						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.46	36.46	36.46
l_p,int, Pedestrian LOS Score for Intersection	3.059	2.964	2.058
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	753	489
d_b, Bicycle Delay [s]	21.44	17.50	25.70
l_b,int, Bicycle LOS Score for Intersection	2.167	2.268	1.799
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Los Gatos/Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.132

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 1	
Base Volume Input [veh/h]	0	1061	1288	36	0	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1061	1288	36	0	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	265	322	9	0	12
Total Analysis Volume [veh/h]	0	1061	1288	36	0	47
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.13
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	16.64
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.45
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	11.27
d_A, Approach Delay [s/veh]	0.00		0.00		16.64	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Los Gatos/Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 2	
Base Volume Input [veh/h]	0	1061	1288	24	0	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1061	1288	24	0	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	265	322	6	0	4
Total Analysis Volume [veh/h]	0	1061	1288	24	0	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	15.52
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	3.06
d_A, Approach Delay [s/veh]	0.00		0.00		15.52	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	C					

Background Conditions

Intersection Level Of Service Report
Intersection 1: Los Gatos/Los Gatos Village Sq

Control Type:	Signalized	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.300

Intersection Setup

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Approach	Northbound			Southbound		Westbound	
Lane Configuration							
Turning Movement	U-turn	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1
Entry Pocket Length [ft]	225.00	100.00	200.00	225.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00		25.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			Yes		Yes	

Volumes

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Base Volume Input [veh/h]	39	943	13	104	933	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	119	0	0	99	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	1062	13	104	1032	6	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	266	3	26	258	2	1
Total Analysis Volume [veh/h]	39	1062	13	104	1032	6	2
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	1	6	0	5	2	7	0
Auxiliary Signal Groups							
Lead / Lag	Lead	-	-	Lead	-	Lead	-
Minimum Green [s]	5	10	0	5	10	5	0
Maximum Green [s]	30	30	0	30	30	30	0
Amber [s]	4.1	4.1	0.0	4.1	4.1	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	38	26	0	38	26	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0
Pedestrian Clearance [s]	0	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.1	3.1	0.0	3.1	3.1	2.0	0.0
Minimum Recall	No	No		No	No	No	
Maximum Recall	No	No		No	No	No	
Pedestrian Recall	No	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.10	5.10	5.10	5.10	5.10	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.10	3.10	3.10	3.10	3.10	2.00	2.00
g_i, Effective Green Time [s]	3	67	67	7	72	1	1
g / C, Green / Cycle	0.04	0.75	0.75	0.08	0.80	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.01	0.06	0.23	0.00	0.00
s, saturation flow rate [veh/h]	1603	4584	1431	1603	4584	1603	1431
c, Capacity [veh/h]	57	3432	1071	132	3645	18	16
d1, Uniform Delay [s]	42.90	3.71	2.87	40.54	2.44	44.18	44.07
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.13	0.23	0.02	9.89	0.19	10.14	3.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.31	0.01	0.79	0.28	0.33	0.12
d, Delay for Lane Group [s/veh]	56.03	3.94	2.89	50.43	2.63	54.32	47.40
Lane Group LOS	E	A	A	D	A	D	D
Critical Lane Group	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.05	1.53	0.05	2.57	0.95	0.18	0.06
50th-Percentile Queue Length [ft/ln]	26.24	38.17	1.19	64.25	23.65	4.61	1.48
95th-Percentile Queue Length [veh/ln]	1.89	2.75	0.09	4.63	1.70	0.33	0.11
95th-Percentile Queue Length [ft/ln]	47.23	68.71	2.14	115.65	42.57	8.29	2.67

Movement, Approach, & Intersection Results

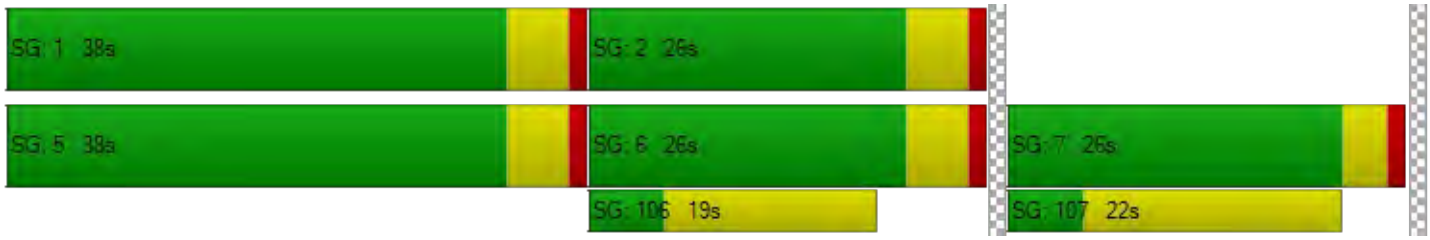
d_M, Delay for Movement [s/veh]	56.03	3.94	2.89	50.43	2.63	54.32	47.40
Movement LOS	E	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	5.75			7.01		52.59	
Approach LOS	A			A		D	
d_I, Intersection Delay [s/veh]	6.55						
Intersection LOS	A						
Intersection V/C	0.300						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.46	36.46	36.46
l_p,int, Pedestrian LOS Score for Intersection	3.033	2.953	1.976
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	464	464	489
d_b, Bicycle Delay [s]	26.54	26.54	25.70
l_b,int, Bicycle LOS Score for Intersection	2.172	2.184	1.573
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Los Gatos/Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 1	
Base Volume Input [veh/h]	0	956	939	39	0	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	119	99	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1075	1038	39	0	33
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	269	260	10	0	8
Total Analysis Volume [veh/h]	0	1075	1038	39	0	33
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	14.08
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	6.21
d_A, Approach Delay [s/veh]	0.00		0.00		14.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.21					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Los Gatos/Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 2	
Base Volume Input [veh/h]	0	956	939	26	0	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	119	99	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1075	1038	26	0	10
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	269	260	7	0	3
Total Analysis Volume [veh/h]	0	1075	1038	26	0	10
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.58
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	1.79
d_A, Approach Delay [s/veh]	0.00		0.00		13.58	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Los Gatos/Los Gatos Village Sq

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Approach	Northbound			Southbound		Westbound	
Lane Configuration							
Turning Movement	U-turn	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1
Entry Pocket Length [ft]	225.00	100.00	200.00	225.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00		25.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			Yes		Yes	

Volumes

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Base Volume Input [veh/h]	43	946	115	170	1118	111	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	238	0	0	264	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	1184	115	170	1382	111	34
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	296	29	43	346	28	9
Total Analysis Volume [veh/h]	43	1184	115	170	1382	111	34
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	1	6	0	5	2	7	0
Auxiliary Signal Groups							
Lead / Lag	Lead	-	-	Lead	-	Lead	-
Minimum Green [s]	5	10	0	5	10	5	0
Maximum Green [s]	30	30	0	30	30	30	0
Amber [s]	4.1	4.1	0.0	4.1	4.1	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	25	33	0	31	39	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0
Pedestrian Clearance [s]	0	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.1	3.1	0.0	3.1	3.1	2.0	0.0
Minimum Recall	No	No		No	No	No	
Maximum Recall	No	No		No	No	No	
Pedestrian Recall	No	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.10	5.10	5.10	5.10	5.10	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.10	3.10	3.10	3.10	3.10	2.00	2.00
g_i, Effective Green Time [s]	3	56	56	11	64	8	8
g / C, Green / Cycle	0.04	0.62	0.62	0.13	0.71	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.26	0.08	0.11	0.30	0.07	0.02
s, saturation flow rate [veh/h]	1603	4584	1431	1603	4584	1603	1431
c, Capacity [veh/h]	61	2859	892	205	3271	146	130
d1, Uniform Delay [s]	42.84	8.60	6.94	38.32	5.29	39.98	38.12
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.13	0.44	0.30	8.34	0.40	7.93	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.41	0.13	0.83	0.42	0.76	0.26
d, Delay for Lane Group [s/veh]	56.97	9.05	7.24	46.66	5.69	47.91	39.17
Lane Group LOS	E	A	A	D	A	D	D
Critical Lane Group	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.16	3.46	0.86	4.03	2.78	2.72	0.74
50th-Percentile Queue Length [ft/ln]	29.11	86.58	21.50	100.81	69.47	67.91	18.44
95th-Percentile Queue Length [veh/ln]	2.10	6.23	1.55	7.26	5.00	4.89	1.33
95th-Percentile Queue Length [ft/ln]	52.40	155.84	38.71	181.46	125.04	122.24	33.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.97	9.05	7.24	46.66	5.69	47.91	39.17
Movement LOS	E	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	10.43			10.18		45.86	
Approach LOS	B			B		D	
d_I, Intersection Delay [s/veh]	11.99						
Intersection LOS	B						
Intersection V/C	0.434						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.46	36.46	36.46
l_p,int, Pedestrian LOS Score for Intersection	3.130	3.046	2.058
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	753	489
d_b, Bicycle Delay [s]	21.44	17.50	25.70
l_b,int, Bicycle LOS Score for Intersection	2.298	2.413	1.799
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Los Gatos/Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	19.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.161

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 1	
Base Volume Input [veh/h]	0	1061	1288	36	0	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	238	264	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1299	1552	36	0	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	325	388	9	0	12
Total Analysis Volume [veh/h]	0	1299	1552	36	0	47
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.00	0.00	0.16
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	19.68
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.57
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	14.13
d_A, Approach Delay [s/veh]	0.00		0.00		19.68	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Los Gatos/Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	18.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 2	
Base Volume Input [veh/h]	0	1061	1288	24	0	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	238	264	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1299	1552	24	0	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	325	388	6	0	4
Total Analysis Volume [veh/h]	0	1299	1552	24	0	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	17.95
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.15
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	3.76
d_A, Approach Delay [s/veh]	0.00		0.00		17.95	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	C					

Background plus Project Conditions

Intersection Level Of Service Report
Intersection 1: Los Gatos/Los Gatos Village Sq

Control Type:	Signalized	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Approach	Northbound			Southbound		Westbound	
Lane Configuration							
Turning Movement	U-turn	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1
Entry Pocket Length [ft]	225.00	100.00	200.00	225.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00		25.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			Yes		Yes	

Volumes

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Base Volume Input [veh/h]	39	943	13	104	933	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	130	0	0	105	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	1073	13	104	1038	6	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	268	3	26	260	2	1
Total Analysis Volume [veh/h]	45	1073	13	104	1038	6	2
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	1	6	0	5	2	7	0
Auxiliary Signal Groups							
Lead / Lag	Lead	-	-	Lead	-	Lead	-
Minimum Green [s]	5	10	0	5	10	5	0
Maximum Green [s]	30	30	0	30	30	30	0
Amber [s]	4.1	4.1	0.0	4.1	4.1	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	38	26	0	38	26	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0
Pedestrian Clearance [s]	0	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.1	3.1	0.0	3.1	3.1	2.0	0.0
Minimum Recall	No	No		No	No	No	
Maximum Recall	No	No		No	No	No	
Pedestrian Recall	No	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.10	5.10	5.10	5.10	5.10	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.10	3.10	3.10	3.10	3.10	2.00	2.00
g_i, Effective Green Time [s]	3	67	67	7	71	1	1
g / C, Green / Cycle	0.04	0.75	0.75	0.08	0.79	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.03	0.23	0.01	0.06	0.23	0.00	0.00
s, saturation flow rate [veh/h]	1603	4584	1431	1603	4584	1603	1431
c, Capacity [veh/h]	62	3432	1071	132	3632	18	16
d1, Uniform Delay [s]	42.81	3.72	2.87	40.54	2.51	44.18	44.07
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.74	0.24	0.02	9.89	0.20	10.14	3.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.31	0.01	0.79	0.29	0.33	0.12
d, Delay for Lane Group [s/veh]	57.55	3.96	2.89	50.43	2.71	54.32	47.40
Lane Group LOS	E	A	A	D	A	D	D
Critical Lane Group	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.22	1.55	0.05	2.57	0.99	0.18	0.06
50th-Percentile Queue Length [ft/ln]	30.60	38.69	1.19	64.25	24.65	4.61	1.48
95th-Percentile Queue Length [veh/ln]	2.20	2.79	0.09	4.63	1.77	0.33	0.11
95th-Percentile Queue Length [ft/ln]	55.07	69.65	2.14	115.65	44.37	8.29	2.67

Movement, Approach, & Intersection Results

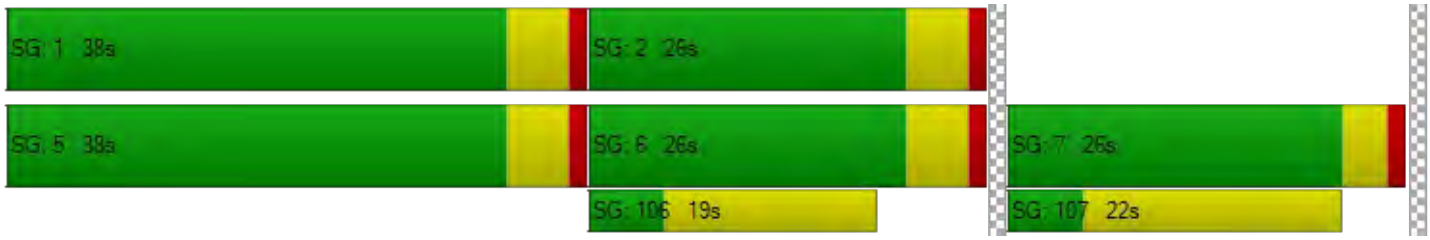
d_M, Delay for Movement [s/veh]	57.55	3.96	2.89	50.43	2.71	54.32	47.40
Movement LOS	E	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	6.08			7.06		52.59	
Approach LOS	A			A		D	
d_I, Intersection Delay [s/veh]	6.73						
Intersection LOS	A						
Intersection V/C	0.303						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.46	36.46	36.46
l_p,int, Pedestrian LOS Score for Intersection	3.036	2.956	1.976
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	464	464	489
d_b, Bicycle Delay [s]	26.54	26.54	25.70
l_b,int, Bicycle LOS Score for Intersection	2.182	2.188	1.573
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Los Gatos/Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.153

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 1	
Base Volume Input [veh/h]	0	956	939	39	0	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	136	104	7	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	-7	7	0	16
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1092	1036	53	0	66
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	273	259	13	0	17
Total Analysis Volume [veh/h]	0	1092	1036	53	0	66
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	14.88
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.54
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	13.44
d_A, Approach Delay [s/veh]	0.00		0.00		14.88	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.44					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Los Gatos/Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 2	
Base Volume Input [veh/h]	0	956	939	26	0	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	136	116	5	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	-4	4	0	2
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1092	1051	35	0	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	273	263	9	0	4
Total Analysis Volume [veh/h]	0	1092	1051	35	0	17
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.82
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	3.11
d_A, Approach Delay [s/veh]	0.00		0.00		13.82	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Los Gatos/Los Gatos Village Sq

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Approach	Northbound			Southbound		Westbound	
Lane Configuration							
Turning Movement	U-turn	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1
Entry Pocket Length [ft]	225.00	100.00	200.00	225.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00		25.00	
Grade [%]	0.00			0.00		0.00	
Curb Present	No			No		No	
Crosswalk	Yes			Yes		Yes	

Volumes

Name	Los Gatos			Los Gatos		Los Gatos Village Sq	
Base Volume Input [veh/h]	43	946	115	170	1118	111	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	240	0	0	268	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	1186	115	170	1386	111	34
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	297	29	43	347	28	9
Total Analysis Volume [veh/h]	47	1186	115	170	1386	111	34
Presence of On-Street Parking	No		No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0		0	
v_di, Inbound Pedestrian Volume crossing m	0			0		0	
v_co, Outbound Pedestrian Volume crossing	0			0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0			0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0			0		0	
Bicycle Volume [bicycles/h]	0			0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	1	6	0	5	2	7	0
Auxiliary Signal Groups							
Lead / Lag	Lead	-	-	Lead	-	Lead	-
Minimum Green [s]	5	10	0	5	10	5	0
Maximum Green [s]	30	30	0	30	30	30	0
Amber [s]	4.1	4.1	0.0	4.1	4.1	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	25	33	0	31	39	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	5	0
Pedestrian Clearance [s]	0	14	0	0	10	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No	No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.1	3.1	0.0	3.1	3.1	2.0	0.0
Minimum Recall	No	No		No	No	No	
Maximum Recall	No	No		No	No	No	
Pedestrian Recall	No	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	5.10	5.10	5.10	5.10	5.10	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.10	3.10	3.10	3.10	3.10	2.00	2.00
g_i, Effective Green Time [s]	4	56	56	11	64	8	8
g / C, Green / Cycle	0.04	0.62	0.62	0.13	0.71	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.26	0.08	0.11	0.30	0.07	0.02
s, saturation flow rate [veh/h]	1603	4584	1431	1603	4584	1603	1431
c, Capacity [veh/h]	63	2859	892	205	3263	146	130
d1, Uniform Delay [s]	42.79	8.61	6.94	38.32	5.36	39.98	38.12
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.42	0.45	0.30	8.34	0.41	7.93	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.41	0.13	0.83	0.42	0.76	0.26
d, Delay for Lane Group [s/veh]	58.21	9.05	7.24	46.66	5.77	47.91	39.17
Lane Group LOS	E	A	A	D	A	D	D
Critical Lane Group	No	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.28	3.47	0.86	4.03	2.82	2.72	0.74
50th-Percentile Queue Length [ft/ln]	32.12	86.77	21.50	100.81	70.52	67.91	18.44
95th-Percentile Queue Length [veh/ln]	2.31	6.25	1.55	7.26	5.08	4.89	1.33
95th-Percentile Queue Length [ft/ln]	57.82	156.19	38.71	181.46	126.93	122.24	33.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.21	9.05	7.24	46.66	5.77	47.91	39.17
Movement LOS	E	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	10.61			10.24		45.86	
Approach LOS	B			B		D	
d_I, Intersection Delay [s/veh]	12.10						
Intersection LOS	B						
Intersection V/C	0.434						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.46	36.46	36.46
l_p,int, Pedestrian LOS Score for Intersection	3.131	3.047	2.058
Crosswalk LOS	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	753	489
d_b, Bicycle Delay [s]	21.44	17.50	25.70
l_b,int, Bicycle LOS Score for Intersection	2.301	2.415	1.799
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Los Gatos/Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	20.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.178

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 1	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 1	
Base Volume Input [veh/h]	0	1061	1288	36	0	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	244	267	5	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	-4	4	0	2
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1305	1551	45	0	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	326	388	11	0	13
Total Analysis Volume [veh/h]	0	1305	1551	45	0	52
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.00	0.00	0.18
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	19.97
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.64
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	15.90
d_A, Approach Delay [s/veh]	0.00		0.00		19.97	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.35					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Los Gatos/Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	18.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	Los Gatos		Los Gatos		Dwy 2	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	50.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		35.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Los Gatos		Los Gatos		Dwy 2	
Base Volume Input [veh/h]	0	1061	1288	24	0	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	244	267	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	-2	2	0	1
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1305	1553	29	0	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	326	388	7	0	4
Total Analysis Volume [veh/h]	0	1305	1553	29	0	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	18.01
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	4.05
d_A, Approach Delay [s/veh]	0.00		0.00		18.01	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	C					

Environmental Noise Assessment

C

ATTACHMENT

ENVIRONMENTAL NOISE ASSESSMENT

MCDONALDS DRIVE-THRU
15475 LOS GATOS BOULEVARD
LOS GATOS, CALIFORNIA

WJVA Report No. 21-43

PREPARED FOR

EMC PLANNING
301 LIGHTHOUSE AVENUE, SUITE C
MONTEREY, CA 93940

PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

April 18, 2022

1. INTRODUCTION

Project Description:

An application for a variance from the Town Code and modification to the conditional use permit (CUP) is being submitted to allow drive-thru use in the existing McDonald's restaurant located at 15475 Los Gatos Blvd. A single drive-thru lane is being proposed with an entrance at the southwest side of the property. New order and pick-up windows will be installed on the eastern side of the building but will not alter the exterior design. Per the existing CUP, project hours of operation would be 7:00 a.m. to 1:00 p.m., Sunday through Thursday and 7:00 a.m. to midnight, Friday and Saturday.

Environmental Noise Assessment:

This environmental noise assessment has been prepared to determine if significant noise impacts will be produced by the project and to describe mitigation measures for noise if significant impacts are determined. The environmental noise assessment, prepared by WJV Acoustics, Inc. (WJVA), is based upon the project site plan dated November 13, 2020, a Drive-Thru Queue Analysis and Traffic Impact Analysis prepared by TJW Engineering, Inc. and a project site visit on August 18, 2021. Revisions to the site plan, queue analysis or other project-related information available to WJVA at the time the analysis was prepared may require a reevaluation of the findings and/or recommendations of the report.

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise. Appendix B provides typical A-weighted sound levels for common noise sources.

2. THRESHOLDS OF SIGNIFICANCE

The CEQA Guidelines apply the following questions for the assessment of significant noise impacts for a project:

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

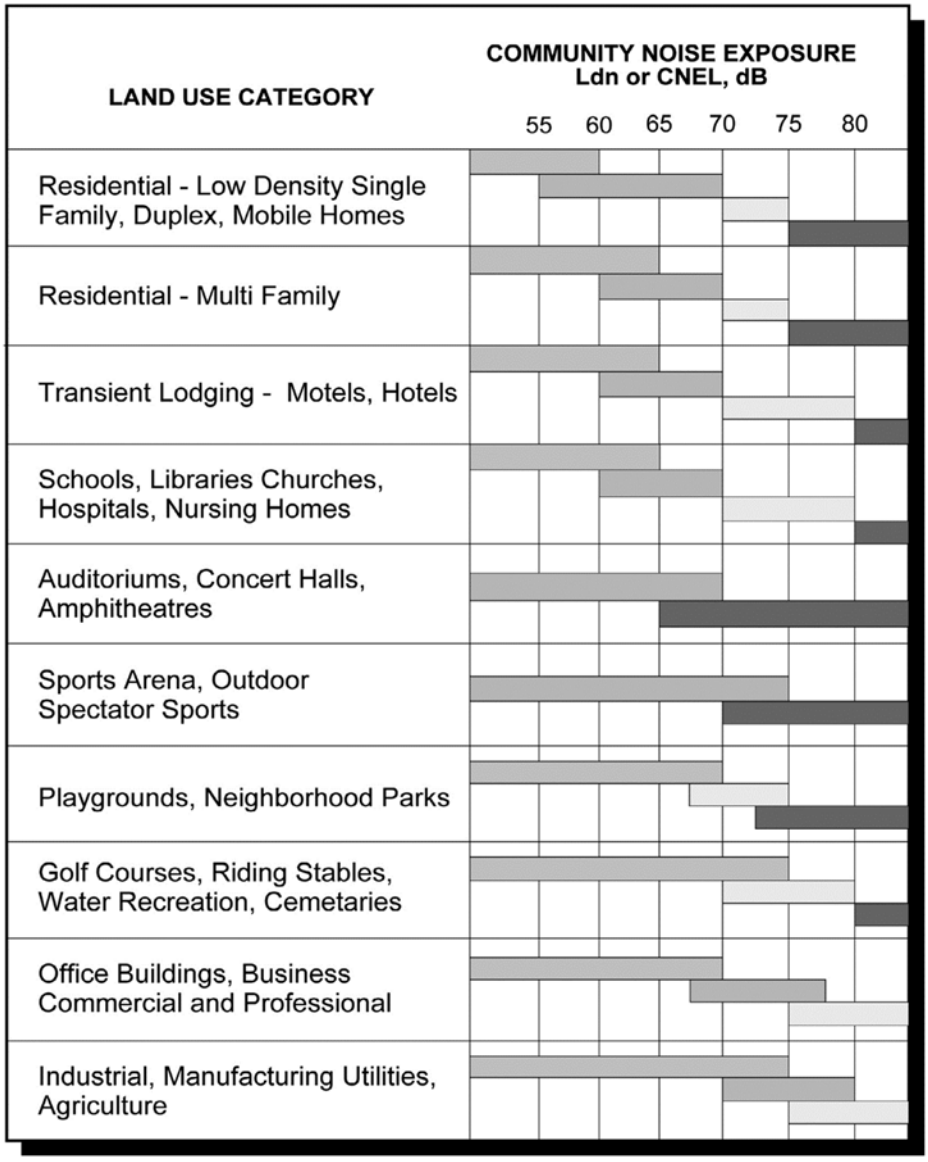
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

a. Noise Level Standards

Town of Los Gatos

The Town of Los Gatos Noise Element of the General Plan (2020) provides goals, policies and guidelines for minimizing noise levels within the Town. The Noise Element applies General Plan Guidelines established by the California Office of Planning Research (2003) to set noise and land use compatibility guidelines for the Town. The guidelines are provided below as Figure 1 (Figure NOI-1 of the Noise Element).

FIGURE 1: NOISE AND LAND USE COMPATIBILITY



Additionally, Table NOI-2 of the Noise Element establishes outdoor noise limits for the Town. These outdoor noise limits are provided below as Table I.

TABLE I

TOWN OF LOS GATOS OUTDOOR NOISE LIMITS (dBA)

LAND USE	MAX L_{DN}	MAX 24 HOUR L_{EQ}	COMPARABLE NOISE SOURCE	RESPONSE
Residential	55		Light Auto Traffic (100 feet)	Quiet
Commercial		70	Freeway Traffic (50 feet)	Telephone Difficult to Use
Industrial		70	Freeway Traffic (50 feet)	Telephone Difficult to Use
Intensive (Developed Park)		55	Light Auto Traffic (100 feet)	Quiet
Passive (Nature Park)		50	Light Auto Traffic (100 feet)	Quiet
Hospital		55	Light Auto Traffic (100 feet)	Quiet
Educational		55	Light Auto Traffic (100 feet)	Quiet

Source: Town of Los Gatos 2020 General Plan

Policy NOI-3 of the Noise Element discusses the outdoor noise limits provided above in Table I, and states that the Town should *"pursue the outdoor noise limits shown in Table NOI-2 as representing long range community aspirations and work toward their accomplishment, even though some may be presently unattainable".*

Additionally, The Town of Los Gatos Municipal Code provides further exterior noise limits applicable to the project.

- §16.20.015 (Exterior noise levels for residential zones) states *"No person shall cause, make, suffer or allow to be made by any machine, animal, device or any combination of same in a residential zone, a noise level more than six (6) dB above the noise level specified for that particular noise zone, as shown on the Noise Zone Map, during that particular time frame, at any point outside of the property plane".*

- §16.20.025 (Noise levels for commercial and industrial zones) states *"No person shall cause, make, suffer or allow to be made by any machine, animal, device or any combination of same, in any commercial or industrial zone, a noise level more than eight (8) dB above the noise level specified for that particular noise zone, as shown on the Noise Zone Map, during that particular time frame, at any point outside of the property plane".*

The project site is located within an orange zone on the Town of Los Gatos Noise Zone Map. The orange zone provides an ambient noise level of 48 dB between the hours of 10:00 p.m. to 6:00 a.m., 55 dB between the hours of 6:00 a.m. to 1:00 p.m., and 59 dB between the hours of 1:00 p.m. to 10:00 p.m. The applicable Municipal Code exterior noise level limits (based upon the Town of Los Gatos Noise Zone Map and project site location) or provided below in Table II. The Town of Los Gatos Noise Zone Map is provided as Figure 2.

TABLE II TOWN OF LOS GATOS EXTERIOR NOISE LEVEL LIMITS (dBA)			
LAND USE	6:00 A.M.- 1:00 P.M.	1:00 P.M.- 10:00 P.M.	10:00 P.M.- 6:00 A.M.
Residential	61	65	54
Commercial/Industrial	63	67	56
Source: Town of Los Gatos Municipal Code			

State of California

There are no state noise standards that are applicable to the project.

Federal Noise Standards

There are no federal noise standards that are applicable to the project.

b. Construction Noise

§16.20.035 (Construction) of the Town of Los Gatos Municipal Code establishes permissible hours for construction activity. The codes states *"Notwithstanding any other provision of this chapter, between the hours of 8:00 a.m. to 8:00 p.m., weekdays and 9:00 a.m. to 7:00 p.m. weekends and holidays, construction, alteration or repair activities which are authorized by a valid Town permit or as otherwise allowed by Town permit, shall be allowed if they meet at least one of the following noise limitations:*

(1) No individual piece of equipment shall produce a noise level exceeding eighty-five (85) dBA at twenty-five (25) feet. If the device is located within a structure on the property, the measurement shall be made at distances as close to twenty-five (25) feet from the device as possible.

(2) The noise level at any point outside of the property plane shall not exceed eighty-five (85) dBA."

3. SETTING

The proposed project site is an existing McDonalds restaurant, located at 15475 Los Gatos Boulevard, in the Town of Los Gatos. The project site is located within a commercial/retail shopping area, and is surrounded by commercial/retail land uses on all sides. There are existing residential land uses located west of the project site, on Benedict Lane and Garden Lane. There is an existing 6-foot CMU wall along the property line separating the residential land uses and the commercial/retail land uses in the shopping center area. The project site plan is provided as Figure 1. The project site and vicinity are provided as Figure 2.

a. Background Noise Level Measurements

Existing noise levels in the project vicinity are dominated by traffic noise along Los Gatos Boulevard. Additional sources of noise observed during site inspection included aircraft overflights, commercial/retail activities, human voice, barking dogs and noise associated with landscaping activities (lawnmower, blowers, etc.).

Measurements of existing ambient noise levels in the project vicinity were conducted on August 18 and 19, 2021. Short-term (15-minute) ambient noise level measurements were conducted at two (2) locations (sites ST-1 and ST-2). Site ST-1 was located along the property line of the closest residential land uses to the project site (residences along the east side of Benedict Lane). Site ST-2 was located in the vicinity of the McDonalds restaurant, near Los Gatos Boulevard. Three (3) individual measurements were taken at both of short-term sites to quantify ambient noise levels in the morning, afternoon and evening hours. The locations of the two noise measurement sites are provided on Figure 2.

Noise monitoring equipment consisted of Larson-Davis Laboratories Model LDL-820 sound level analyzers equipped with B&K Type 4176 1/2" microphones. The equipment complies with the specifications of the American National Standards Institute (ANSI) for Type I (Precision) sound level meters. The meters were calibrated with a B&K Type 4230 acoustic calibrator to ensure the accuracy of the measurements.

The noise measurement data included energy average (L_{eq}) maximum (L_{max}) as well as five individual statistical parameters. Observations were made of the dominant noise sources affecting the measurements. The statistical parameters describe the percent of time a noise level was exceeded during the measurement period. For instance, the L_{90} describes the noise level exceeded 90 percent of the time during the measurement period, and is generally considered to represent the residual (or background) noise level in the absence of identifiable single noise events from traffic, aircraft and other local noise sources. Table III summarizes short-term noise measurement results.

TABLE III

SUMMARY OF SHORT-TERM NOISE MEASUREMENT DATA
MCDONALDS RESTAURANT, LOS GATOS BOULEVARD
AUGUST 18 & 19, 2021

Site	Time	A-Weighted Decibels, dBA							Sources
		L_{eq}	L_{max}	L_2	L_8	L_{25}	L_{50}	L_{90}	
ST-1	7:45 a.m.	54.6	73.0	64.9	53.8	50.9	49.3	45.3	TR, V, L, IC, D
ST-1	12:10 p.m.	53.8	65.5	62.8	59.7	51.7	47.3	44.2	TR, AC, IC
ST-1	9:15 p.m.	49.0	64.0	58.9	52.1	46.1	44.4	43.2	TR, IC
ST-2	8:05 p.m.	63.6	72.5	70.6	68.2	64.6	60.5	56.8	TR, AC, V
ST-2	12:30 p.m.	60.4	71.3	66.2	63.9	61.9	57.9	52.0	TR, IC, V
ST-2	9:35 p.m.	58.7	66.9	61.4	55.6	53.4	52.1	50.1	TR, IC, V

TR: Traffic AC: Aircraft V: Voices L: Landscaping Activities D: Dogs Barking IC: Commercial/Retail Activity
Source: WJV Acoustics, Inc.

The overall noise measurement data indicate that noise in the project vicinity is highly influenced by vehicular traffic on Los Gatos Boulevard as well as noise associated with the commercial/retail shopping center. L_{max} values were in the range of 64-73 dBA, and were typically the result of a loud vehicle.

4. PROJECT-RELATED NOISE LEVELS

DRIVE-THRU OPERATIONS-

The project is the addition of drive-thru operations at an existing McDonalds restaurant, in the Town of Los Gatos. The drive-thru would include an amplified menu board at which customers and employees communicate specific food order details. Per the existing CUP, project hours of operation would be 7:00 a.m. to 1:00 p.m., Sunday through Thursday and 7:00 a.m. to midnight, Friday and Saturday. Noise levels associated with the menu board, and resulting impacts on nearby sensitive receptors (residential and commercial land uses) are discussed below.

The project would incorporate a 3M Model XT-1 intercom system at the menu board. The XT-1 intercom system provides an adjustable noise level, allowing for project compliance with noise standards at nearby sensitive receptor locations. Noise levels associated with amplified speech through the XT-1 can be reduced down to a minimum level of approximately 65 dB at a distance of 4 feet from the center of the speaker. Speaker noise levels would be expected to attenuate at the standard rate of attenuation with increased distance from a point source, -6 dB/doubling of distance.

Per the Town of Los Gatos Municipal Code noise standards, and the project location (see Figure 2, Town of Los Gatos Noise Zone Map), the maximum allowable noise levels (at nearby residential land uses) would be 54 dB between the hours of 10:00 p.m. to 6:00 a.m., 61 dB between the hours of 6:00 a.m. to 1:00 p.m. and 65 dB between the hours of 1:00 p.m. to 10:00 p.m. The digital menu board would be located approximately 350 feet from the closest residential land uses (in the vicinity of noise measurement locations ST-1) and approximately 75 feet from the closest commercial land uses (Leslie's Pool Supplies). Table IV provides the allowable maximum noise level and the required maximum menu-board noise level required to comply with the applicable hourly noise standards, as determined by the Town of Los Gatos Noise Zone Map.

TABLE IV

MAXIMUM ALLOWABLE NOISE LEVELS,
AND REQUIRED NOISE LEVEL SETTINGS AT 4-FEET (dBA)

LAND USE	6:00 A.M.- 1:00 P.M.		1:00 P.M.- 10:00 P.M.		10:00 P.M.- 6:00 A.M.	
	Maximum Allowable Noise Level	Menu Board Noise Level at 4-Feet	Maximum Allowable Noise Level	Menu Board Noise Level at 4-Feet	Maximum Allowable Noise Level	Menu Board Noise Level at 4-Feet
Residential	61	100	65	104	54	93
Commercial/Industrial	63	89	67	93	56	82

Source: Town of Los Gatos Municipal Code

As stated above, the project would incorporate a 3M Model XT-1 intercom system at the menu board. The XT-1 intercom system provides an adjustable noise level at the speaker system, and can be set to produce noise levels as low as 65 dB at distance of 4 feet from the menu board

speaker. Reference to Table IV indicates that intercom speaker noise levels must be set at or below 89 dB between the hours of 6:00 a.m. to 1:00 p.m., at or below 93 dB between the hours of 1:00 p.m. to 10:00 p.m. and at or below 82 dB between the hours of 10:00 p.m. to 6:00 a.m. Applying these maximum noise level settings to the menu board speaker would ensure compliance with the Town of Los Gatos noise level standards. It should be noted, the resulting noise levels at these settings would produce noise levels well below existing (without project) ambient noise levels at both the closest residential land uses (vicinity of ambient measurement site LT-1) and commercial land uses (vicinity of ambient noise measurement site LT-2).

PROJECT-RELATED INCREASES IN TRAFFIC NOISE-

WJVA utilized the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) to quantify expected project-related increases in traffic noise exposure along Los Gatos Boulevard, in the project vicinity. The FHWA Model is a standard analytical method used for roadway traffic noise calculations. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Traffic noise exposure levels for Background Conditions and Background Plus Project Conditions were calculated based upon the FHWA Model and traffic volumes provided by TJW Engineering, Inc. Background conditions volumes include existing and recently approved projects in the vicinity of the proposed project. The day/night distribution of traffic and the percentages of trucks on the roadways used for modeling were estimated based on previous studies WJVA has conducted along similar roadways. The Noise modeling assumptions used to calculate project traffic noise are provided as Appendix C.

Table V provides a comparison of traffic noise levels along Los Gatos Boulevard for Background Conditions and Background Plus Project Conditions traffic conditions. While there are no sensitive receptors (residential land uses) located along Los Gatos Boulevard, in the project vicinity, this traffic noise analysis is provided as a reference. Noise levels were modeled at a reference setback distance of 100 feet from the centerline of Los Gatos Boulevard. For the purpose of the analysis, the following assumptions were applied:

- 35 mph (miles per hour) traffic speed
- 2% medium truck and 1% heavy truck percentages
- 90% daytime (7 am to 10 pm) and 10% nighttime (10 pm to 7 am) distribution

TABLE V

TRAFFIC NOISE EXPOSURE LEVELS, dBA LDN
MCDONALDS RESTAURANT, LOS GATOS BOULEVARD

Roadway	Background Conditions	Background Plus Project Conditions	Increase	Impact Yes/No?
Los Gatos Blvd n/o Los Gatos Village Center	63	63	0	No
Los Gatos Blvd s/o Los Gatos Village Center	63	63	0	No

[1]At a typical residential setback (assumed to be 100 feet from the center of the roadway).
Source: WJV Acoustics
TJW Engineering, Inc.

Table V provides the modeled exterior traffic noise exposure levels at reference setback distance of 100 feet from Los Gatos Boulevard. Reference to Table V indicates that the project would not be expected to result in any increases in traffic noise exposure along Los Gatos Boulevard, in the vicinity of the project site.

5. IMPACT SUMMARY

Project-related noise levels resulting from the proposed addition of drive-thru operations at the existing McDonalds restaurant located at 15475 Los Gatos Boulevard, in the Town of Los Gatos, would not be expected to exceed Town of Los Gatos noise level standards as long as the 3M Model XT-1 intercom system noise levels are adjusted as to reflect the maximum allowable noise levels described above (at a distance of 4 feet) in Table IV. The intercom speaker noise levels must be set at or below 89 dB (at four feet) between the hours of 6:00 a.m. to 1:00 p.m., at or below 93 dB (at four feet) between the hours of 1:00 p.m. to 10:00 p.m. and at or below 82 dB (at four feet) between the hours of 10:00 p.m. to 6:00 a.m.

Traffic noise exposure along Los Gatos Boulevard, in the vicinity of the project site, was calculated for both Background Conditions and Background Plus Project Conditions. As described above in Table V, the project would not be expected to result in any increases in traffic noise exposure along Los Gatos Boulevard, in the vicinity of the project.

FIGURE 1: PROJECT SITE PLAN

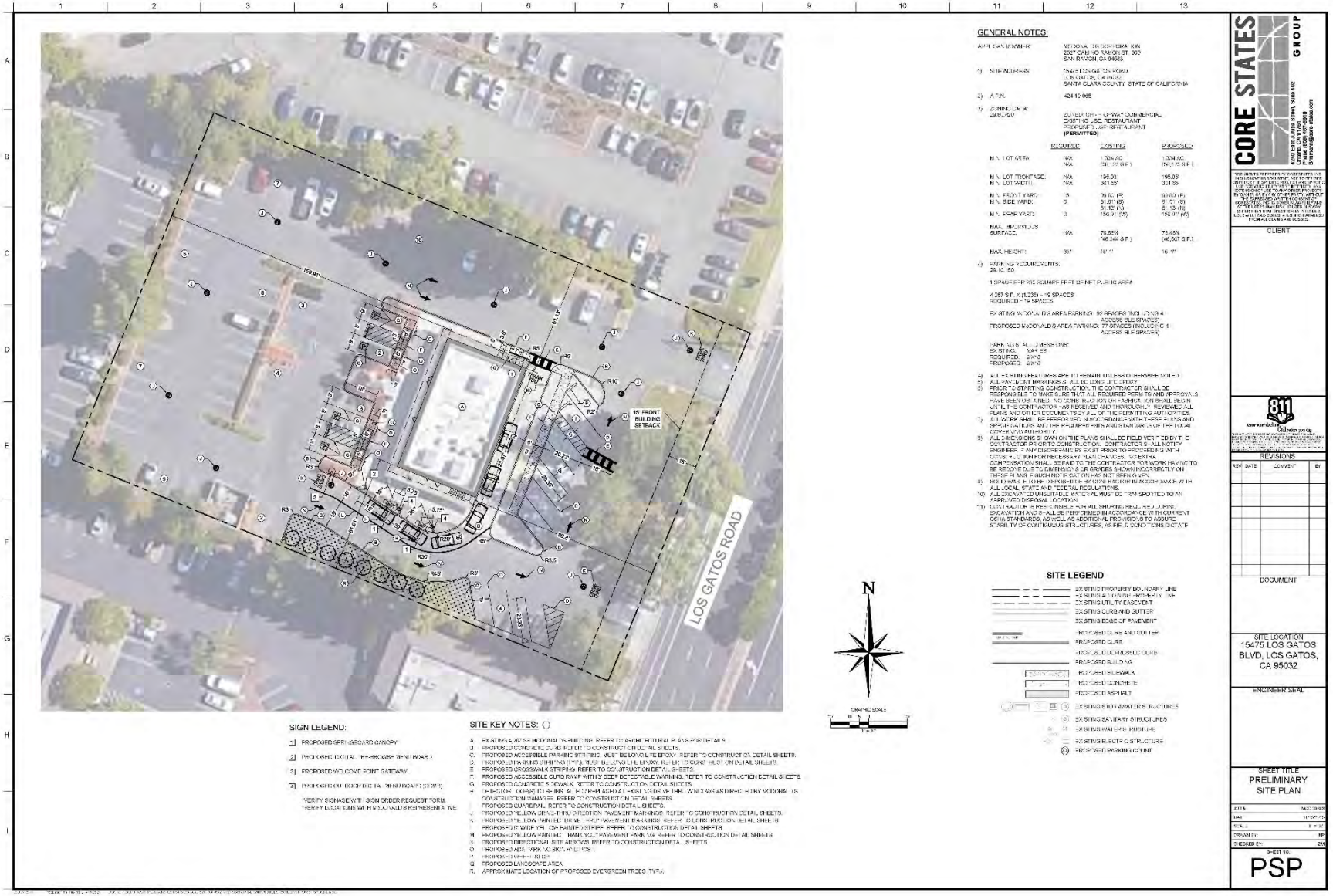
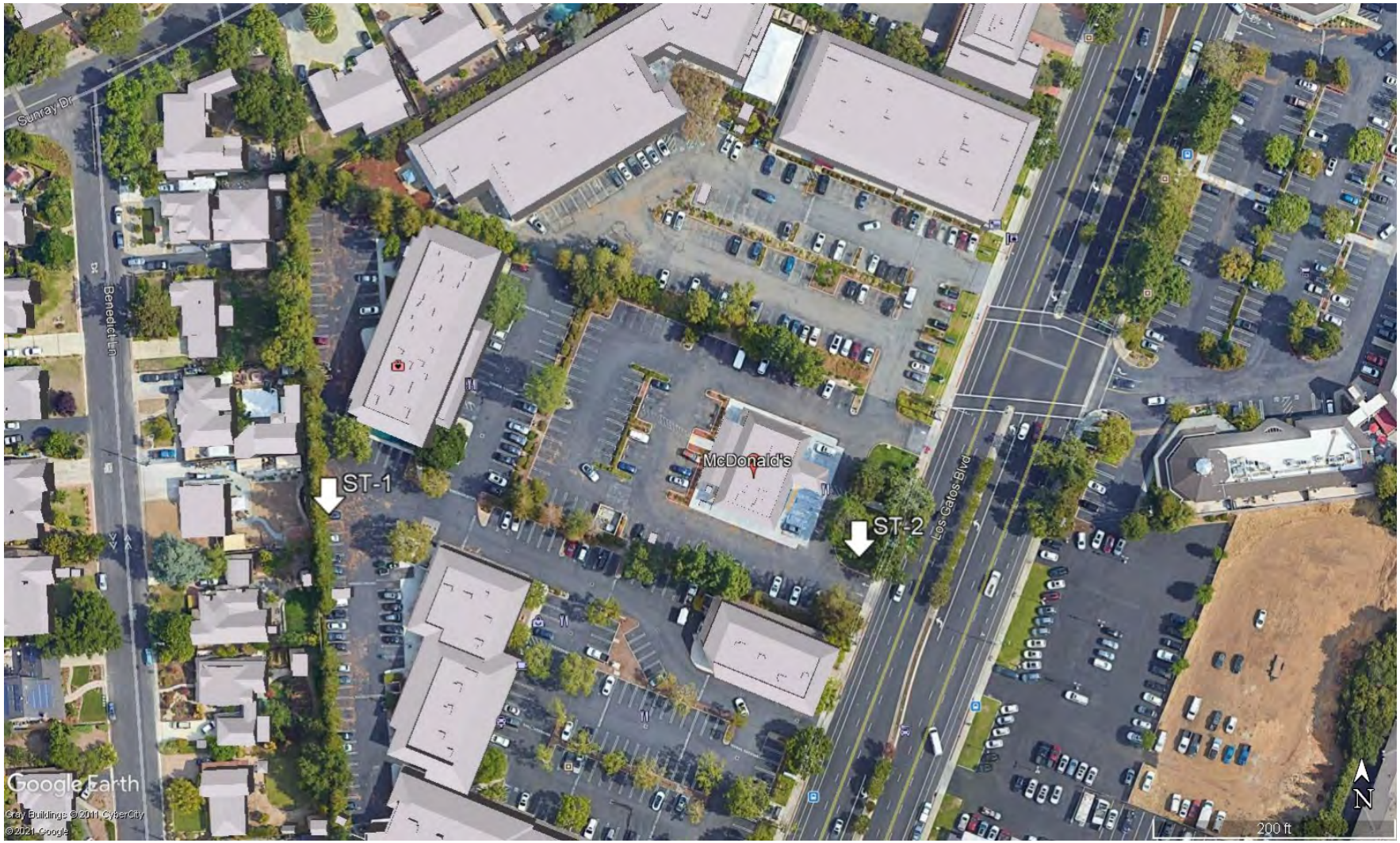


FIGURE 2: PROJECT VICINITY AND AMBIENT NOISE MONITORING SITES



APPENDIX A-1

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of Anoise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

Tree Inventory, Assessment, and Protection Report

D

ATTACHMENT

Tree Inventory, Assessment, and Protection Report

15475 Los Gatos Boulevard
Los Gatos, CA 95032

Prepared for:

Town of Los Gatos

April 28, 2021

Prepared By:

Richard Gessner

ASCA - Registered Consulting Arborist ® #496
ISA - Board Certified Master Arborist® WE-4341B

Monarch Consulting Arborists

Richard Gessner
P.O. Box 1010 – Felton, CA 95018
1 831 331 8982
www.monarcharborists.com

Table of Content

Summary

The plans indicate a new traffic flow pattern through the parking lot to accommodate a drive through for the McDonalds restaurant. The inventory contains 46 trees comprised of 9 different species. One coast live oak (*Quercus agrifolia*) is considered Large Protected, two olive (*Olea europaea*) trees are Exempt, and two London plane (*Platanus x hispanica*) are Street Trees. Twenty trees are in good condition, twenty-two fair, one poor, one very poor, and two coast redwoods (*Sequoia sempervirens*) are dead. Trees in poor, very poor, or dead condition and a few are considered invasive plants and poorly suited for retention. Six trees could be highly impacted by the proposed renovation and landscaping while the remaining trees around the parking lot will not be affected. There is limited detail provided on the extent of work around the six Canary Island pines (*Pinus canariensis*) #492 through #497. The proposed landscape area “approximate location of proposed evergreen trees” already contains pines #492 through #497. Adding a landscape area on grade may be possible, or extending the existing planting area and removing the asphalt, but the existing trees will not allow for extensive renovation or soil cutting in this area. No other detail was provided. Re-striping and a top coat over the existing asphalt will not affect the trees. For Canary Island pines #492 through #497 they would need to have their trunks protected during proposed renovation and care not to destroy the surface roots under the existing asphalt will be required. There were 46 trees appraised for a rounded depreciated value of $179,600.00.

Introduction

Background

The Town of Los Gatos asked me to assess the site, trees, and proposed footprint plan, and to provide a report with my findings and recommendations to help satisfy planning requirements.

Assignment

- Provide an arborist’s report including an assessment of the trees within the project area and on the adjacent sites. The assessment is to include the species, size (trunk diameter), condition (health, structure, and form), and suitability for preservation ratings. Affix number tags on the trees for reference on site and on plans.
- Provide tree protection specifications, guidelines, and impact ratings for those affected by the project.
- Provide appraised values using the Trunk Formula Technique.

Limits of the assignment

- The information in this report is limited to the condition of the trees during my inspection on April 26, 2021. No tree risk assessments were performed.
- Tree heights and canopy diameters are estimates.

- The plans reviewed for this assignment were as follows (Table 1)

Table 1: Plans Reviewed Checklist

Plan	Date	Sheet	Reviewed	Source
Existing Site Topographic				
Proposed Site Plan	11/13/2020	PSP	Yes	Core States Group
Erosion Control				
Grading and Drainage				
Utility Plan and Hook-up locations				
Exterior Elevations				
Landscape Plan				
Irrigation Plan				
T-1 Tree Protection Plan				

Purpose and use of the report

The report is intended to identify all the trees within the plan area that could be affected by a project. The report is to be used by the Town of Los Gatos and the property owners as a reference for existing tree conditions to help satisfy planning requirements.

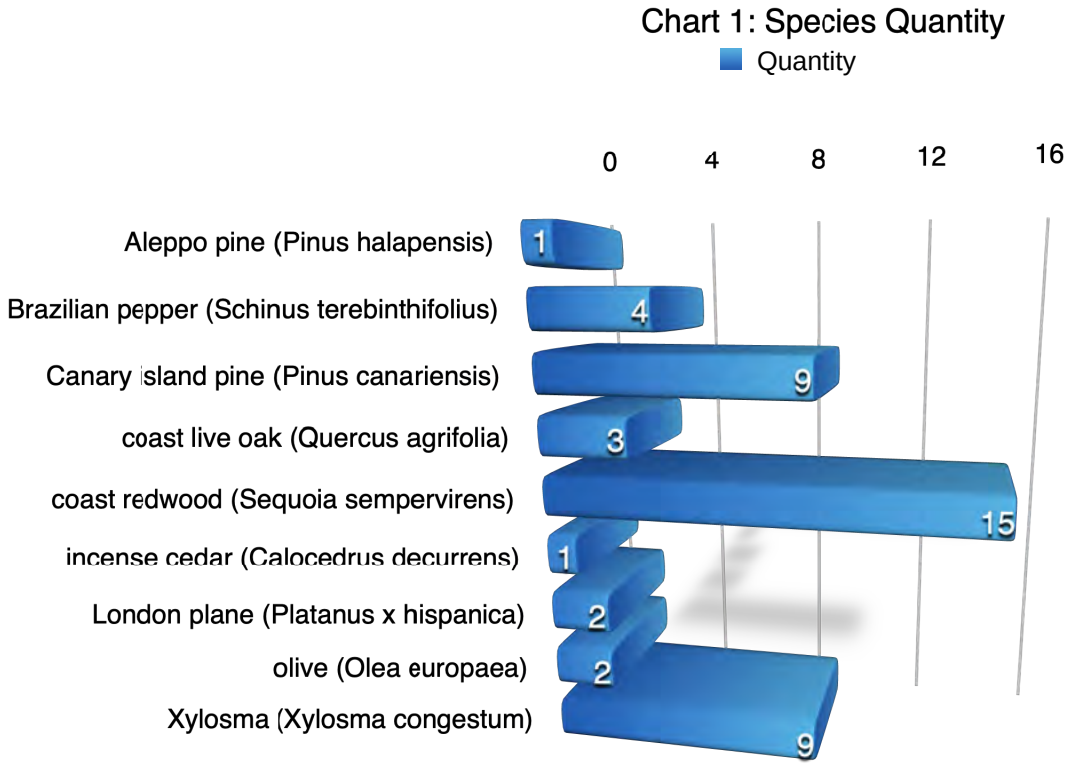
Observations

Tree Inventory

The inventory consists of trees protected by the Town of Los Gatos located on site and those in close proximity on neighboring properties. Sec. 29.10.0960. - Scope of protected trees. All trees which have a four-inch or greater diameter (twelve and one half-inch circumference) of any trunk, when removal relates to any review for which zoning approval or subdivision approval is required. (Appendix A and B). Los Gatos Town Ordinance 29.10.0970 Exceptions (1) states the following: “A fruit or nut tree that is less than eighteen (18) inches in diameter (fifty-seven-inch circumference).

The plans indicate a new traffic flow pattern through the parking lot to accommodate a drive through for the McDonalds restaurant.

The inventory contains 46 trees comprised of 9 different species (Chart 1). One coast live oak is considered Large Protected[1] by virtue of two trunks (15 and 13 inches respectively) totally more than 24 inches, two olive trees are Exempt[2], and two London plane are Street Trees.



[1] Large protected tree means any oak (*Quercus spp.*), California buckeye (*Aesculus californica*), or Pacific madrone (*Arbutus menziesii*) which has a 24-inch or greater diameter (75-inch circumference); or any other species of tree with a 48-inch or greater diameter (150-inch circumference).

[2] A fruit or nut tree that is less than eighteen (18) inches in diameter (fifty-seven-inch circumference).

Analysis

Tree appraisal was performed according to the Council of Tree & Landscape Appraisers *Guide for Plant Appraisal 10th Edition, 2019* (CLTA) along with Western Chapter International Society of Arboriculture *Species Classification and Group Assignment, 2004*. The trees were appraised using the "Cost Approach" and more specifically the "Trunk Formula Technique" (Appendix B).

"Trunk Formula Technique" is calculated as follows: Basic Tree Cost = (Unit tree cost x Appraised trunk area), Appraised Value = (Basic tree cost X functional Limitations (percentage) X Condition (percentage) X External Limitations (percentage)).

The trunk formula valuations are based on four tree factors; size (trunk cross sectional area), condition, functional limitations, and external limitations. There are two steps to determine the overall value. The first step is to determine the "Basic Tree Cost" based on size and unit tree cost. Unit tree cost is calculated by dividing the nursery wholesale cost of a 24 inch box specimen and its replacement size (cost per square inch trunk caliper) which is determined by the *Species Classification and Group Assignment, 2004 Western Chapter Regional Supplement*. The cost of the 24 inch box wholesale specimen was determined through personal communications with BrightView and Normans nurseries in Farmington and Central Wholesale in San Jose for an average of $214.00.

The second part is to depreciate the tree's Basic Cost through an assessment of condition, functional limitations, and external limitations. The condition assessment guidelines and percentages are defined in the "Condition Rating" section of this report. Functional limitations are based on factors associated with the tree's interaction to its planting site that would affect condition, limit development, or reduce the utility in the future and include genetics, placement, and site conditions for the individual tree. External limitations are outside the property, out of control of the owner and also affect condition, limit development, or reduce the utility in the future (i.e power lines, municipal restrictions, drought adaptations, or species susceptibility to pests).

There were 46 trees appraised for a rounded depreciated value of $179,600.00.

Appraisal worksheets are available upon request

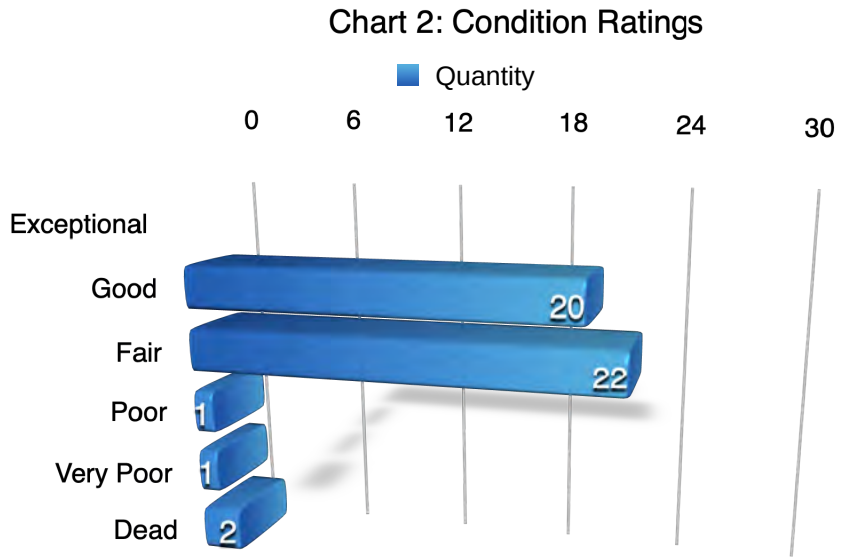
Discussion

Condition Rating

A tree's condition is a determination of its overall health, structure, and form. The assessment considered all three criteria for a combined condition rating.

- 100% - Exceptional = Good health and structure with significant size, location or quality.
- 61-80% - Good = Normal vigor, well-developed structure, function and aesthetics not compromised with good longevity for the site.
- 41-60 % - Fair = Reduced vigor, damage, dieback, or pest problems, at least one significant structural problem or multiple moderate defects requiring treatment. Major asymmetry or deviation from the species normal habit, function and aesthetics compromised.
- 21-40% - Poor = Unhealthy and declining appearance with poor vigor, abnormal foliar color, size or density with potential irreversible decline. One serious structural defect or multiple significant defects that cannot be corrected and failure may occur at any time. Significant asymmetry and compromised aesthetics and intended use.
- 6-20% - Very Poor = Poor vigor and dying with little foliage in irreversible decline. Severe defects with the likelihood of failure being probable or imminent. Aesthetically poor with little or no function in the landscape.
- 0-5% - Dead/Unstable = Dead or imminently ready to fail.

Twenty trees are in good condition, twenty-two fair, one poor, one very poor, and two coast redwoods are dead (Chart 2).



Suitability for Conservation

A tree's suitability for preservation is determined based on Functional and External Limitations[3] (ISA, 2019).

- Good = Trees with good health, structural stability and longevity.
- Fair = Trees with fair health and/or structural defects that may be mitigated through treatment. These trees require more intense management and monitoring, and may have shorter life spans than those in the good category.
- Poor = Trees in poor health with significant structural defects that cannot be mitigated and will continue to decline regardless of treatment. The species or individual may possess characteristics that are incompatible or undesirable in landscape settings or unsuited for the intended use of the site.

Trees in poor, very poor, or dead condition including a few Brazilian peppers are all poorly suited for retention. The Canary Island pines and coast live oaks have good suitability while the coast redwoods fair. Some redwoods are large and established while others are stunted and drought stressed. There is one lone Aleppo pine along the west side that has fair suitability but it appears out of place in the parking lot.

Expected Impact Level

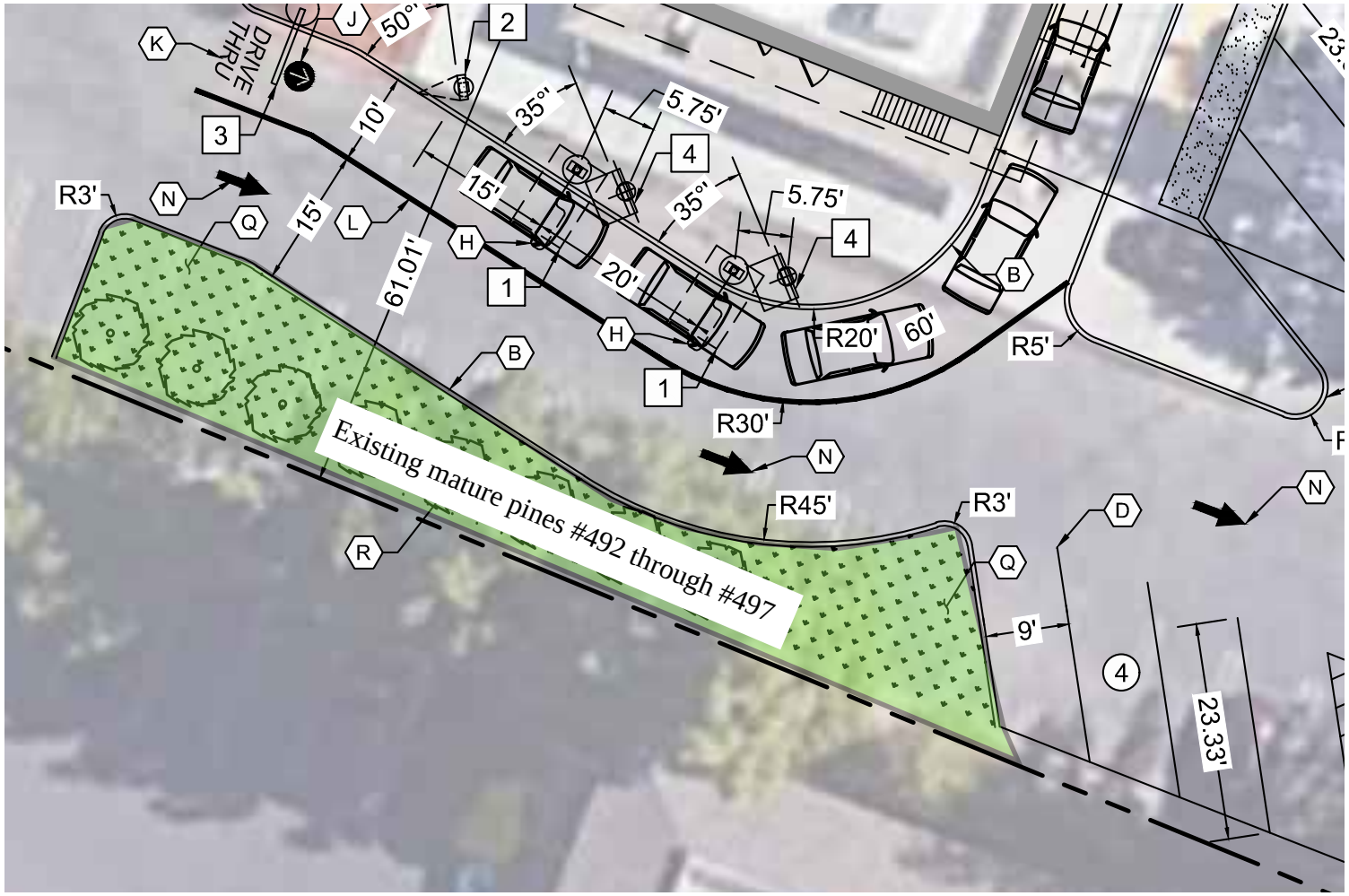
Impact level defines how a tree may be affected by construction activity and proximity to the tree, and is described as low, moderate, or high. The following scale defines the impact rating:

- Low = The construction activity will have little influence on the tree.
- Moderate = The construction may cause future health or structural problems, and steps must be taken to protect the tree to reduce future problems.
- High = Tree structure and health will be compromised and removal is recommended, or other actions must be taken for the tree to remain. The tree is located in the building envelope.

Six trees could be highly impacted by the proposed renovation and landscaping while the remaining trees around the parking lot will not be affected. There is limited detail provided on the extent of work around the six pines #492 through #497.

[3] Functional Limitations are based on factors associated with the tree's interaction to its planting site affecting plant condition, limiting plant development, or reducing the utility in the future and include genetics, placement, and site conditions for the individual tree (ISA, 2019). External Limitations are outside the property, out of control of the owner and also affect plant condition, limit plant development, or reduce the utility in the future (i.e power lines, municipal restrictions, drought adaptations, or species susceptibility to pests) (ISA, 2019).

The proposed landscape area “approximate location of proposed evergreen trees” already contains Canary Island pines #492 through #497. These are all healthy mature trees with roots extending into the existing parking lot evidenced by the heaving asphalt adjacent to the trees. Adding a landscape area on grade may be possible, or extending the existing planting area and removing the asphalt, but the existing trees will not allow for extensive renovation or soil cutting in this area. No other detail was provided.



Tree Protection

Typically there are three different tree protection schemes which are called Type I (Appendix D1), Type II and Type III (Appendix D2) trunk protection only. Tree protection focuses on avoiding damage to the roots, trunk, or scaffold branches (Appendix D). The most current accepted method for determining the TPZ is to use a formula based on species tolerance, tree age/vigor, and trunk diameter (Matheny, N. and Clark, J. 1998) (Fite, K, and Smiley, E. T., 2016). Preventing mechanical damage to the trunk from equipment or hand tools can be accomplished by wrapping the main stem with straw wattle or using vertical timbers (Appendix D).

All the trees are located in the parking lot islands around the perimeter of the site. Re-striping and a top coat over the existing asphalt will not affect the trees. If necessary a temporary barrier could be placed around the site just off the curb to prevent ingress and egress into the planting areas. This may be unnecessary. For Canary Island pines #492 through #497 they would need to have their trunks protected during proposed renovation and care not to destroy the surface roots under the existing asphalt will be required.

Conclusion

The plans indicate a new traffic flow pattern through the parking lot to accommodate a drive through for the McDonalds restaurant. The inventory contains 46 trees comprised of 9 different species. One coast live oak is considered Large Protected and two olive trees are Exempt. Twenty trees are in good condition, twenty-two fair, one poor, one very poor, and two coast redwoods are dead.Trees in poor, very poor, or dead condition and a few Brazilian peppers are considered invasive plants and poorly suited for retention. The Canary Island pines and coast live oaks have good suitability while the coast redwoods fair. Six trees could be highly impacted by the proposed renovation and landscaping while the remaining trees around the parking lot will not be affected. There is limited detail provided on the extent of work around the six pines #492 through #497. The proposed landscape area “approximate location of proposed evergreen trees” already contains Canary Island pines #492 through #497. These are all healthy mature trees with roots extending into the existing parking lot. Adding a landscape area on grade may be possible, or extending the existing planting area and removing the asphalt, but the existing trees will not allow for extensive renovation or soil cutting in this area. No other detail was provided. All the trees are located in the parking lot islands around the perimeter of the site. Re-striping and a top coat over the existing asphalt will not affect the trees. For Canary Island pines #492 through #497 they would need to have their trunks protected during proposed renovation and care not to destroy the surface roots under the existing asphalt will be required. There were 46 trees appraised for a rounded depreciated value of $179,600.00.

Recommendations

1. Produce a T-1 plan sheet to reflect the tree numbers provided in Appendix A and B of this report.

2. Maintain the current landscape and expand the planting bed adjacent to the Canary Island pines #492 through #497.

3. Protect the trunks of trees #492 through #497 by wrapping with wattle or bracing with timbers (Appendix D).

4. All tree maintenance and care shall be performed by a qualified arborist with a C-61/D-49 California Contractors License. Tree maintenance and care shall be specified in writing according to American National Standard for Tree Care Operations: *Tree, Shrub and Other Woody Plant Management: Standard Practices* parts 1 through 10 and adhere to ANSI Z133.1 safety standards and local regulations. All maintenance is to be performed according to ISA Best Management Practices.

5. Provide a copy of this report to all contractors and project managers, including the architect, civil engineer, and landscape designer or architect. It is the responsibility of the owner to ensure all parties are familiar with this document.

6. Arrange a pre-construction meeting with the project arborist or landscape architect to verify tree protection is in place, with the correct materials, and at the proper distances.

Bibliography

American National Standard for Tree Care Operations: Tree, Shrub and Other Woody Plant Management : Standard Practices (Management of Trees and Shrubs During Site Planning, Site Development, and Construction)(Part 5). Londonderry, NH: Secretariat, Tree Care Industry Association, 2019. Print.

Fite, Kelby, and Edgar Thomas. Smiley. *Managing trees during construction*, second edition. Champaign, IL: International Society of Arboriculture, 2016.

ISA. *Guide For Plant Appraisal 9th Edition*. Savoy, IL: International Society of Arboriculture, 2000. Print.

ISA. *Guide For Plant Appraisal 10th Edition*. Savoy, IL: International Society of Arboriculture, 2018. Print.

ISA. Species Classification and Group Assignment, 2004 Western Chapter Regional Supplement. Western Chapter ISA

Matheny, Nelda P., Clark, James R. Trees and development: A technical guide to preservation of trees during land development. Bedminster, PA: International Society of Arboriculture 1998.

Smiley, E, Matheny, N, Lilly, S, ISA. *Best Management Practices: Tree Risk Assessment:* International Society of Arboriculture, 2017. Print

Glossary of Terms

Basic Tree Cost: The cost of replacement for a perfect specimen of a particular species and cross sectional area prior to location and condition depreciation.

Cost Approach: An indication of value by adding the land value to the depreciated value of improvements.

Defect: An imperfection, weakness, or lack of something necessary. In trees defects are injuries, growth patterns, decay, or other conditions that reduce the tree's structural strength.

Diameter at breast height (DBH): Measures at 1.4 meters (4.5 feet) above ground in the United States, Australia (arboriculture), New Zealand, and when using the Guide for Plant Appraisal, 9th edition; at 1.3 meters (4.3 feet) above ground in Australia (forestry), Canada, the European Union, and in UK forestry; and at 1.5 meters (5 feet) above ground in UK arboriculture.

Drip Line: Imaginary line defined by the branch spread or a single plant or group of plants. The outer extent of the tree crown.

Form: describes a plant's habit, shape or silhouette defined by its genetics, environment, or management.

Health: Assessment is based on the overall appearance of the tree, its leaf and twig growth, and the presence and severity of insects or disease.

Mechanical damage: Physical damage caused by outside forces such as cutting, chopping or any mechanized device that may strike the tree trunk, roots or branches.

Scaffold branches: Permanent or structural branches that for the scaffold architecture or structure of a tree.

Straw wattle: also known as straw worms, bio-logs, straw noodles, or straw tubes are man made cylinders of compressed, weed free straw (wheat or rice), 8 to 12 inches in diameter and 20 to 25 feet long. They are encased in jute, nylon, or other photo degradable materials,
and have an average weight of 35 pounds.

Structural evaluation: focused on the crown, trunk, trunk flare, above ground roots and the site conditions contributing to conditions and/or defects that may contribute to failure.

Tree Protection Zone (TPZ): Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, especially during construction or development.

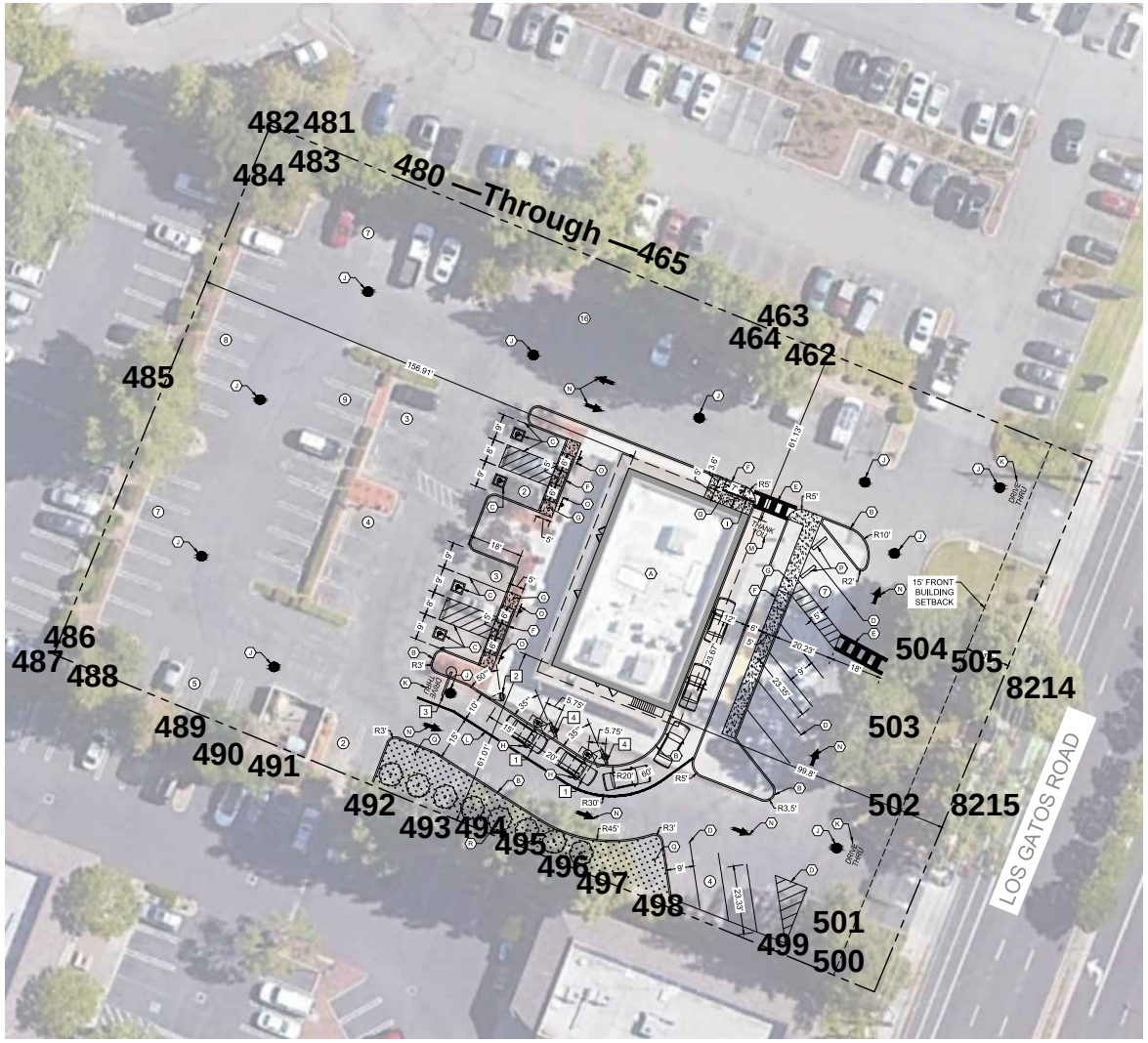
Tree Risk Assessment: Process of evaluating what unexpected things could happen, how likely it is, and what the likely outcomes are. In tree management, the systematic process to determine the level of risk posed by a tree, tree part, or group of trees.

Trunk: Stem of a tree.

Trunk Formula Technique: Method to appraise the monetary value of trees considered too large to be replaced with nursery or field grown stock. Based on developing a representative unit cost for replacement with the same or comparable species of the same size and in the same place, subject to depreciation for various factors. Contrast with replacement cost method.

Volunteer: A tree, not planted by human hands, that begins to grow on residential or commercial property. Unlike trees that are brought in and installed on property, volunteer trees usually spring up on their own from seeds placed onto the ground by natural causes or accidental transport by people. Normally, volunteer trees are considered weeds and removed, but many desirable and attractive specimens have gone on to become permanent residents on many public and private grounds.

Appendix A: Tree Inventory Map and Site Plan



Appendix B: Tree Inventory and Assessment Tables

Table 1

Tree Species	I.D. #	Trunk Diameter (in.)	~ Canopy Diameter (ft.)	Condition	Suitability for Preservation	Expected Impact	Status	Rounded Depreciated Value
Canary island pine (*Pinus canariensis*)	462	22	35	Fair	Good	Low	Protected	$4,810.00
Canary island pine (*Pinus canariensis*)	463	20	35	Good	Good	Low	Protected	$5,600.00
Canary island pine (*Pinus canariensis*)	464	23	35	Good	Good	Low	Protected	$7,400.00
Brazilian pepper (*Schinus terebinthifolius*)	465	7, 4, 4	20	Fair	Poor	Low	Protected	$490.00
Brazilian pepper (*Schinus terebinthifolius*)	466	10	20	Fair	Poor	Low	Protected	$600.00
Brazilian pepper (*Schinus terebinthifolius*)	467	4,3, 2	20	Fair	Poor	Low	Protected	$150.00
Xylosma (*Xylosma congestum*)	468	8	20	Fair	Fair	Low	Protected	$640.00
Brazilian pepper (*Schinus terebinthifolius*)	469	7, 5, 9, 4	20	Fair	Poor	Low	Protected	$1,020.00
Xylosma (*Xylosma congestum*)	470	4	20	Fair	Fair	Low	Protected	$160.00
Xylosma (*Xylosma congestum*)	471	7, 4,5	20	Fair	Fair	Low	Protected	$810.00
coast redwood (*Sequoia sempervirens*)	472	16	20	Very poor	Poor	Low	Protected	$480.00
coast live oak (*Quercus agrifolia*)	473	9, 12	20	Good	Good	Low	Protected	$3,130.00

Tree Species	I.D. #	Trunk Diameter (in.)	~ Canopy Diameter (ft.)	Condition	Suitability for Preservation	Expected Impact	Status	Rounded Depreciated Value
coast redwood (*Sequoia sempervirens*)	474	28	20	Good	Good	Low	Protected	$6,800.00
Xylosma (*Xylosma congestum*)	475	3, 2	20	Fair	Fair	Low	Protected	$160.00
Xylosma (*Xylosma congestum*)	476	10	20	Fair	Fair	Low	Protected	$1,000.00
Xylosma (*Xylosma congestum*)	477	9	20	Fair	Fair	Low	Protected	$810.00
Xylosma (*Xylosma congestum*)	478	6	20	Fair	Fair	Low	Protected	$360.00
Xylosma (*Xylosma congestum*)	479	8	20	Fair	Fair	Low	Protected	$640.00
Xylosma (*Xylosma congestum*)	480	6	20	Fair	Fair	Low	Protected	$360.00
coast redwood (*Sequoia sempervirens*)	481	15	20	Fair	Fair	Low	Protected	$1,390.00
coast live oak (*Quercus agrifolia*)	482	15, 13	35	Fair	Good	Low	Large Protected	$3,980.00
coast redwood (*Sequoia sempervirens*)	483	15	20	Fair	Fair	Low	Protected	$1,390.00
coast redwood (*Sequoia sempervirens*)	484	14	20	Fair	Fair	Low	Protected	$1,210.00
Aleppo pine (*Pinus halapensis*)	485	30	35	Fair	Fair	Low	Protected	$7,000.00
coast redwood (*Sequoia sempervirens*)	486	15	20	Good	Fair	Low	Protected	$1,950.00
coast redwood (*Sequoia sempervirens*)	487	23	20	Good	Fair	Low	Protected	$4,580.00

Tree Species	I.D. #	Trunk Diameter (in.)	~ Canopy Diameter (ft.)	Condition	Suitability for Preservation	Expected Impact	Status	Rounded Depreciated Value
coast redwood (*Sequoia sempervirens*)	488	17	20	Good	Fair	Low	Protected	$2,500.00
coast redwood (*Sequoia sempervirens*)	489	20	20	Dead	Fair	Low	Protected	$0.00
coast live oak (*Quercus agrifolia*)	490	12	25	Good	Good	Low	Protected	$2,010.00
coast redwood (*Sequoia sempervirens*)	491	18	20	Dead	Poor	Low	Protected	$0.00
Canary island pine (*Pinus canariensis*)	492	22	30	Good	Good	Moderate-High	Protected	$6,700.00
Canary island pine (*Pinus canariensis*)	493	11	20	Good	Good	Moderate-High	Protected	$1,680.00
Canary island pine (*Pinus canariensis*)	494	27	30	Good	Good	Moderate-High	Protected	$10,200.00
Canary island pine (*Pinus canariensis*)	495	26.5	30	Good	Good	Moderate-High	Protected	$9,800.00
Canary island pine (*Pinus canariensis*)	496	25.5	30	Good	Good	Moderate-High	Protected	$9,100.00
Canary island pine (*Pinus canariensis*)	497	31	30	Good	Good	Moderate-High	Protected	$13,400.00
coast redwood (*Sequoia sempervirens*)	498	7	10	Good	Good	Low	Protected	$420.00
coast redwood (*Sequoia sempervirens*)	499	28	35	Good	Good	Low	Protected	$6,800.00
coast redwood (*Sequoia sempervirens*)	500	33	35	Good	Good	Low	Protected	$9,400.00

Tree Species	I.D. #	Trunk Diameter (in.)	~ Canopy Diameter (ft.)	Condition	Suitability for Preservation	Expected Impact	Status	Rounded Depreciated Value
coast redwood (*Sequoia sempervirens*)	501	29	35	Good	Good	Low	Protected	$7,300.00
olive (*Olea europaea*)	502	11, 11	15	Fair	Poor	Low	Exempt	$2,240.00
incense cedar (*Calocedrus decurrens*)	503	46	35	Good	Fair	Low	Protected	$22,900.00
coast redwood (*Sequoia sempervirens*)	504	36	35	Good	Good	Low	Protected	$11,200.00
olive (*Olea europaea*)	505	7, 9, 9	15	Poor	Poor	Low	Exempt	$1,340.00
London plane (*Platanus x hispanica*)	8214	15.5	30	Fair	Good	Low	Street Tree	$2,390.00
London plane (*Platanus x hispanica*)	8215	18.5	30	Fair	Good	Low	Street Tree	$3,400.00

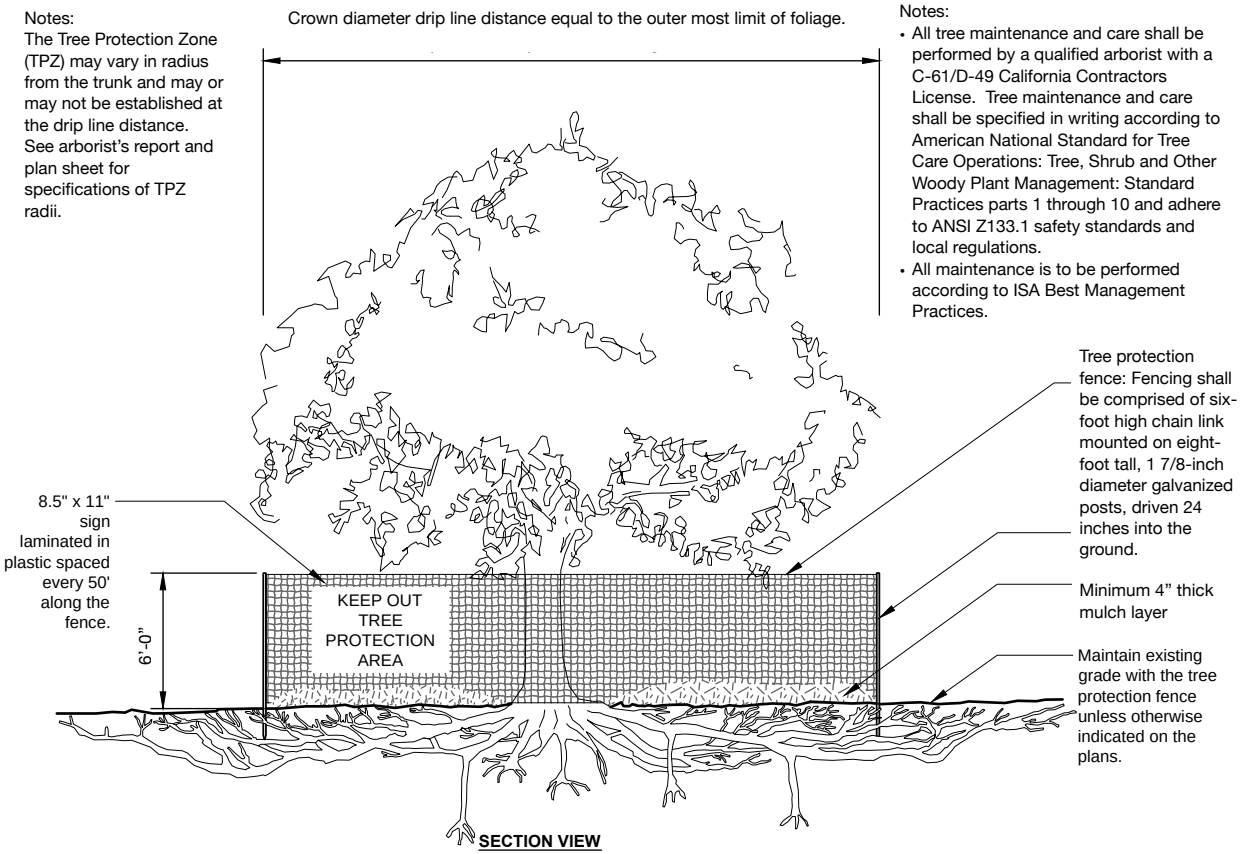
Appendix C: Photographs

C1: Canary island pines 492 to 497

C2: Dead redwoods 489 and 491

Appendix D: Tree Protection Guidelines

D1: Plan Sheet Detail S-X (Type I)



S-X TREE PROTECTION

D2: Plan Sheet Detail S-Y (Type III)

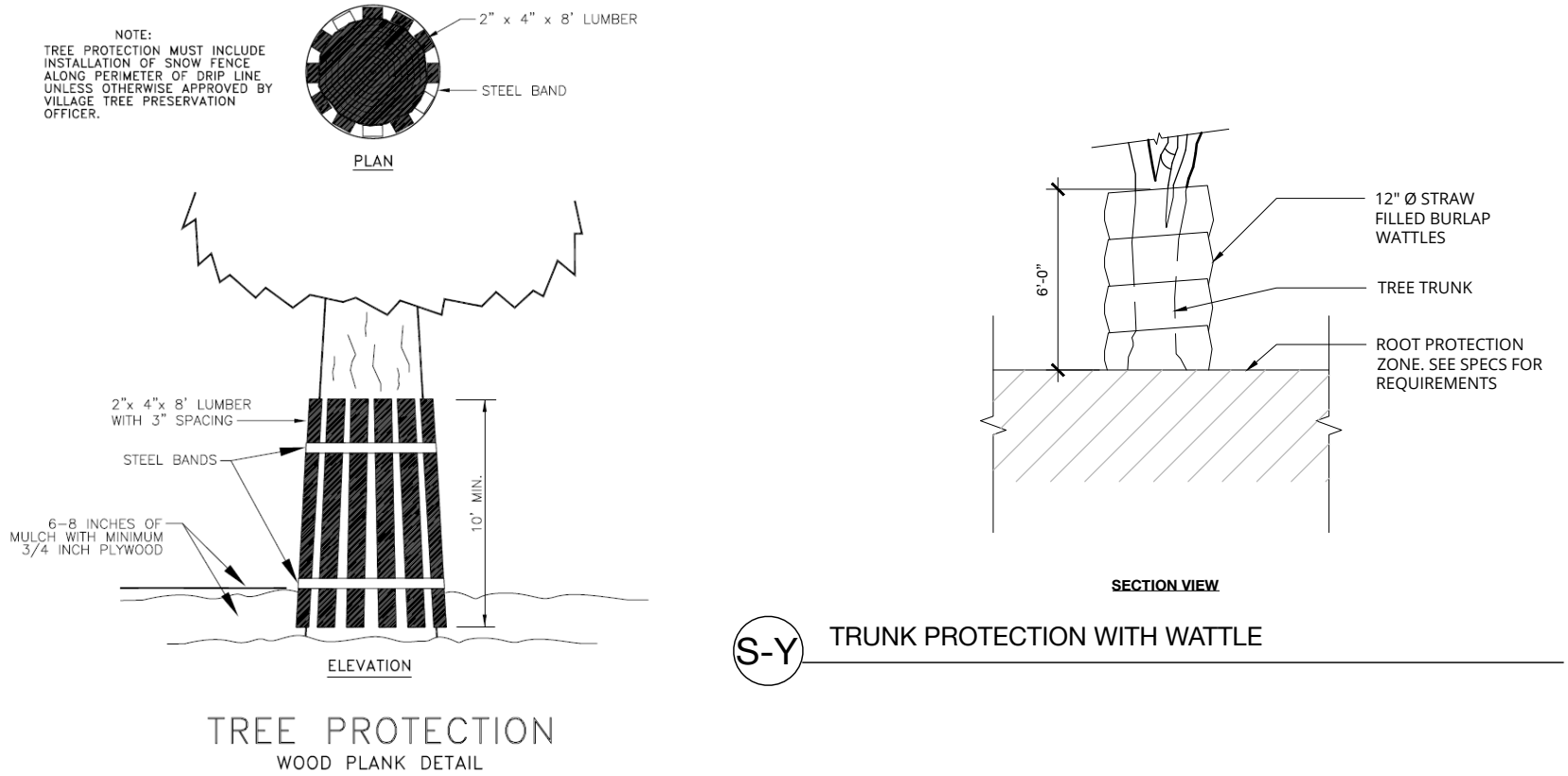


IMAGE 2: BRACING WITH TIMBERS

D3: Section 29.10.1005. - Protection of Trees During Construction

Tree Protection Zones and Fence Specifications

1. **Size and materials:** Six (6) foot high chain link fencing, mounted on two-inch diameter galvanized iron posts, shall be driven into the ground to a depth of at least two (2) feet at no more than ten-foot spacing. For paving area that will not be demolished and when stipulated in a tree preservation plan, posts may be supported by a concrete base.
2. **Area type to be fenced:** Type I: Enclosure with chain link fencing of either the entire dripline area or at the tree protection zone (TPZ), when specified by a certified or consulting arborist. Type II: Enclosure for street trees located in a planter strip: chain link fence around the entire planter strip to the outer branches. Type III: Protection for a tree located in a small planter cutout only (such as downtown): orange plastic fencing shall be wrapped around the trunk from the ground to the first branch with two-inch wooden boards bound securely on the outside. Caution shall be used to avoid damaging any bark or branches.
3. **Duration of Type I, II, III fencing:** Fencing shall be erected before demolition, grading or construction permits are issued and remain in place until the work is completed. Contractor shall first obtain the approval of the project arborist on record prior to removing a tree protection fence.
4. **Warning Sign:** Each tree fence shall have prominently displayed an eight and one-half-inch by eleven-inch sign stating: "Warning —Tree Protection Zone—This fence shall not be removed and is subject to penalty according to Town Code 29.10.1025.” Text on the signs should be in both English and Spanish (Appendix E).

All persons, shall comply with the following precautions

1. Prior to the commencement of construction, install the fence at the dripline, or tree protection zone (TPZ) when specified in an approved arborist report, around any tree and/or vegetation to be retained which could be affected by the construction and prohibit any storage of construction materials or other materials, equipment cleaning, or parking of vehicles within the TPZ. The dripline shall not be altered in any way so as to increase the encroachment of the construction.
2. Prohibit all construction activities within the TPZ, including but not limited to: excavation, grading, drainage and leveling within the dripline of the tree unless approved by the Director.
3. Prohibit disposal or depositing of oil, gasoline, chemicals or other harmful materials within the dripline of or in drainage channels, swales or areas that may lead to the dripline of a protected tree.
4. Prohibit the attachment of wires, signs or ropes to any protected tree.
5. Design utility services and irrigation lines to be located outside of the dripline when feasible.
6. Retain the services of a certified or consulting arborist who shall serve as the project arborist for periodic monitoring of the project site and the health of those trees to be preserved. The project arborist shall be present whenever activities occur which may pose a potential threat to the health of the trees to be preserved and shall document all site visits.
7. The Director and project arborist shall be notified of any damage that occurs to a protected tree during construction so that proper treatment may be administered.

Prohibited Activities

The following are prohibited activities within the TPZ:

- Grade changes (e.g. soil cuts, fills);
- Trenches;
- Root cuts;
- Pedestrian and equipment traffic that could compact the soil or physically damage roots;
- Parking vehicles or equipment;
- Burning of brush and woody debris;
- Storing soil, construction materials, petroleum products, water, or building refuse; and,
- Disposing of wash water, fuel or other potentially damaging liquids.

Monitoring

Any trenching, construction or demolition that is expected to damage or encounter tree roots should be monitored by the project arborist or a qualified ISA Certified Arborist and should be documented.

The site should be evaluated by the project arborist or a qualified ISA Certified Arborist after construction is complete, and any necessary remedial work that needs to be performed should be noted.

Root Pruning

Roots greater than two inches in diameter shall not be cut. When roots over two inches in diameter are encountered and are authorized to be cut or removed, they should be pruned by hand with loppers, handsaw, reciprocating saw, or chain saw rather than left crushed or torn. Roots should be cut beyond sinker roots or outside root branch junctions and be supervised by the project arborist. When completed, exposed roots should be kept moist with burlap or backfilled within one hour.

Boring or Tunneling

Boring machines should be set up outside the drip line or established Tree Protection Zone. Boring may also be performed by digging a trench on both sides of the tree until roots one inch in diameter are encountered and then hand dug or excavated with an Air Spade® or similar air or water excavation tool. Bore holes should be adjacent to the trunk and never go directly under the main stem to avoid oblique (heart) roots. Bore holes should be a minimum of three feet deep.

Tree Pruning and Removal Operations

All tree pruning or removals should be performed by a qualified arborist with a C-61/D-49 California Contractors License. Treatment, including pruning, shall be specified in writing according to the most recent ANSI A-300A Standards and Limitations and performed according to ISA Best Management Practices while adhering to ANSI Z133.1 safety standards. Trees that need to be removed or pruned should be identified in the pre-construction walk through.

Appendix E: Tree Protection Signs

E1: English

Warning
Tree Protection Zone

This Fence Shall Not Be Removed
And Is Subject To Penalty According To
Town Code 29.10.1025

E2: Spanish

Cuidado
Zona De Arbol Pretejido

Esta valla no podrán ser sacados
Y está sujeta a sanción en función de
Código Ciudad del 29.101025

Qualifications, Assumptions, and Limiting Conditions

Any legal description provided to the consultant is assumed to be correct. Any titles or ownership of properties are assumed to be good and marketable. All property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

All property is presumed to be in conformance with applicable codes, ordinances, statutes, or other regulations.

Care has been taken to obtain information from reliable sources. However, the consultant cannot be responsible for the accuracy of information provided by others.

The consultant shall not be required to give testimony or attend meetings, hearings, conferences, mediations, arbitration, or trials by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

This report and any appraisal value expressed herein represent the opinion of the consultant, and the consultant's fee is not contingent upon the reporting of a specified appraisal value, a stipulated result, or the occurrence of a subsequent event.

Sketches, drawings, and photographs in this report are intended for use as visual aids, are not necessarily to scale, and should not be construed as engineering or architectural reports or surveys. The reproduction of information generated by architects, engineers, or other consultants on any sketches, drawings, or photographs is only for coordination and ease of reference. Inclusion of said information with any drawings or other documents does not constitute a representation as to the sufficiency or accuracy of said information.

Unless otherwise expressed: a) this report covers only examined items and their condition at the time of inspection; and b) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that structural problems or deficiencies of plants or property may not arise in the future.

Certification of Performance

I Richard Gessner, 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/or appraisal is stated in the attached report and Terms of Assignment;

That I have no current or prospective interest in the vegetation or the property that is the subject of this report, and I 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, nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any other subsequent events;

I further certify that I am a Registered Consulting Arborist® with 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 Board Certified Master Arborist®. I have been involved with the practice of Arboriculture and the care and study of trees since 1998.

Richard J. Gessner

ASCA Registered Consulting Arborist® #496
ISA Board Certified Master Arborist® WE-4341B

Copyright

This Page
Intentionally
Left Blank