

**ATHERTON LIBRARY BUILDING PROJECT  
ENVIRONMENTAL SCREENING ANALYSIS**

LSA

July 2011

# ATHERTON LIBRARY BUILDING PROJECT ENVIRONMENTAL SCREENING ANALYSIS

Submitted to:

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# **ATHERTON LIBRARY BUILDING PROJECT ENVIRONMENTAL SCREENING ANALYSIS**

The purpose of this report is to assist the Town of Atherton and the Atherton Library Building Steering Committee (ALBSC) in identifying the environmental constraints associated with construction of a new library at three potential buildings sites that are currently under consideration. It is anticipated that the Town will select a preferred site, which will be subject to further site plan development and refinement and more detailed environmental review to comply with the requirements of the California Environmental Quality Act (CEQA).

This report begins with a brief description of existing library operations and facilities and a background discussion on the need for a new library and the process undertaken by the Town and ALBSC to address this need. Existing conditions and potential development scenarios for the three potential sites are then described, beginning with the existing library location (Site A), followed by two locations within Holbrook-Palmer Park (Park) (Sites B and C). The remainder of the report includes a preliminary assessment of three environmental issue topics at each location: biological resources; cultural resources; and transportation and parking. These issue topics were selected for analysis based on the potential for environmental impacts to occur. Remaining environmental issue topics will be addressed in the environmental documentation prepared for the selected site. The report concludes with a summary of the findings identified in the analysis. All figures are included in Attachment A to this report.

## **A. CURRENT LIBRARY OPERATIONS AND FACILITIES**

In 1931 the San Mateo County Library began providing library service to the Atherton community in what is now Town Hall. In 1999, the San Mateo County Library Joint Powers Authority (JPA) was established, which shifted governance from the County Board of Supervisors to the representatives of the JPA Governing Board's member entities. Library service and operations are provided by the San Mateo County Library and facilities are owned and maintained by each member entity.

The Atherton Library is located at 2 Dinkelspiel (Station) Lane in the Town of Atherton, California. The library is generally surrounded by civic, residential, and transportation uses. The 6,038 square-foot two-story building currently serves the Town of Atherton as well as nearby, unincorporated areas of San Mateo County, for a service population of approximately 16,436. Current services include materials collection, children's and family programming; events for Friends of the Library; and access to larger collections. The public space in the library is all located on the first floor and consists of: the entry; browsing area; self and assisted service points; technology area; children's collection and seating; adult collection and seating; and teen collection and seating. Staff and building support spaces are located on both the first and second floors. Approximately 4,790 square feet of the building area consists of usable space.

The library includes a collection size of approximately 32,726 items (1.99 per capita). There are 22 seats available for adult readers and 28 seats in the children's area. Desk areas accommodate 8 computers for public use. There are no separate program or meeting rooms aside from the children's area.

The library operates approximately 57 hours per week, from 10:00 a.m. to 8:00 p.m. Monday through Wednesday; 10:00 a.m. to 6:00 p.m. Thursday through Friday; 10:00 a.m. to 5:00 p.m. on Saturdays; and 1:00 p.m. to 5:00 p.m. on Sundays. There are a total of eight full- and part-time staff members and aides.

## **B. NEW LIBRARY BACKGROUND**

Based on the expressed interest in the improvement of the Atherton Library and the completion by the Town of a Structural Facility Evaluation in 2009, the San Mateo County Library completed a Library Needs Assessment during fiscal year 2009-2010.<sup>1</sup> The Library Needs Assessment findings indicate that the existing facility presents significant barriers to the effective delivery of modern library services. Specifically, the current library facilities are located in a remodeled residence which was not designed for library use. Despite various renovations, issues with accessibility still exist. The open floor plan creates acoustical issues for different types of uses, especially when activities are taking place concurrently. The entry lobby and browsing area are undersized and overcrowded. In addition, staff space is laid out inefficiently. The report recommends that in order to effectively meet identified service needs, the facility would require an increase from the current 4,790 square feet to approximately 11,100 square feet. Please refer to the Library Needs Assessment for further detail on the study's methods and recommendations.

The recommendations in the Library Needs Assessment resulted in the formation of the ALBSC which will oversee construction of the new library and guide the planning process. An architectural firm, Group 4 Architecture Research + Planning, Inc. has been hired to develop a library building program, and preliminary concept drawings for Phase I of the project, and to complete the site selection process. The site approval process, overall concept of the new library, environmental review, and community participation will also be completed during Phase I, which will then provide the basis for Phase II, the schematic design phase.

## **C. SITE LOCATIONS**

As previously discussed, three possible sites are currently under consideration for development of the new 11,100 square foot library: the existing library site at 2 Dinkelspiel (Station) Lane (Site A) and two sites located within Holbrook-Palmer Park (Sites B and C). These site locations and regional context are shown in Figure 1 and an aerial view of the potential sites is shown in Figure 2. The existing conditions and potential building program for each of these potential sites are discussed in detail below.

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<sup>1</sup> Anderson Brule Architects, Inc., 2010. *Atherton Library Needs Assessment*. Prepared for the San Mateo County Library. February 10.

## 1. Existing Library Site (Site A)

As previously described, the existing library is located at 2 Dinkelspiel (Station) Lane. The 6,038 square foot two-story building occupies approximately 15 percent of the approximately 40,544 square foot site and is situated at the site's northwestern boundary. The remainder of the site is characterized by a garden-like setting and is developed with landscaping, an open lawn area, a small plaza, a circular paved pathway and various art sculptures, planter boxes, and sitting areas. Approximately 36 mature redwood trees are located at the site's southwest perimeter. There are 12 off-street parking spaces dedicated for library use located in two separate lots perpendicular to the west side of Dinkelspiel (Station) Lane. In addition, there are 5 parallel off-street spaces parallel to the east side of the roadway and approximately 16 additional parallel on-street parking spaces to the west side of Dinkelspiel (Station) Lane and Ashfield Road for a total combination of 33 dedicated and shared spaces available to library users.

The library building and Atherton Town Hall were originally built in 1929. The existing library was originally designed as a private residence and was occupied by the former police chief. In 1966, the library relocated from the existing Town Hall building and the home was converted for library use. In 1967, an entryway, children's area and main reading area were added and a ramp was also added to the back of the reading room to allow access to the exterior garden. In 1981, the building was again expanded and a new lobby, restrooms, and ramp at the primary entrance were added. The lobby and children's room were also converted into a staff area. Interior renovations were completed in 2000.

The site is located in an area with a variety of uses. The library building is immediately bordered to the north by the Atherton Town Hall and council chambers, located at the corner of Dinkelspiel (Station) Lane and Ashfield Road. The Town's administrative offices and police department are located farther north, across Ashfield Road. Approximately 52 parking spaces are available to serve these facilities. The Atherton Caltrain Station is located northeast of the site, near the intersection of Fair Oaks Lane and Dinkelspiel (Station) Lane. This station is only served by Caltrain on weekends and holidays, although trains regularly pass through on the way to the Redwood City and Menlo Park stations. Approximately 96 spaces are available for this use.

The site is bordered on the east by Dinkelspiel (Station) Lane and the Town's Permit Office, Public Works Office, and Corporation Yard and associated parking areas that are heavily screened by existing vegetation. The Caltrain rail line corridor is located immediately east of these uses. Maple Avenue borders the site to the south. The site is bounded by single-family residential neighborhoods on both the south and west.

As shown in Figure 3, development of the new 11,100 square foot library at this location would require demolition of the existing structure and removal of approximately three trees. Site coverage would increase to approximately 32 percent and the existing 33 on- and off-street parking spaces may or may not remain depending on the scenario chosen. The existing library site is generally referred to as "Site A" throughout this analysis.

## 2. Holbrook Palmer Park Sites (Sites B and C)

Holbrook-Palmer Park is located at 150 Watkins Avenue and is the only public park located in the Town of Atherton. The approximately 22-acre park is characterized by civic, recreational, and pastoral uses. Civic uses include the Main House, Pavilion, and Carriage House which are used for

various private and community events, meetings, and classes, and the lawn, plaza, and garden areas also associated with these uses. A day-care center, the Park Corporation Yard, a Water Tower, City Manager's Residence, restrooms, and a gazebo comprise the remaining structures within the Park. Recreational uses within the Park include tennis courts, open lawn areas, walking paths, picnic areas, a playground, sports fields, and an informal amphitheater. The remainder of the Park includes natural and landscaped areas. The Park is generally open for public use from 7:30 a.m. to sunset, Monday through Friday and from 8:30 a.m. to sunset on weekends and holidays. Scheduled meetings and events at the various facilities may extend to approximately 12:00 a.m. (midnight).

The Main House was originally constructed as a private residence in 1959-1960 on the site of the "Elmwood," a mansion built in the 1870s. In December 1958 the original mansion was destroyed in a fire. The Main House consists of a 700 square foot meeting room, two smaller rooms, and a fully-equipped kitchen. Maximum capacity of the Main House is approximately 70 people. The Pavilion was constructed in 1977 to expand the private and community space available within the Park. Together, the two facilities can accommodate 150 persons indoors and a total of 250 when the outdoor patios are also used. The Carriage House, recognized by the Town of Atherton as a "Historical Site," was built to replace the original barn that was destroyed by fire in 1896. The maximum capacity of the Carriage House is approximately 90 persons. The Water Tower, also recognized by the Town of Atherton as a "Historical Site," dates from the 1870s and provides a visual point of interest within the Park.

Ingress and egress to the Park is provided by two separate one-way driveways on Watkins Avenue and north of McCormick Lane, referred to as the "Park entrance" and "Park exit." Vehicular circulation throughout the Park provides access to three internal parking lots, which accommodate 58, 22, and 44 parking spots, respectively, for a total of 124 formal parking spaces. Approximately 36 parallel parking spaces are also available along the internal driveway that runs through the center of the Park. Event parking on the open lawn areas can accommodate an additional 80 vehicles.

The Park is surrounded by single-family residential neighborhoods and dense vegetation on all sides. Watkins Avenue and the Atherton Channel storm drainage conduit border the site to the north and the Caltrain rail line corridor borders the site to the west.

Two possible locations within the Park are currently under consideration for construction of the new library. Each of these two possible scenarios are described in more detail below, and these locations are referred to throughout this analysis as "Site B" and "Site C," as depicted in Figures 4 and 5. In both cases the Main House would be demolished since, through the Holbrook-Palmer Park Master Planning process in 2004/2005, the community has expressed a desire to not add any additional structures to the Park. However, it is possible that some of the uses (e.g., meetings, classes, events) currently accommodated by the Main Residence could be absorbed by the Pavilion, Carriage House, or even the new library space.

**a. Main House Site (Site B).** The Main House Site (Site B) is located within the general building area of the existing Main House. Approximately 21,500 square feet of potential building area is available at this location. Development of the new 11,100 square foot library at this site would require demolition of the existing structure and removal of four protected trees. All driveways and parking spaces within the Park, including the existing 24-space parking area immediately adjacent to and north of the Main House, would be retained.

**b. Parking Lot Site (Site C).** The Parking Lot Site (Site C) is located at the site of the main parking area that currently accommodates approximately 59 spaces. Approximately 12,000 square feet of potential building area is available at this location. All of these parking spaces would be removed with development of the library at this site, for an overall reduction in parking to approximately 94 dedicated spaces. Two protected trees would also be removed. The Main House would also be demolished and an informal amphitheater/grass knoll would take its place.

The parking area immediately east of and adjacent to the existing Main House would be retained and expanded, to replace some of the lost spaces. A new parking area, with ADA access, would also be developed immediately adjacent to and north of the new building. The existing emergency vehicle access roadway that currently provides access to the Main House would be removed and replaced with open meadows. Emergency access to the new building would be available from the main driveway within the Park, immediately to the west of the site.

## **D. SCREENING ANALYSIS**

The screening analysis outlined below identifies potential environmental constraints at each of the three development sites. The topics of biological resources, cultural resources, and transportation and parking are addressed. Where potential environmental constraints are identified, the discussion notes whether or not the impacts may be reduced to a less-than-significant level with the implementation of standard mitigation measures. A summary of the findings is included at the end of this chapter and a comparison of potential impacts at each of the sites, both with and without mitigation, is presented in Table 1. Please note that additional environmental analysis of the preferred site, when selected, will be undertaken and a CEQA document will be prepared.

### **1. Biological Resources**

Both the existing library site and the Holbrook Palmer Park sites are located within developed areas of the Town. Although the Town supports an abundance of native and ornamental trees, the dense residential development and railroad corridor provide limited habitat for native wildlife except those species that are tolerant of human disturbance. An LSA biologist visited both sites to identify potential biological resources constraints. LSA's arborist also informally surveyed both sites with the Town Arborist. Available literature, including the California Natural Diversity Data Base (CNDDB), was also reviewed. As further described in the analysis below, impacts to biological resources are expected to be limited to tree removal.

Chapter 8.10 of the Town's Municipal Code addresses removal and damage to heritage trees. Heritage trees are defined as any tree, "located in the tree preservation area, or a native oak tree located anywhere on a lot, which has a trunk circumference of 48-inches or more, when measured 48-inches above the natural grade." A "tree preservation area" is defined as the area outside the building area of the lot (assumed in this report to occur within 30 feet of the building footprint) and includes trees to be protected. A permit is required for removal of heritage trees. As stated in Section 8.10.040(F) of the Municipal Code, for each heritage tree permitted to be removed, the permittee may be required to plant three trees of 15-gallon container size; or two trees of 24-inch box container size; or one tree of 15-gallon container size and one tree of 36-inch container size. Where native heritage oak trees are allowed to be removed from within the buildable area, they are required to be replaced

with one or more trees of 48-inch container size of native oak species at a location approved by the Planning Commission.

**a. Existing Library Site (Site A).** Site A is located within an urban setting, and is mostly developed with perennial ornamental and native landscaping, thus impacts to special-status plant and animal species are not expected. No wetlands or other sensitive habitat communities were observed at Site A. Impacts to biological resources at Site A consist of the following: (1) potential impacts to nesting native birds; (2) removal of two protected trees; and (3) potential impacts to 31 protected trees within 30 feet of the development footprint (see Attachment B, Figure A).

Project construction would result in the removal of ornamental trees and shrubs that could be used by nesting birds. If conducted during the nesting season (February 1–August 31), construction activities could directly impact nesting birds by removing trees or shrubs that support active nests. Construction-related disturbance (e.g., noise, vehicle traffic, personnel working adjacent to suitable nesting habitat) could also indirectly impact nesting birds by causing adults to abandon nests in nearby trees or other vegetation, resulting in nest failure and reduced reproductive potential. The nests of native birds are protected under the federal Migratory Bird Treaty Act and Section 3503 of the California Fish and Game Code. To reduce potential impacts to nesting birds to a less-than-significant level, it is recommended that vegetation removal activities be limited to the non-breeding season (September 1–January 31) or, if such activities are scheduled during the breeding season, it is recommended that a qualified biologist conduct a preconstruction nest survey of all trees or other suitable nesting habitat prior to commencement of construction activities. The biologist's recommendations for protection of identified nests should also be implemented.

As shown in Figure A, heritage trees within the 13,000 square foot building site include two native coast live oaks (*Quercus agrifolia*). One coast redwood (*Sequoia sempervirens*) that is not considered a heritage tree would also be removed from the site. The coast live oaks would be permanently removed from Site A and planting of replacement trees would be required to mitigate this loss. To mitigate the loss of two native coast live oaks, a minimum of two 48-inch container sized trees would be planted (loss: replacement ratio of 1:1).

Trees adjacent to the footprint consist of three native coast live oaks, one native valley oak (*Quercus lobata*), 26 native coast redwood, and one ornamental carob tree (*Ceratonia siliqua*). The Town requires that a tree preservation area be established to protect trees outside of the proposed development footprint, generally within 30 feet.

**b. Holbrook Palmer Park Sites (Sites B and C).** The Holbrook Palmer Park sites are located within an urban area that is mostly developed with ornamental and native landscaping; therefore, impacts to special-status plant and animal species are not expected. No wetlands or other sensitive habitat communities were observed within the vicinity of either potential site location within the Park.

**Main House Site (Site B).** Impacts to biological resources at Site B consist of the following: (1) potential impacts to nesting native birds and (2) potential impacts to 10 protected trees within 30 feet of the development footprint (see Attachment B, Figure B).

As discussed above, under the Site A analysis, potential impacts to nesting birds can be mitigated to a less-than-significant level with the implementation of standard mitigation measures to be implemented prior to and during the construction period.

There are no heritage trees within the 12,000 square foot potential building footprint. Four American sweet gum trees (*Liquidambar styraciflua*), that are not heritage trees would be permanently removed as a result of site development. No replacement of these trees would be required.

Trees adjacent to the footprint include three coast live oaks, two native coast redwood, two bunya-bunya (*Auricularia bidwillii*), one southern magnolia (*Magnolia grandiflora*), one American elm (*Ulmus americanus*), and one glossy privet (*Ligustrum lucidum*). A tree preservation area would be established to protect trees within the 30-foot area outside of the development footprint.

**Parking Lot Site (Site C).** Impacts to biological resources at Site C consist of the following: (1) potential impacts to nesting native birds and (2) potential impacts to 10 protected trees within 30 feet of the development footprint (see Attachment B, Figure C).

As discussed above, under the Site A analysis, potential impacts to nesting birds can be mitigated to a less-than-significant level with the implementation of standard mitigation measures to be implemented prior to and during the construction period.

There are no heritage trees within the 21,000 square foot potential building footprint. Two American sweet gum trees would be removed with development of the site, but these are not protected heritage trees and no mitigation would be required.

Trees within the 30-foot are outside the building footprint include three white alder (*Alnus rhombifolia*), four native coast live oak, one Canary Island date palm (*Phoenix canariensis*), one American elm (*Ulmus americana*), and one Deodar cedar (*Cedrus deodara*). A tree preservation area would be established to protect trees within the area outside of the development footprint.

## 2. Cultural Resources

To identify potential impacts to cultural resources, LSA conducted a records search at the Northwest Information Center (NWIC),<sup>1</sup> reviewed documentation on file at the Town of Atherton Heritage Room, and reviewed each of the potential sites for possible impacts related to cultural resources. An analysis of potential impacts is provided below.

**a. Existing Library Site (Site A).** The NWIC records search did not identify any recorded cultural resources or previous cultural resources studies of Site A.

Preliminary background research and a field review by an LSA architectural historian identified a potential historical resource within and adjacent to Site A: the existing Atherton Library and Town Hall, jointly constructed in 1929. The Town Hall portion is recognized by the Town of Atherton as a "Historical Site." Due to the building's historical association with significant events (the development of municipal services in Atherton), and its distinctive characteristics of a type and period of construc-

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<sup>1</sup> The NWIC is an affiliate of the State Office of Historic Preservation and is the official repository for cultural resources records and reports for San Mateo County.

tion (Spanish Eclectic), this building may be eligible for listing in the California Register of Historical Resources under criteria 1 and 3 and a “historical resource” for purposes of CEQA (see *CEQA Guidelines* Section 15064.5(a)(3)).

The Spanish Eclectic-style Town Hall and former residential portion of the building (now the existing Atherton Library) were jointly constructed in 1929, with subsequent additions to the library building done in 1967 and 1981 following the 1966 transfer of the residential portion to an Atherton Branch of the San Mateo County Public Library. Despite these additions, however, the building appears to retain its integrity of location, association, feeling, and setting. Its integrity of design, materials, and workmanship, however, may be compromised by the additions.

*Due to its potential historical significance, demolition of the existing Atherton Library would likely constitute a potentially significant impact to a historical resource under CEQA, requiring the preparation of an Environmental Impact Report.* Mitigation of project impacts to a historical resource may include photodocumentation, preparation of a historical context report for local historical archives, public interpretation and outreach, and salvage of historically defining elements for re-use off site. In most instances, however, demolition of a historical resource is a significant unavoidable impact.

A field review by an LSA archaeologist did not identify any surface indicators of archaeological or paleontological remains. It should be noted, however, that much of the ground surface was obscured by landscape and hardscape features, and the potential for encountering such remains during project ground-disturbing activities cannot be ruled out. Potential impacts to archaeological and paleontological resources at this site could be reduced to a less-than-significant level with the implementation of standard measures to be enforced during the construction period.

**b. Holbrook-Palmer Park Sites (Sites B and C).** The NWIC records search did not identify any recorded cultural resources or previous cultural resources studies of Sites B and C.

Preliminary background research and a field review by an LSA architectural historian identified a c. 1960 Minimal Traditional-style house (Main House) at Site B. The Minimal Traditional style and the Ranch style were popular in California domestic architecture beginning in 1935, with widespread popularity among builders until the 1990s, when the ranch style gradually fell out of favor and neoelectic designs became popular. The Main House does not appear to have an important association with significant historical events or with the lives of persons important to our past. While the Main House is an example of a distinctive type of architecture used throughout California and the United States between 1935 and the 1990s, the alterations to the building appear to have significantly compromised the ability of Main House to convey any potential significance. Additionally, there are better examples of this style of architecture in the San Francisco Bay Area.

LSA also identified the Jennings Pavilion (Pavilion) at Site B, a building constructed in 1977 south of the Main House. The Pavilion is 34 years old; as such, it is not of sufficient age to be considered a historical resource (i.e., sufficient time has not passed in order to obtain a scholarly perspective regarding its potential significance) (California State Office of Preservation 2011).

Although not located within Sites B or C, two historical buildings within Holbrook-Palmer Park are located south and west of these proposed development sites: a c. 1870 Water Tower and a c. 1896

Carriage House. The Town considers both of these buildings Historical Sites, and these are “historical resources” for purposes of CEQA due to their eligibility for listing in the California Register of Historical Places. Although neither the Water Tower nor Carriage House will be directly affected by the development of either Site B or Site C, historical resources can suffer indirect visual effects from adjacent or nearby construction that impact the historical setting of the resource. It should be noted, however, that such potential indirect visual effects to the Water Tower and Carriage House will likely be avoided by critical review of the library’s final design by the Town’s Planning Commission and Council. Therefore, impacts to these resources are not anticipated.

A field review by an LSA archaeologist did not identify any surface indicators of archaeological or paleontological remains. It should be noted, however, that much of the ground surface was obscured by landscape and hardscape features, and the potential for encountering such remains during project ground-disturbing activities cannot be ruled out. Potential impacts to archaeological and paleontological resources at this site could be reduced to a less-than-significant level with the implementation of standard measures to be enforced during the construction period.

## **E. TRANSPORTATION AND PARKING**

A Traffic Impact Analysis was prepared to identify potential transportation and parking impacts at each of the three development locations. Six study intersections were evaluated for potential level of service (LOS) impacts, as follows:

- Fair Oaks Lane/Dinkelspiel (Station) Lane
- Watkins Avenue/Middlefield Road
- Watkins Avenue/Holbrook-Palmer Park Exit
- Watkins Avenue/Holbrook-Palmer Park Entrance
- Watkins Avenue/Dinkelspiel (Station) Lane
- Watkins Avenue/El Camino Real

Each of the study intersections were evaluated during the weekday AM peak period (7:00 a.m. to 9:00 a.m.) and the PM peak period (4:00 p.m. to 6:00 p.m.). The Watkins Avenue/Holbrook-Palmer Park Exit and Watkins Avenue/Holbrook-Palmer Park Entrance intersections were also evaluated during the weekend peak period (Saturday, 11:00 a.m. to 1:00 p.m.).

The existing conditions analysis determined that two of the study intersections currently function at an unacceptable LOS. Watkins Avenue/Middlefield Road operates at LOS E in the PM peak hour. Watkins Avenue/El Camino Real operates at LOS F in the AM peak hour. Both intersections exceed LOS standards due to the difficulty of turning left from a collector onto an uncontrolled arterial.

Parking surveys were also conducted at both the existing library site and at Holbrook Palmer Park. Parked vehicles were counted every hour between 10:00 a.m. and 8:00 p.m. on a weekday. Parking counts were also conducted at Holbrook-Palmer Park between the hours of 10:00 a.m. and 5:00 p.m. on a Saturday.

For the existing library site, parking utilization is highest during the 3:00 p.m. hour during the weekday. At this time, 14 parking spaces are utilized and 19 are available. Parking utilization at Holbrook-Palmer Park is highest during the 7:00 p.m. hour on a weekday. At this time, 64 parking spaces are utilized and 60 are available. Unlike the surveyed weekday, the highest parking demand at Holbrook Palmer Park occurred in the morning at 10:00 a.m. At that time, 75 spaces were utilized and 49 were available.

It should be noted that because the exact size of the new library is not currently known, LSA conducted a conservative analysis for a facility up to 12,000 square feet. The outcome of the level of service analysis would be the same with development of an 11,100 square foot library, while parking demand would generally be slightly less than identified in the traffic analysis. The full traffic analysis is included in Appendix C, and the results of the analysis are summarized below.

**a. Existing Library Site (Site A).** No level of service impacts to study area intersections are anticipated with development of the new library at the existing site and no mitigation measures would be required. This alternative would require approximately 2 parking spaces in excess of existing parking spaces. Sufficient space is available on the east side of Dinkelspiel (Station) Lane to expand the 5 parallel parking spaces to 7, satisfying the additional parking demand or, additional demand may be satisfied by shared parking opportunities at the adjacent lots associated with the Caltrain Station and Town offices.

**b. Holbrook Palmer Park Sites (Sites B and C).** Development of the new library at the Park would result in a level of service impact at the Watkins Avenue/Middlefield Road intersection. This impact would occur with either of the development sites. The impact at Watkins Avenue/Middlefield Road can be mitigated to a less-than-significant level with modifications to the traffic control at the intersection. The specifics of these modifications are yet to be determined. Although the Watkins Avenue/El Camino Real intersection is currently operating at an unacceptable LOS, the library project would not add sufficient traffic during the AM peak period to exacerbate this condition.

**Main House Site (Site B).** Based on the results of the parking analysis, development of the new library at the site of the existing Main House would not require the provision of additional parking spaces. Sufficient unutilized parking currently exists in the Park during both peak-library parking demand and peak-Park parking demand to absorb the increased parking demand generated by the new library.

**Parking Lot Site (Site C).** Development of the new library at the site of the existing parking lot would result in the removal of approximately 58 parking spaces. Development of the new library in this location would require 24 additional parking spaces to accommodate total parking demand during the peak period. Figure 5 illustrates plans to add additional parking adjacent to the Central Lot. According to the Urban Land Institute *Dimensions of Parking, Fourth Edition*, 270 to 300 square feet per parking space is a reasonable estimate for a surface parking lot. By this estimate, approximately 7,200 square feet of currently green space would need to be used for parking.

## F. SUMMARY

As described in the above screening analysis, for each of the potential development sites, potential impacts related to nesting birds; protected trees; unidentified archaeological and paleontological resources; level of service and insufficient parking supply could all be reduced to a less-than-

significant level under CEQA with implementation of standard mitigation measures. However, potentially significant environmental impacts were identified for Site A, which may require the preparation of an Environmental Impact Report. Specifically, due to its potential historical significance, demolition of the existing Atherton Library would likely constitute a potentially significant impact to a historical resource under CEQA. Mitigation of project impacts to a historical resource may include photodocumentation, preparation of a historical context report for local historical archives, public interpretation and outreach, and salvage of historically defining elements for re-use off site. In most instances, however, demolition of a historical resource is a significant unavoidable impact.

The results of the analysis are further summarized in Table 1 below, which compares the potential environmental constraints for biological resources, cultural resources, and transportation and parking identified for each of the three sites. The first column identified the potential environmental impact and the second column summarizes the recommended mitigation. The last three columns identify the potential level of significance for Site A, Site B, and Site C both before mitigation and after mitigation. Levels of significance are categorized as follows: SU = Significant and Unavoidable; S = Significant; and LTS = Less Than Significant. If the identified impact does not apply to a particular site, it is designated as "No Impact." The SU designation generally indicates that an Environmental Impact Report may be required. The number of trees to be removed or disturbed and the number of new parking spaces that may be required are also included in these columns, for ease of comparison.

**Table 1: Site Comparison of Potentially Significant Environmental Impacts**

Potential Environmental Impacts	Recommended Mitigation	Site A Without/With Mitigation	Site B Without/With Mitigation	Site C Without/With Mitigation
<b><i>Biological Resources</i></b>				
Potential impacts to nesting birds	Preconstruction surveys and installation of exclusion fencing during the breeding season	S/LTS	S/LTS	S/LTS
Removal of heritage trees within the building footprint	On-Site Replacement at a minimum loss:replacement ratio of 1:1	S/LTS	No Impact	No Impact
	# of trees removed	2	0	0
Potential construction impacts to trees within 30 feet of the building footprint	Installation of construction-period tree protection zones	S/LTS	S/LTS	S/LTS
	# of trees potentially disturbed	31	10	10
<b><i>Cultural Resources</i></b>				
Impacts related to demolition of historic resources		S/SU	No Impact	No Impact
Impacts to previously unidentified archaeological or paleontological resources	Construction-period measures to identify and avoid resources, as necessary.	S/LTS	S/LTS	S/LTS
<b><i>Transportation and Parking</i></b>				
Level of Service impact at Watkins Avenue/Middlefield Road (PM Peak)	Modifications to the existing intersection traffic controls	LTS	S/LTS	S/LTS
Inadequate existing parking supply	Provision of additional on- or off-site parking spaces	S/LTS	No Impact	S/LTS
	# of additional dedicated spaces required	2	0	26

Notes:

SU = Significant and unavoidable

S = Significant

LTS = Less than significant

Source: LSA Associates, Inc., 2011

**ATTACHMENT A**  
**FIGURES**

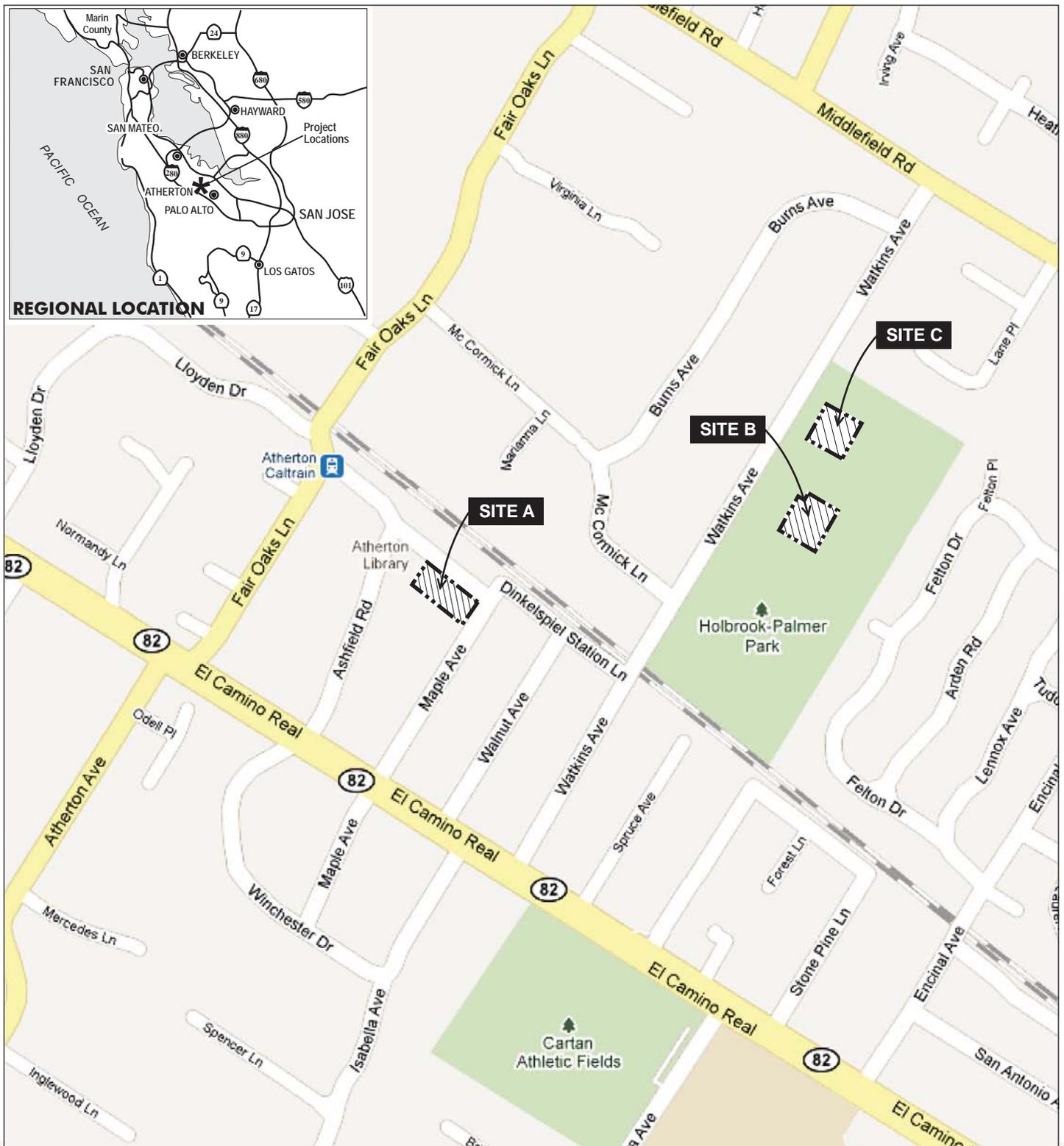
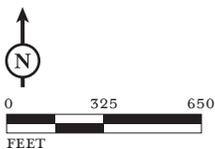


FIGURE 1

LSA

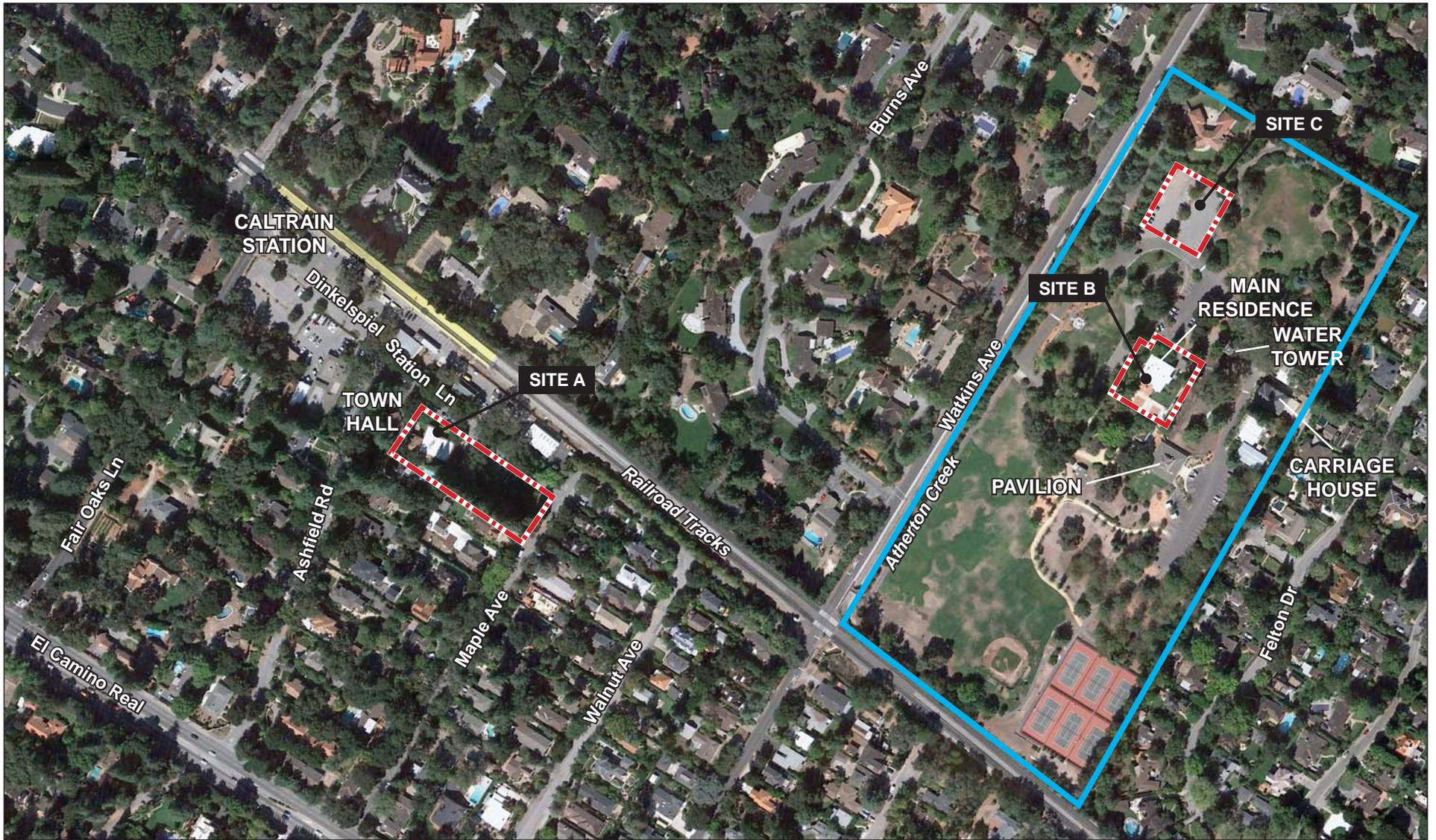


 Potential Library Sites

*Atherton Library Building Project  
Environmental Screening Analysis  
Project Vicinity and  
Regional Location*

SOURCE: GOOGLE MAPS, 2011.

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LSA

FIGURE 2



Potential Library Sites



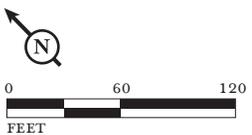
Holbrook-Palmer Park

*Atherton Library Building Project  
Environmental Screening Analysis  
Aerial Photograph*



LSA

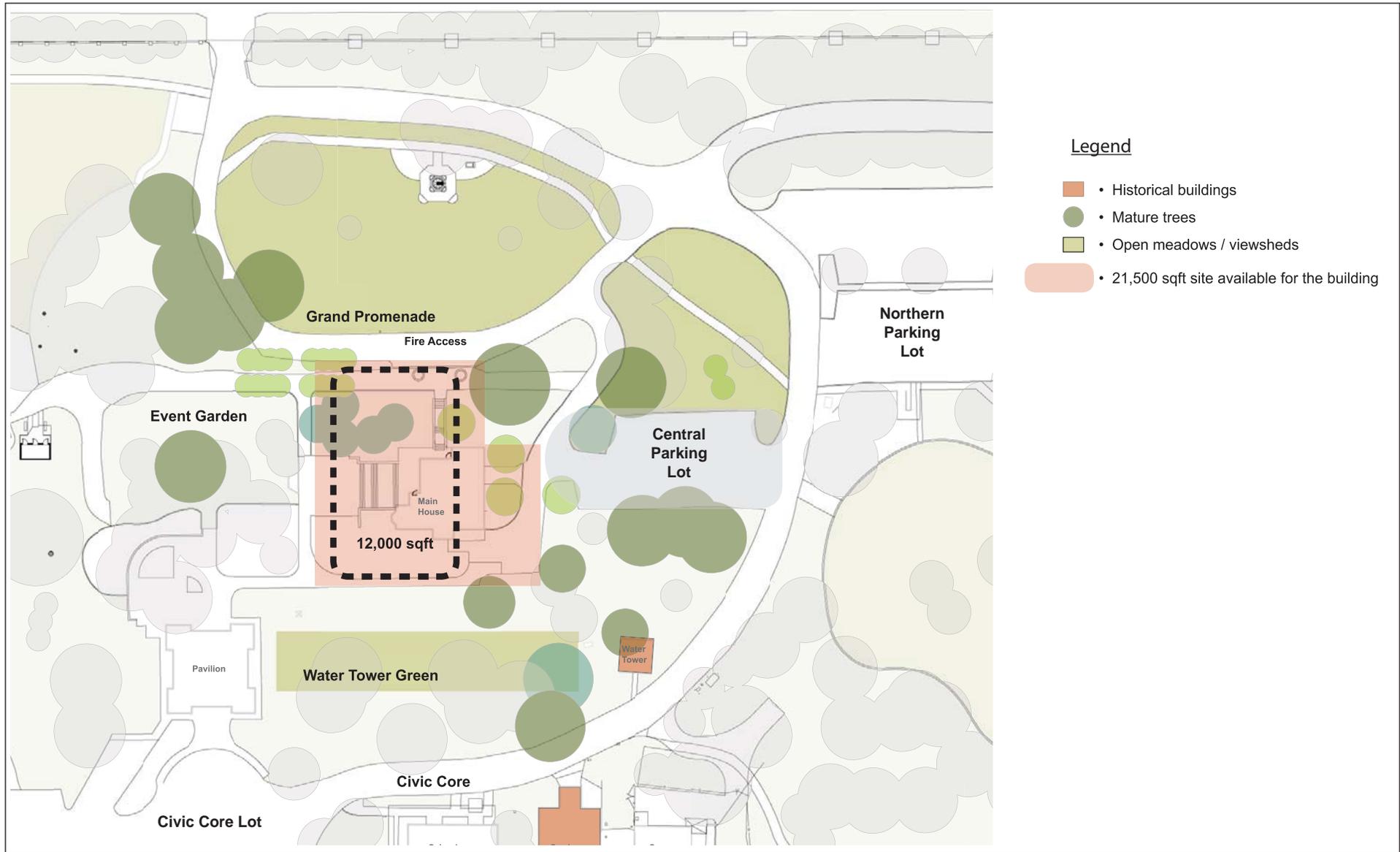
FIGURE 3



SOURCES: TOWN OF ATHERTON

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*Atherton Library Building Project  
Environmental Screening Analysis  
Existing Library Site - Site A*

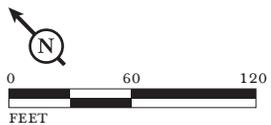


Legend

- Historical buildings
- Mature trees
- Open meadows / viewsheds
- 21,500 sqft site available for the building

LSA

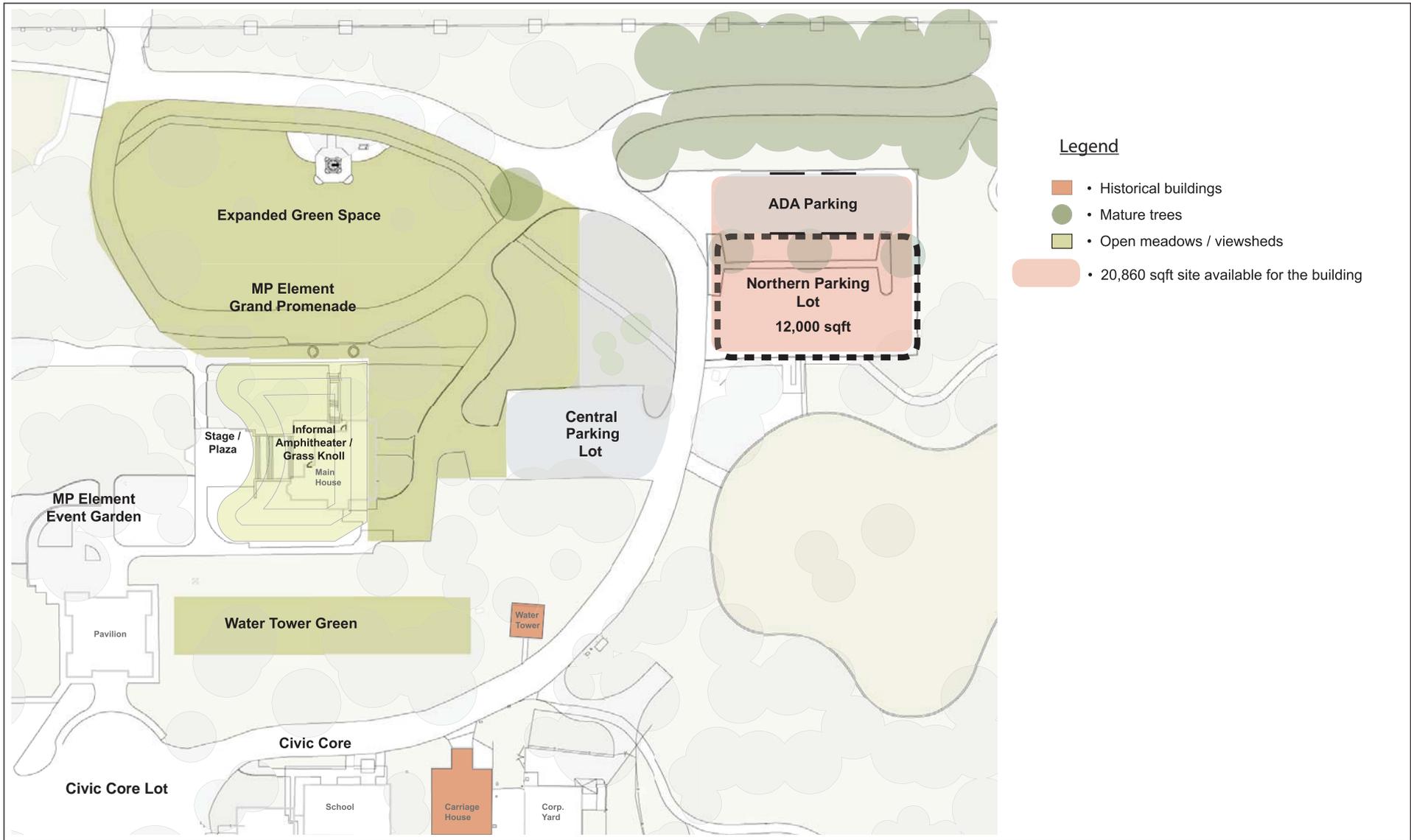
FIGURE 4



SOURCES: TOWN OF ATHERTON

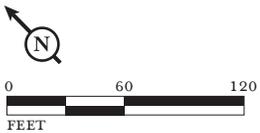
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Atherton Library Building Project  
 Environmental Screening Analysis  
 Holbrook-Palmer Park Main House Site - Site B



LSA

FIGURE 5

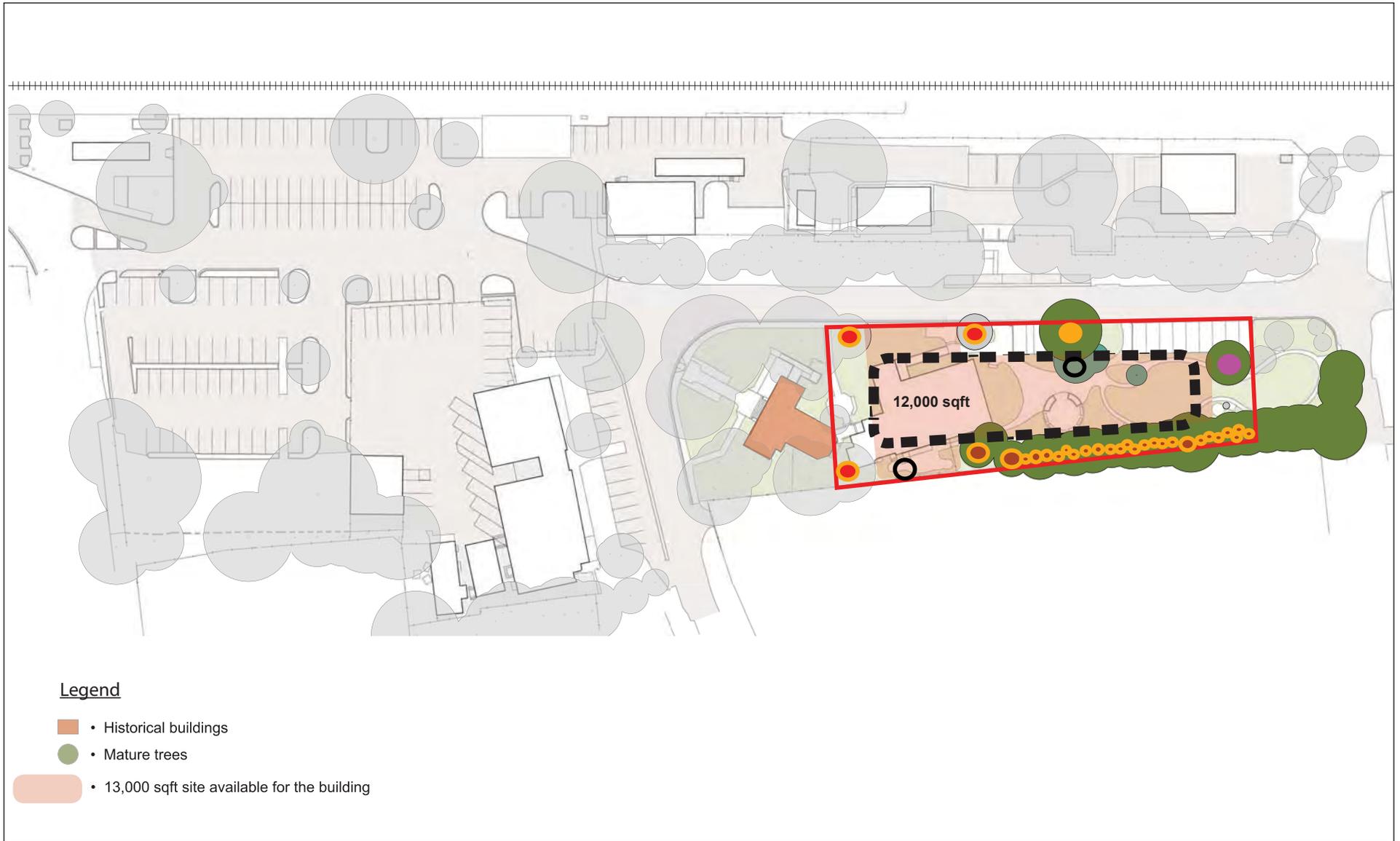


SOURCES: TOWN OF ATHERTON

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*Atherton Library Building Project  
Environmental Screening Analysis  
Holbrook-Palmer Park Parking Lot Site - Site C*

**ATTACHMENT B  
TREE MAPS**



**Legend**

- Historical buildings
- Mature trees
- 13,000 sqft site available for the building

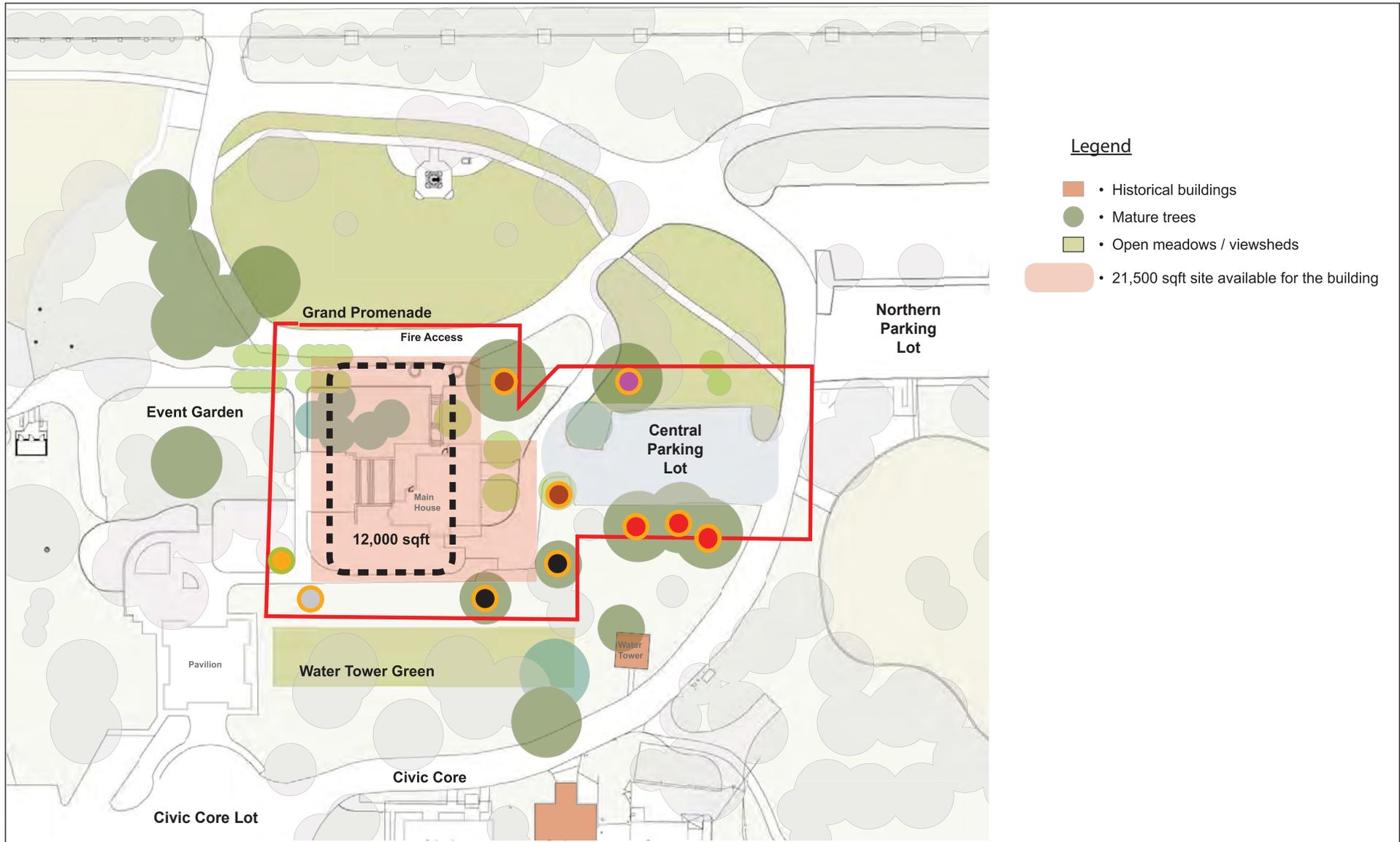
LSA



- 30 foot buffer for protected tree analysis
- Protected coast live oak trees within footprint (to be removed)
- Protected coast live oak trees adjacent to site
- Protected valley oak tree adjacent to site
- Protected carob tree adjacent to site
- Protected coast redwood trees adjacent to site

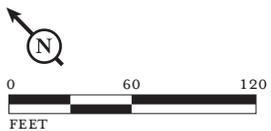
FIGURE A

*Atherton Library Building Project*  
*Tree Map*  
 Existing Library Site - Site A



LSA

FIGURE B



- 30 foot buffer for protected tree analysis
- Protected coast live oak trees adjacent to site
- Protected bunya-bunya trees adjacent to site
- Protected American elm tree adjacent to site
- Protected southern magnolia tree adjacent to site
- Protected coast redwood trees adjacent to site
- Protected glossy privet tree adjacent to site

SOURCES: TOWN OF ATHERTON

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Atherton Library Building Project  
Tree Map

Holbrook-Palmer Park Main House Site - Site B

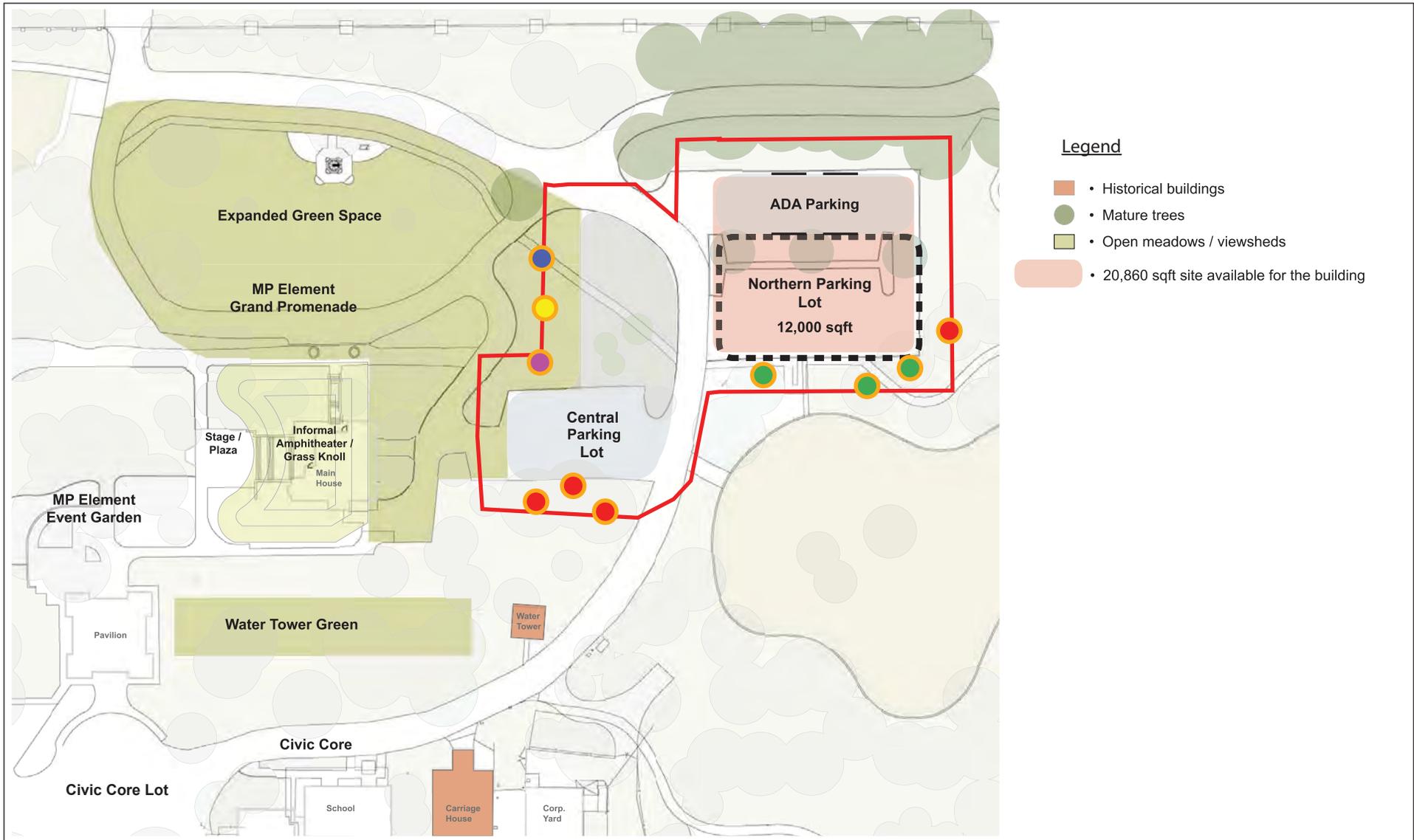
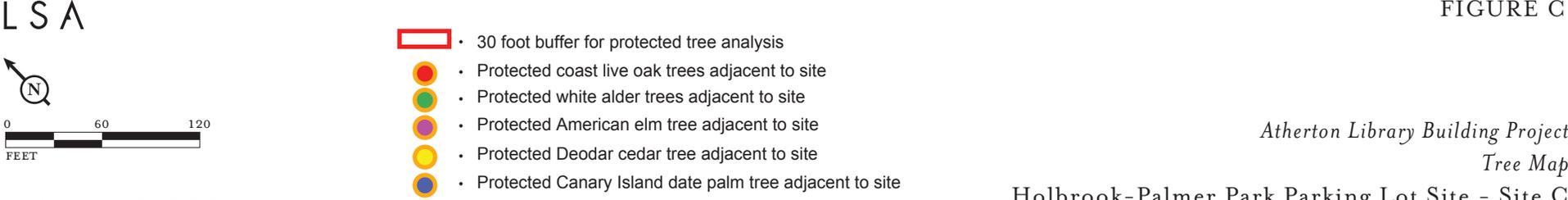


FIGURE C



Atherton Library Building Project  
Tree Map

Holbrook-Palmer Park Parking Lot Site - Site C

SOURCES: TOWN OF ATHERTON  
I:\TOA1101 atherton library\figures\Fig\_C.ai (7/5/11)

**ATTACHMENT C  
TRAFFIC ANALYSIS**

# TRAFFIC ANALYSIS

LIBRARY SITE ALTERNATIVES

TOWN OF ATHERTON

LSA

June 2011

# TRAFFIC ANALYSIS

## LIBRARY SITE ALTERNATIVES

### TOWN OF ATHERTON

Submitted to:

Town of Atherton  
83 Ashfield Road  
Atherton, California 94027  
(650) 688-6500

Prepared by:

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LSA Project No. TOA1101

LSA

June 2011

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## INTRODUCTION

The purpose of this traffic analysis is to identify the potential circulation and parking impacts associated with the proposed expansion of the San Mateo County Library branch in the Town of Atherton (Town). Expansion could occur at the existing library site or expansion could be achieved by constructing a new facility within Holbrook-Palmer Park. Figure 1 shows the location of the existing library and Holbrook-Palmer Park within the Town.

The traffic analysis for the proposed project compares existing traffic conditions to forecasted traffic conditions at completion of the project for the three site alternatives. The analysis also includes an evaluation of parking conditions at the existing library site and at Holbrook-Palmer Park and an analysis of the project's impacts to parking.

## PROJECT DESCRIPTION

Since 1968, the San Mateo County Library branch in the Town of Atherton has been located at 2 Dinkelspiel (Station) Lane. The current building provides 4,790 square feet (sf). A Library Needs Assessment conducted in 2009-2010 revealed that the library needed to house a larger collection, increase the number of seats available, increase the number of public computers available, provide areas for library-related programs and events, and create zones for various uses and that the existing facility was inadequate to effectively deliver those services.

The Atherton Library Building Steering Committee has identified three alternative locations for an approximately 11,100 sf facility to replace the existing library. Because these are preliminary plans, LSA conducted a conservative analysis for a facility up to 12,000 sf. The first alternative (Figure 2a) is on the site of the existing library. Additional parking required by the library expansion would be accommodated with on-street parking. The second alternative (Figure 2b) is located in Holbrook-Palmer Park on the site of the Main House. Parking for this alternative would be accommodated in existing park parking lots. The third alternative (Figure 2c) is also located in Holbrook-Palmer Park and would replace an existing parking lot. To compensate for this lost parking lot, additional spaces would be constructed adjacent to another existing lot within the park.

## METHODOLOGY

Traffic conditions in the study area were assessed through the evaluation of peak-hour levels of service (LOS) at critical intersections. The LOS concept qualitatively characterizes traffic conditions associated with varying levels of traffic. A LOS determination is a measure of congestion, which is the principal measure of roadway service.

The LOS definitions for signalized and unsignalized intersections are presented in Table A. These range from LOS A, which indicates a free-flow condition, to LOS F, which indicates a congested condition. The Town has established LOS C as the minimum acceptable LOS for intersections on collector roadways and LOS D as the minimum acceptable LOS for intersections on arterial roadways.

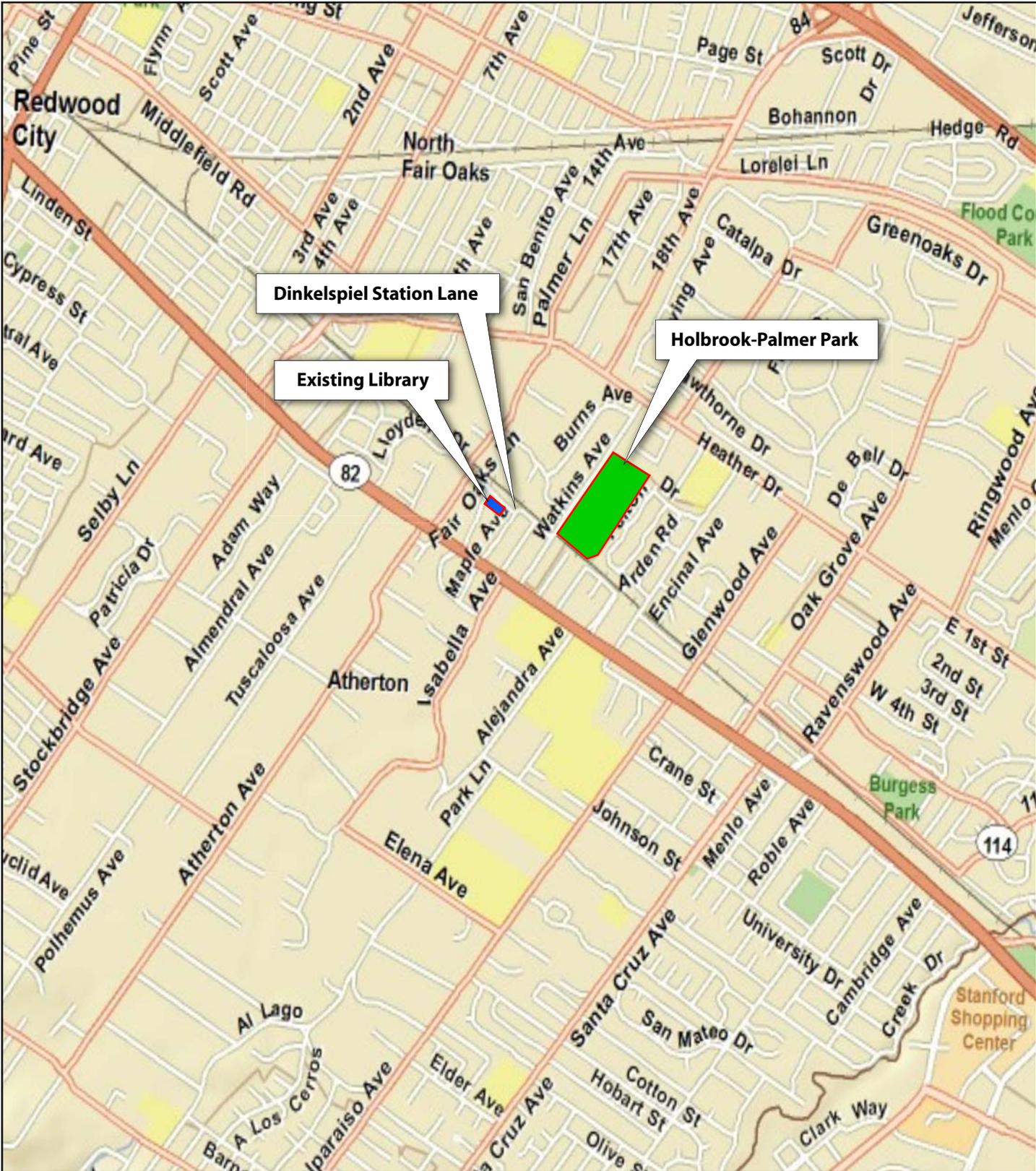
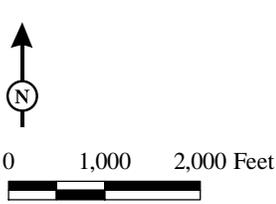


FIGURE 1



- Legend**
- Existing Library
  - Holbrook-Palmer Park

*Atherton Library*  
Project Location



LSA

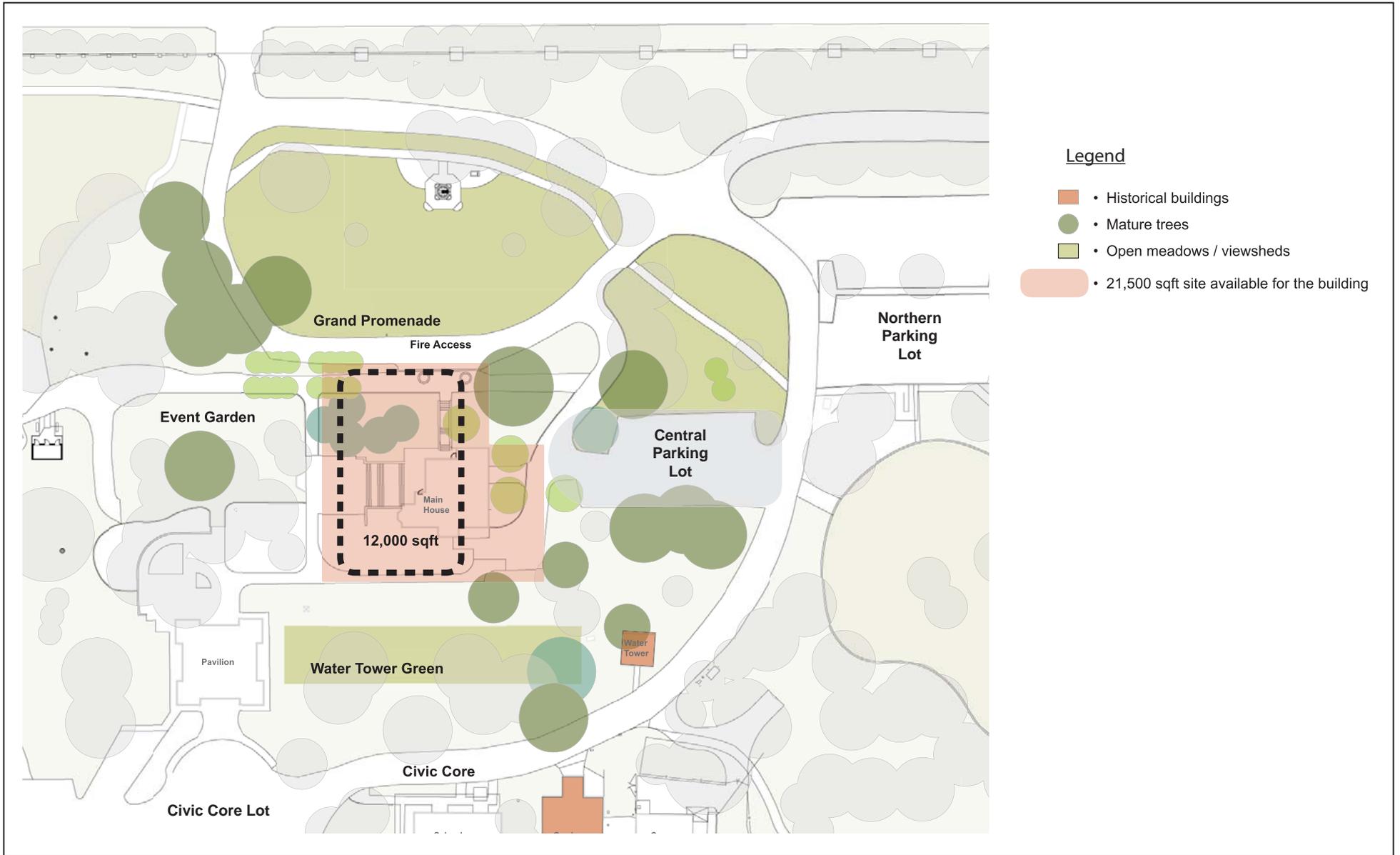
FIGURE 2A



SOURCE: Town of Atherton

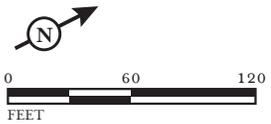
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Atherton Library  
Alternative 1 - Existing Site Plan



LSA

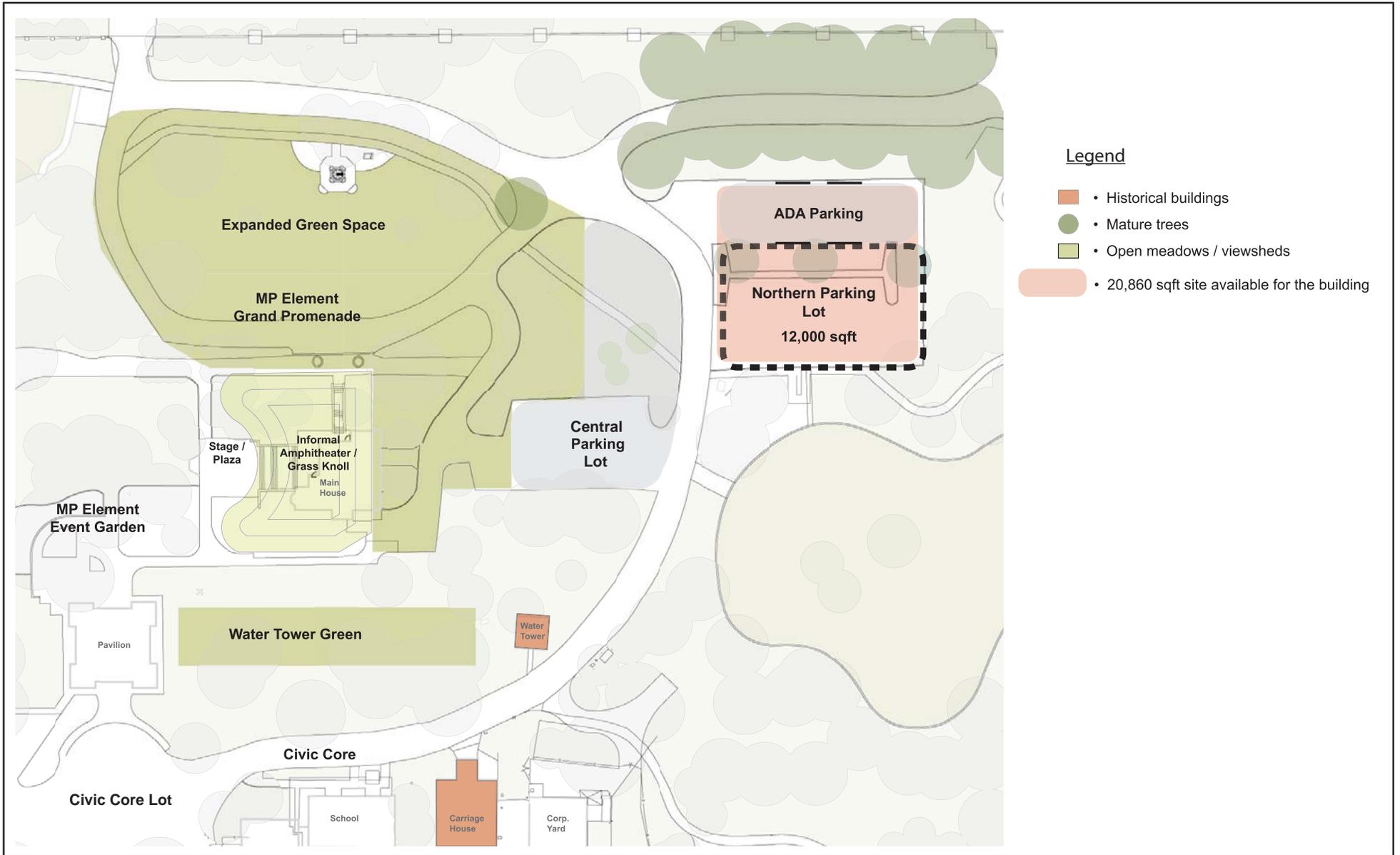
FIGURE 2B



SOURCE: Town of Atherton

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Atherton Library  
 Alternative 2 - Holbrook-Palmer Park  
 Main House



LSA

FIGURE 2C



SOURCE: Town of Atherton

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Atherton Library  
 Alternative 3 - Holbrook-Palmer Park  
 Parking Lot

**Table A: Intersection Level of Service Definitions**

Level of Service	Description	Average Control Delay (seconds/vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Little or no delay	≤ 10.0	≤ 10.0
B	Short traffic delay	> 10.0 and ≤ 20.0	> 10.0 and ≤ 15.0
C	Average traffic delay	>20.0 and ≤ 35.0	> 15.0 and ≤ 25.0
D	Long traffic delay	> 35.0 and ≤ 55.0	> 25.0 and ≤ 35.0
E	Very long traffic delay	> 55.0 and ≤ 80.0	> 35.0 and ≤ 50.0
F	Extreme traffic delay	> 80.0	> 50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2010.

The Menlo Park Transportation Impact Analysis Guidelines, used in this study at the direction of the Town, establishes significance criteria to determine whether trips added to the circulation system by a project will require mitigation. A project has a potentially significant impact if one of these conditions applies:

- An intersection operating at an acceptable LOS is caused to operate at an unacceptable LOS;
- Delay is increased by 23 seconds or greater at an intersection operating at an acceptable LOS; or
- Average delay to vehicles on the critical turn movements increases by greater than 0.8 seconds at an intersection operating at an unacceptable LOS.

It should be noted that each intersection in the study area, with the exception of one, is stop-controlled in only one direction. In these cases, the LOS reported by the Highway Capacity Manual (HCM) methodology is the stop-controlled direction, which is also the critical movement. As a result, both the 23-second criterion and the 0.8-second criterion are applied to the intersection delay as a whole. As stated in the project description, three alternative sites for the new library have been proposed. Parking demand generated by the new library will be compared to parking supply for each alternative. The alternative would be determined to have a significant parking impact if the alternative would result in deficient parking at the proposed location.

## EXISTING CONDITIONS

### Study Area

The existing library is located at 2 Dinkelspiel (Station) Lane in the Town of Atherton. The Atherton Caltrain station and parking lot is north of the existing library. Holbrook-Palmer Park is located east of Watkins Avenue and north of the Caltrain corridor. Land uses surrounding the existing library and park are primarily residential in nature. The intersections listed below (and depicted on Figure 3) were identified by Town staff as intersections that could be significantly impacted by the proposed project and have been included in the study area. All of the study intersections are currently unsignalized. Intersection geometrics are illustrated on Figure 4.

- Fair Oaks Lane/Dinkelspiel (Station) Lane
- Watkins Avenue/Middlefield Road

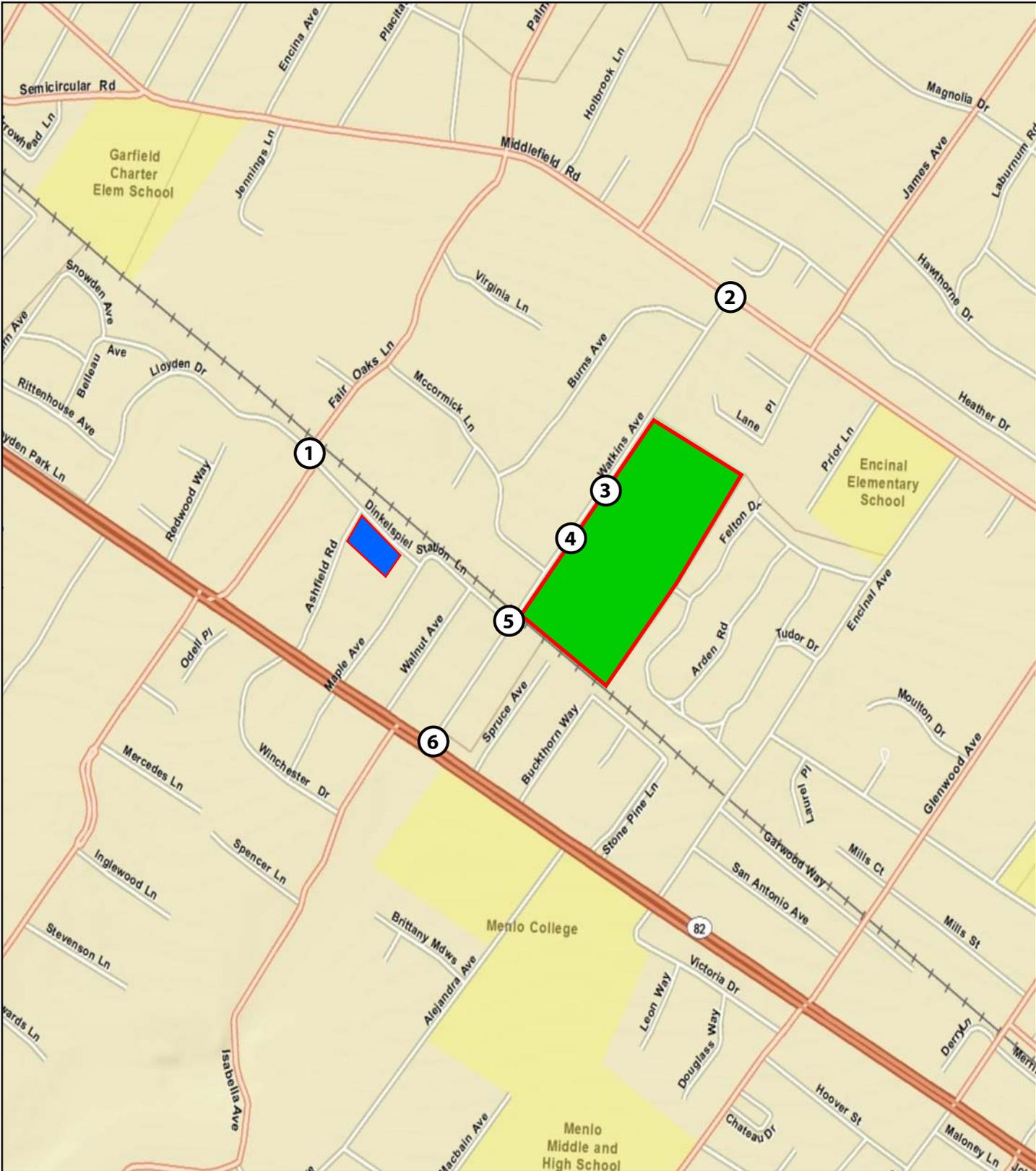
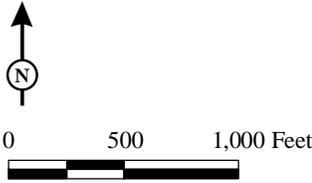


FIGURE 3

- Legend**
- Existing Library
  - Holbrook-Palmer Park
  - # Study Area Intersection



Atherton Library  
Study Area

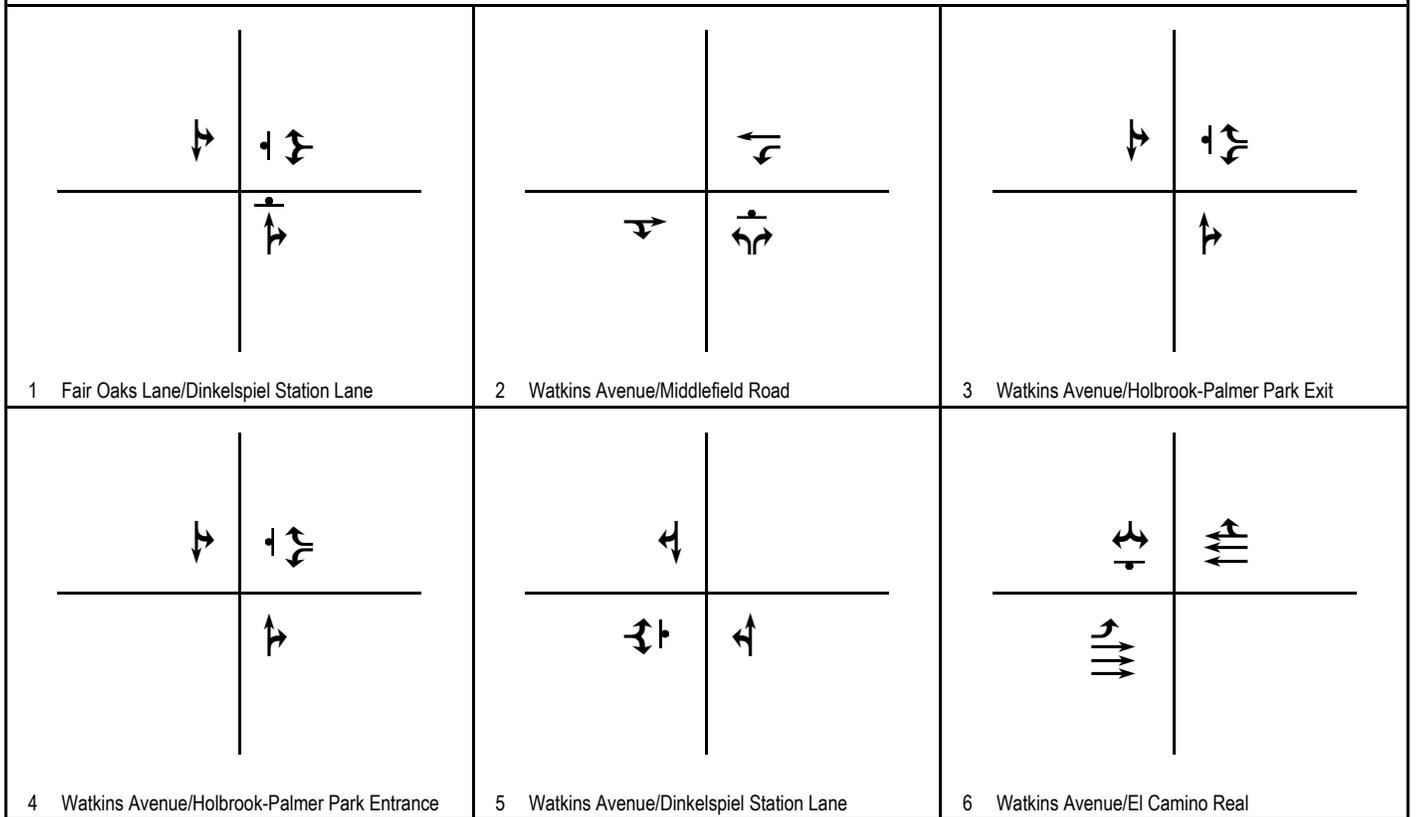


FIGURE 4

## LSA

Legend

⊗ Signal

⊥ Stop Sign

F Free Right Turn

Atherton Library

Existing Geometrics

- Watkins Avenue/Holbrook-Palmer Park Exit
- Watkins Avenue/Holbrook-Palmer Park Entrance
- Watkins Avenue/Dinkelspiel (Station) Lane
- Watkins Avenue/El Camino Real

### Existing Circulation System

Key roadways in the vicinity of the proposed project are as follows:

- **US Highway 101:** US-101 is a north-south regional freeway, extending through the Bay Area to the City of San Francisco. In the vicinity of the project, US-101 consists of one high-occupancy vehicle (HOV) and four general purpose lanes in the northbound direction and one HOV lane and three general-purpose lanes in the southbound direction.
- **El Camino Real:** El Camino Real is a six-lane arterial roadway traveling roughly parallel to US-101 through the Bay Area. The Town's General Plan Circulation Element classifies El Camino Real as a highway.
- **Middlefield Road:** Middlefield Road is a north-south roadway. In the vicinity of the project, Middlefield Road consists of two undivided lanes. The Town's General Plan Circulation Element classifies Middlefield Road as a minor arterial.
- **Fair Oaks Lane:** Fair Oaks Lane is an east-west roadway traveling between El Camino Real and Middlefield Road. Fair Oaks Lane provides access to the Atherton Caltrain station and consists of two undivided lanes. The Town's General Plan Circulation Element classifies Fair Oaks Lane as a collector.
- **Watkins Avenue:** Watkins Avenue is a two-lane undivided east-west roadway traveling between El Camino Real and Middlefield Road. Watkins Avenue is parallel to and approximately 1,500 feet (ft) east of Fair Oaks Lane. Holbrook-Palmer Park takes access from Watkins Avenue. The Town's General Plan Circulation Element classifies Watkins Avenue as a collector.
- **Dinkelspiel (Station) Lane:** Dinkelspiel (Station) Lane is a two-lane local street traveling between Fair Oaks Lane and Watkins Avenue. Perpendicular and parallel parking for the Atherton Library is provided on Dinkelspiel (Station) Lane.
- **Marsh Road:** Marsh Road is a two-lane east-west arterial that provides access between US-101 and the study area where it terminates at Middlefield Road. The Town's General Plan Circulation Element classifies Marsh Road as a minor arterial.

### Existing Level of Service

LSA Associates, Inc. (LSA) contracted a qualified company, All Traffic Data, to conduct intersection turn movement counts at the six study area intersections. Traffic counts were collected during the AM peak period (7:00 a.m. to 9:00 a.m.) and the PM peak period (4:00 p.m. to 6:00 p.m.) on Wednesday, May 25, 2011. Due to equipment malfunction, traffic counts were recounted for Fair Oaks Lane/Dinkelspiel (Station) Lane on Thursday, May 26, 2011 (PM peak period), and Wednesday, June 1, 2011 (AM peak period). Existing traffic counts are illustrated on Figure 5. Existing count data are



included as Appendix A of this analysis. Table B presents the existing AM and PM peak-hour LOS for the study area. LOS calculation worksheets are available in Appendix B of this analysis. Table B displays the delay on the stop-controlled leg, which are the critical turn movements, of each intersection.

**Table B: Existing Level of Service**

Intersection (LOS Standard)		AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>2</sup>	
		Delay (seconds)	LOS	Delay (seconds)	LOS
1	Fair Oaks Lane/Dinkelspiel (Station) Lane (C)	2.9	A	2.4	A
2	Watkins Avenue/Middlefield Road (D)	34.2	D	45.3	E
3	Watkins Avenue/Park Exit (C)	9.3	A	9.7	A
4	Watkins Avenue/Park Entrance (C)	7.6	A	7.4	A
5	Watkins Avenue/Dinkelspiel (Station) Lane (C)	9.9	A	9.3	A
6	Watkins Avenue/El Camino Real (D)	59.6	F	29.9	D

<sup>1</sup> Highest volume hour between 7:00 a.m. and 9:00 a.m.

<sup>2</sup> Highest volume hour between 4:00 p.m. and 6:00 p.m.

LOS = level of service

☐ = exceeds LOS standard

As the table indicates, two intersections currently function at an unacceptable LOS. Watkins Avenue/Middlefield Road operates at LOS E in the PM peak hour. Watkins Avenue/El Camino Real operates at LOS F in the AM peak hour. Both intersections exceed LOS standards due to the difficulty of turning left from a collector onto an uncontrolled arterial.

### Existing Parking Availability

LSA also contracted All Traffic Data to collect parking accumulation counts at the existing library and at Holbrook-Palmer Park. Parked vehicles were counted every hour between 10:00 a.m. and 8:00 p.m. on Wednesday, May 25, 2011. The resulting counts are displayed on Tables C and D below.

**Table C: Existing Library Parking Availability**

	Vehicles Parked			Total Available (33)
	Perpendicular to Street (12 Spaces)	East Side of Dinkelspiel (Station) Lane (5 Spaces)	West Side of Dinkelspiel (Station) Lane (16 Spaces)	
10:00 a.m.	3	3	2	25
11:00 a.m.	4	4	2	23
12:00 p.m.	3	3	3	24
1:00 p.m.	2	2	5	24
2:00 p.m.	5	3	4	21
3:00 p.m.	5	3	6	19
4:00 p.m.	5	3	1	24
5:00 p.m.	3	1	1	28
6:00 p.m.	4	0	5	24
7:00 p.m.	4	0	2	27
8:00 p.m.	4	0	2	27

**Table D: Existing Holbrook-Palmer Park Weekday Parking Availability**

	Vehicles Parked			Total Available (124)
	Northern Lot (58 Spaces)	Central Lot (22 Spaces)	Civic Core Lot (44 Spaces)	
10:00 a.m.	3	18	10	93
11:00 a.m.	2	17	11	94
12:00 p.m.	2	17	24	81
1:00 p.m.	4	20	25	75
2:00 p.m.	4	19	4	97
3:00 p.m.	7	20	9	88
4:00 p.m.	11	4	6	103
5:00 p.m.	14	2	4	104
6:00 p.m.	11	5	15	93
7:00 p.m.	11	15	38	60
8:00 p.m.	10	13	26	75

Table C displays parking utilized and available at the existing Atherton Library. Figure 2a illustrates currently available parking. Currently, 11 standard and 1 handicapped parking space are adjacent to the library and perpendicular to Dinkelspiel (Station) Lane. An additional five marked stalls are located on the east side of Dinkelspiel (Station) Lane in parallel spaces provided beyond the curb. Curbside parking is available on the west side of Dinkelspiel (Station) Lane and Ashfield Road for approximately sixteen additional vehicles. In total, 33 parking spaces are provided for Atherton Library. As shown in Table C, parking utilization is highest during the 3:00 p.m. hour. At this time, 14 parking spaces are utilized and 19 are available.

Table D displays parking utilized and available at Holbrook-Palmer Park. Figure 2b illustrates currently available parking areas. Currently, 58 spaces are available in the Northern Lot, 22 spaces (21 standard and 1 handicapped) are available in the Central Lot, and 44 spaces (35 standard, 3 handicapped, and 6 limited to 15 minutes) are available in the Civic Core Lot. In total, 124 parking spaces are provided at Holbrook-Palmer Park. As shown in Table D, parking utilization at Holbrook-Palmer Park is highest during the 7:00 p.m. hour. At this time, 64 parking spaces are utilized and 60 are available. It should be noted that the Northern Lot was not observed to be greater than 25 percent full at any time throughout the day.

## PROJECT CONDITIONS

### Trip Generation

The proposed project would construct a new 12,000 sf library in one of three locations. The daily and peak-hour trips for the project are generated using trip rates documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (Eighth Edition, 2008). The trip rates for “Land Use 590: Library” were used to calculate the net new trips generated by the proposed project.

As Table E indicates, the proposed 12,000 sf library is forecast to generate approximately 675 trips per day, 12 trips in the AM peak hour, and 88 trips in the PM peak hour. Alternative 1 would replace an existing library that generates approximately 269 trips per day, 5 trips in the AM peak hour, and 35 trips in the PM peak hour. As a result, new trips utilizing the circulation system for Alternative 1

**Table E: Project Trip Generation**

Land Use (ITE Land Use Code)	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
<b>Trip Rates<sup>1</sup></b>									
Library (590)		TSF	56.24	0.74	0.30	1.04	3.50	3.80	7.30
<b>Trip Generation</b>									
Existing Library (590)	4.79	TSF	269	4	1	5	17	18	35
New Library (590)	12	TSF	675	9	4	12	42	46	88
<b>Alternative 1<sup>2</sup></b>									
Net New Trip Generation			405	5	2	7	25	27	53
<b>Alternatives 2 and 3<sup>3</sup></b>									
New Trip Generation			675	9	4	12	42	46	88

<sup>1</sup> Trip Rates referenced from the Institute of Transportation Engineers (ITE) *Trip Generation* Manual, Eighth Edition (2008).

<sup>2</sup> Trip Generation of Alternative 1 is the increase between the existing library and the expanded library.

<sup>3</sup> Trip Generation of Alternatives 2 and 3 is the full new library.

ADT = Average daily traffic

TSF = Thousand square feet

(replacement of the library on the existing site) are forecast to be 405 trips per day, 7 trips in the AM peak hour, and 53 trips in the PM peak hour.

In Alternative 2, the new library would replace the Main House in Holbrook-Palmer Park. The Main House, however, does not generate regular, predictable trips on a daily basis. Therefore, no credit was taken for trips being replaced by the new library. In Alternative 3, the new library would be placed on an existing parking lot in Holbrook-Palmer Park and an informal amphitheater would replace the Main House. The replacement of the Main House with an amphitheater is not a part of the library project. At this time, the potential use of the amphitheater is unknown and was not accounted for in this analysis. Because Alternatives 2 and 3 would construct a new facility on a new site, no credits have been taken for the existing library in these alternatives.

### Trip Distribution and Assignment

New trips generated by the project were evenly distributed between east toward US-101, south toward Palo Alto, west within the Town of Atherton, and north toward Redwood City. Where multiple routes to the ultimate destination are available, the shortest route was used for project trips. This is a reasonable presumption; however, it should be noted that motorists making routine trips will avoid congested intersections and routes in favor of faster routes.

### Parking Generation

Data regarding the parking generation characteristics of land uses are available in ITE *Parking Generation* (Fourth Edition, 2010). ITE surveys showed that the peak period for "Land Use 590: Library" is 3:00 p.m. to 4:00 p.m. and that average peak-parking demand is 2.61 vehicles per 1,000 sf of gross floor area. The project proposes a 12,000 sf facility, which would generate demand for 31 parking spaces.

LSA also collected parking data at the existing library. The highest parking demand (during the 3:00 p.m. to 4:00 p.m. hour) was 14 vehicles. Since the existing library is 4,790 sf, this parking demand equated to a rate of 2.92 spaces per 1,000 sf. If this relationship continues for the new 12,000 sf library, a parking demand of 35 parking spaces is expected. Because the parking demand estimate calculated from data collected at the existing library was higher, LSA applied this more conservative estimate to the parking analysis.

## EXISTING PLUS PROJECT CONDITIONS

### Intersection Operation

Project traffic resulting from Alternative 1 was added to existing traffic counts and the resulting turn movement volumes are illustrated on Figure 6a. LOS for the Existing Plus Alternative 1 condition at the six study area intersections were calculated. The existing LOS was then compared to the Existing Plus Alternative 1 LOS to determine (1) project impacts and (2) whether those impacts are considered significant. Table F displays the results of that analysis. Again, because all six study area intersections are two-way stop controlled, the delay displayed is the average for all turn movements of the most delayed approach.

**Table F: Existing Plus Alternative 1 Level of Service**

Intersection (LOS Standard)		Existing				Existing Plus Project			
		AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>2</sup>		AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>2</sup>	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Fair Oaks Lane/Dinkelspiel (Station) Lane (C)	2.9	A	2.4	A	2.9	A	2.6	A
2	Watkins Avenue/Middlefield Road (D)	34.2	D	45.3	E	34.3	D	44.7	E
3	Watkins Avenue/Park Exit (C)	9.3	A	9.7	A	9.3	A	9.8	A
4	Watkins Avenue/Park Entrance (C)	7.6	A	7.4	A	7.6	A	7.4	A
5	Watkins Avenue/Dinkelspiel (Station) Lane (C)	9.9	A	9.3	A	9.9	A	9.4	A
6	Watkins Avenue/El Camino Real (D)	59.6	F	29.9	D	59.8	F	30.2	D

<sup>1</sup> Highest volume hour between 7:00 a.m. and 9:00 a.m.

<sup>2</sup> Highest volume hour between 4:00 p.m. and 6:00 p.m.

LOS = level of service

☐ = exceeds LOS standard

▣ = significant impact

The additional trips generated by Alternative 1 would slightly increase delay at some of the study intersections during the peak periods. Average delay decreases at Watkins Avenue/Middlefield Road due to additional eastbound right-turn movements added by Alternative 1. Right-turns are facilitated with little delay thereby decreasing average delay across the approach. No intersections operating at an acceptable LOS would operate at an unacceptable LOS due to the addition of Alternative 1 traffic. Nor does Alternative 1 add 28 seconds of delay to any intersections operating at an acceptable LOS. Finally, Alternative 1 would not increase delay by greater than 0.8 seconds at either intersection operating at an unacceptable LOS. Therefore, based on the traffic impact significance criteria described in this report, Alternative 1 would not result in significant adverse impacts.

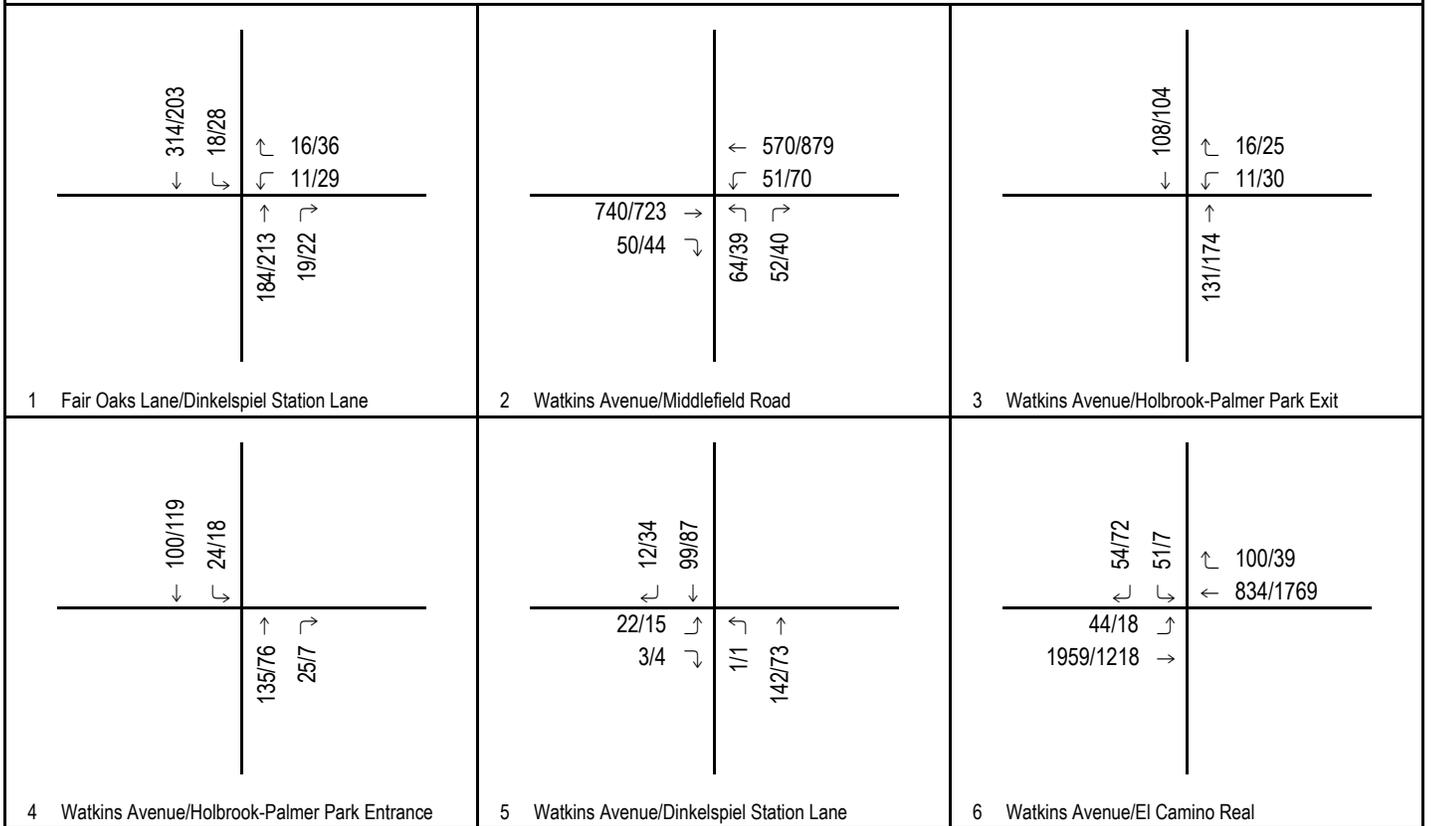


FIGURE 6A

LSA

123/456 AM/PM Volumes

Atherton Library  
Existing Plus Alternative I Peak Hour Volumes

Project traffic resulting from Alternative 2 or 3 was added to existing traffic counts and the resulting turn movement volumes are illustrated on Figure 6b. LOS for the Existing Plus Alternative 2 or 3 condition at the six study area intersections were calculated. The existing LOS was then compared to the Existing Plus Alternative 2 or 3 LOS to determine (1) project impacts and (2) whether those impacts are considered significant. Table G displays the results of that analysis.

**Table G: Existing Plus Alternative 2 or 3 Level of Service**

Intersection (LOS Standard)		Existing				Existing Plus Project			
		AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>2</sup>		AM Peak Hour <sup>1</sup>		PM Peak Hour <sup>2</sup>	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Fair Oaks Lane/Dinkelspiel (Station) Lane (C)	2.9	A	2.4	A	2.9	A	2.4	A
2	Watkins Avenue/Middlefield Road (D)	34.2	D	45.3	E	34.8	D	57.7	F
3	Watkins Avenue/Park Exit (C)	9.3	A	9.7	A	9.4	A	10.0	A
4	Watkins Avenue/Park Entrance (C)	7.6	A	7.4	A	7.6	A	7.5	A
5	Watkins Avenue/Dinkelspiel (Station) Lane (C)	9.9	A	9.3	A	9.9	A	9.5	A
6	Watkins Avenue/El Camino Real (D)	59.6	F	29.9	D	60.4	F	30.5	D

<sup>1</sup> Highest volume hour between 7:00 a.m. and 9:00 a.m.

<sup>2</sup> Highest volume hour between 4:00 p.m. and 6:00 p.m.

LOS = level of service

☐ = exceeds LOS standard

■ = significant impact

Alternative 2 or 3 does not add 28 seconds of delay to any intersections operating at an acceptable LOS. However, Alternative 2 or 3 would increase delay of the critical turn movements by greater than 0.8 seconds at one intersection currently operating at an unacceptable LOS. Therefore, based on the Town's traffic impact significance criteria described in this report, Alternative 2 or 3 would result in a significant adverse impact at the following location:

- Watkins Avenue/Middlefield Road (PM peak hour)

It should be noted that an 11,100 sf library would also result in this significant adverse impact.

### Parking Conditions with Project Alternatives

As described previously, the time period of highest parking demand for a library is 3:00 p.m. to 4:00 p.m. This was determined at sites surveyed for ITE *Parking Generation* (Fourth Edition, 2010) and confirmed at the existing library. The period of highest parking demand at Holbrook-Palmer Park, however, is between 7:00 p.m. and 8:00 p.m. In order to provide a complete analysis of potential parking impacts to Holbrook-Palmer Park, both time periods are analyzed in Table H.

Surveys at the existing library found that parking demand during the 7:00 p.m. hour was approximately 43 percent of peak 3:00 p.m. demand. This is, however, much lower than other surveys conducted by ITE. In order to provide a conservative analysis, a higher, 75 percent of peak-parking rate was chosen to represent parking demand during the 7:00 p.m. hour.

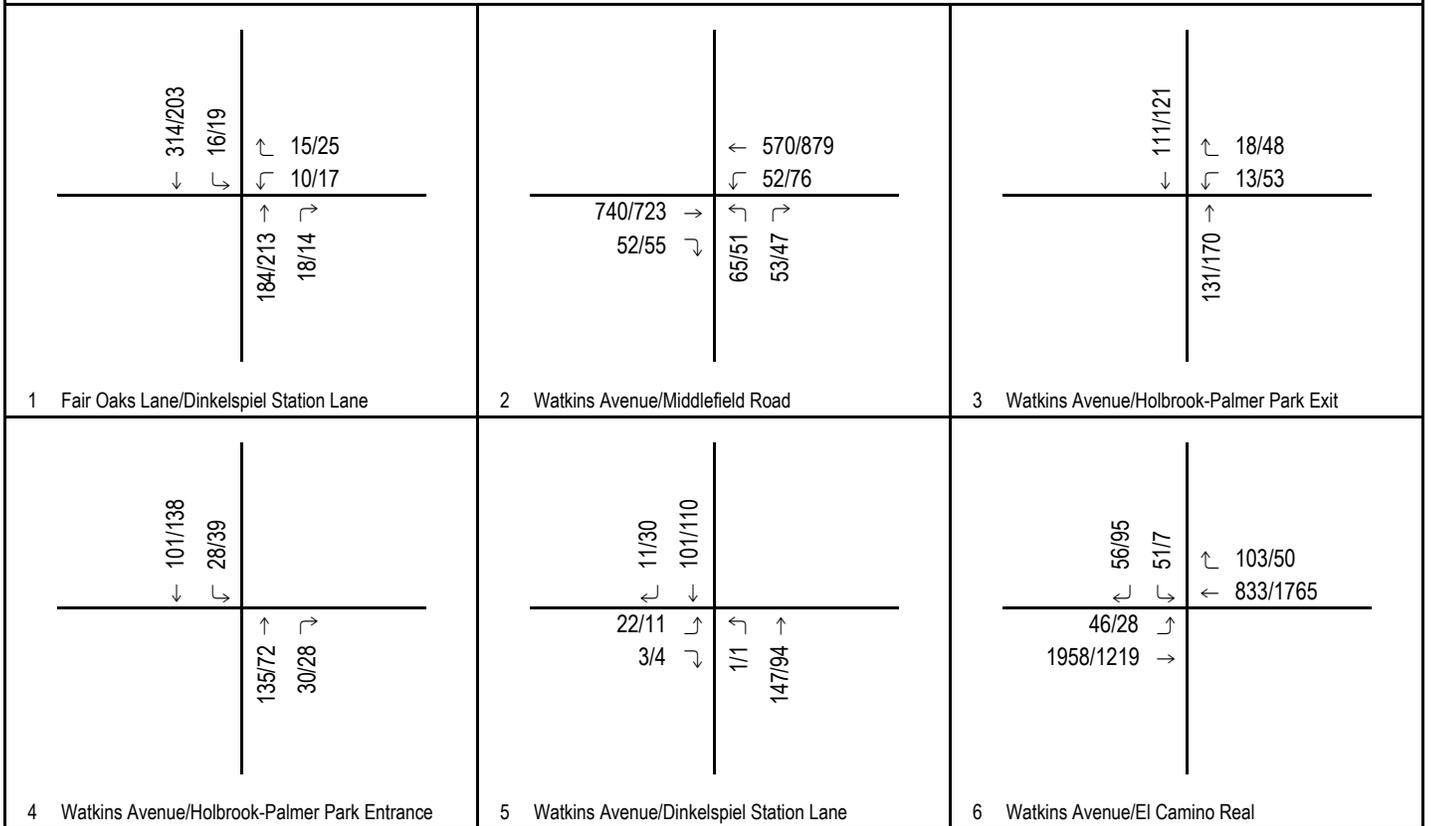


FIGURE 6B

LSA

123/456 AM/PM Volumes

Atherton Library  
Existing Plus Alternative 2 or 3 Peak Hour Volumes

**Table H: Parking Spaces Needed**

	Spaces Available at Site	Spaces Removed	Additional Parking Demand	Parking Surplus or (Shortage)
<b>Alternative 1</b>				
3:00 p.m.	19	0	21	(2)
7:00 p.m.	27	0	12	15
<b>Alternative 2</b>				
3:00 p.m.	88	0	35	53
7:00 p.m.	60	0	26	34
<b>Alternative 3</b>				
3:00 p.m.	88	58	35	(5)
7:00 p.m.	60	58	26	(24)

As Table H shows, Alternative 1 (expansion of the existing library site) would require 2 additional parking spaces. Sufficient space is available on the east side of Dinkelspiel (Station) Lane to expand the 5 parallel parking spaces to 7. This would satisfy additional parking demand.

Alternative 2 (replacing Main House in Holbrook-Palmer Park with a new library) would not require any additional parking spaces. Sufficient unutilized parking currently exists in the park during both peak-library parking demand and peak-park parking demand to absorb the increased parking demand generated by the new library.

Alternative 3 (placing the new library on the Northern Lot in Holbrook-Palmer Park) would require 24 additional parking spaces to accommodate total park demand during the 7:00 p.m. hour. Figure 2c illustrates plans to add additional parking adjacent to the Central Lot. According to the Urban Land Institute *Dimensions of Parking, Fourth Edition*, 270 to 300 sf per parking space is a reasonable estimate for a surface parking lot. By this estimate, approximately 7,200 sf of currently green space would need to be used for parking under this alternative.

## SATURDAY ANALYSIS

Holbrook-Palmer Park is a popular location on weekends for events and recreation. As such, the Town requested that conditions without and with the project be analyzed for a typical Saturday. The purpose of this analysis is to determine whether Holbrook-Palmer Park's driveways or parking lots would be more severely impacted on Saturday than they would be on a weekday.

### Intersection Operation

In addition to intersection turn movement counts collected at all study area intersections during AM and PM peak periods on a weekday, turn movement counts were collected at the park driveways between 11:00 a.m. and 1:00 p.m. on Saturday, May 21, 2011. These counts are displayed on Figure 7. Project trips were determined using ITE *Trip Generation Manual* (Eighth Edition, 2008) Saturday trip generation rates. Table I presents the project trips anticipated on a Saturday.

**Table I: Project Saturday Trip Generation**

Land Use (ITE Land Use Code)	Size	Unit	ADT	Midday Peak Hour		
				In	Out	Total
<b>Trip Rates<sup>1</sup></b>						
Library (590)		TSF	46.55	3.58	3.17	6.75
<b>Trip Generation</b>						
New Library (590)	12	TSF	559	43	38	81
<b>Alternatives 2 and 3<sup>2</sup></b>						
New Trip Generation			675	43	38	81

<sup>1</sup> Trip Rates referenced from the Institute of Transportation Engineers (ITE) *Trip Generation* Manual, Eighth Edition (2008).

<sup>2</sup> Trip Generation of Alternatives 2 and 3 is the full new library.

ADT = Average daily traffic

TSF = Thousand square feet

Similar to the weekday analysis, project trips were distributed evenly eastbound and westbound at the park driveways. The resulting traffic volumes with the project are illustrated on Figure 7. Table J displays Saturday midday LOS without and with the project. As the table shows, no impacts to the park driveways are anticipated on Saturday as a result of the project.

**Table J: Existing Saturday Plus Alternative 2 or 3 Level of Service**

Intersection (LOS Standard)		Saturday Midday <sup>1</sup>		Saturday Plus Project	
		Delay	LOS	Delay	LOS
3	Watkins Avenue/Park Exit (C)	9.1	A	9.2	A
4	Watkins Avenue/Park Entrance (C)	7.4	A	7.5	A

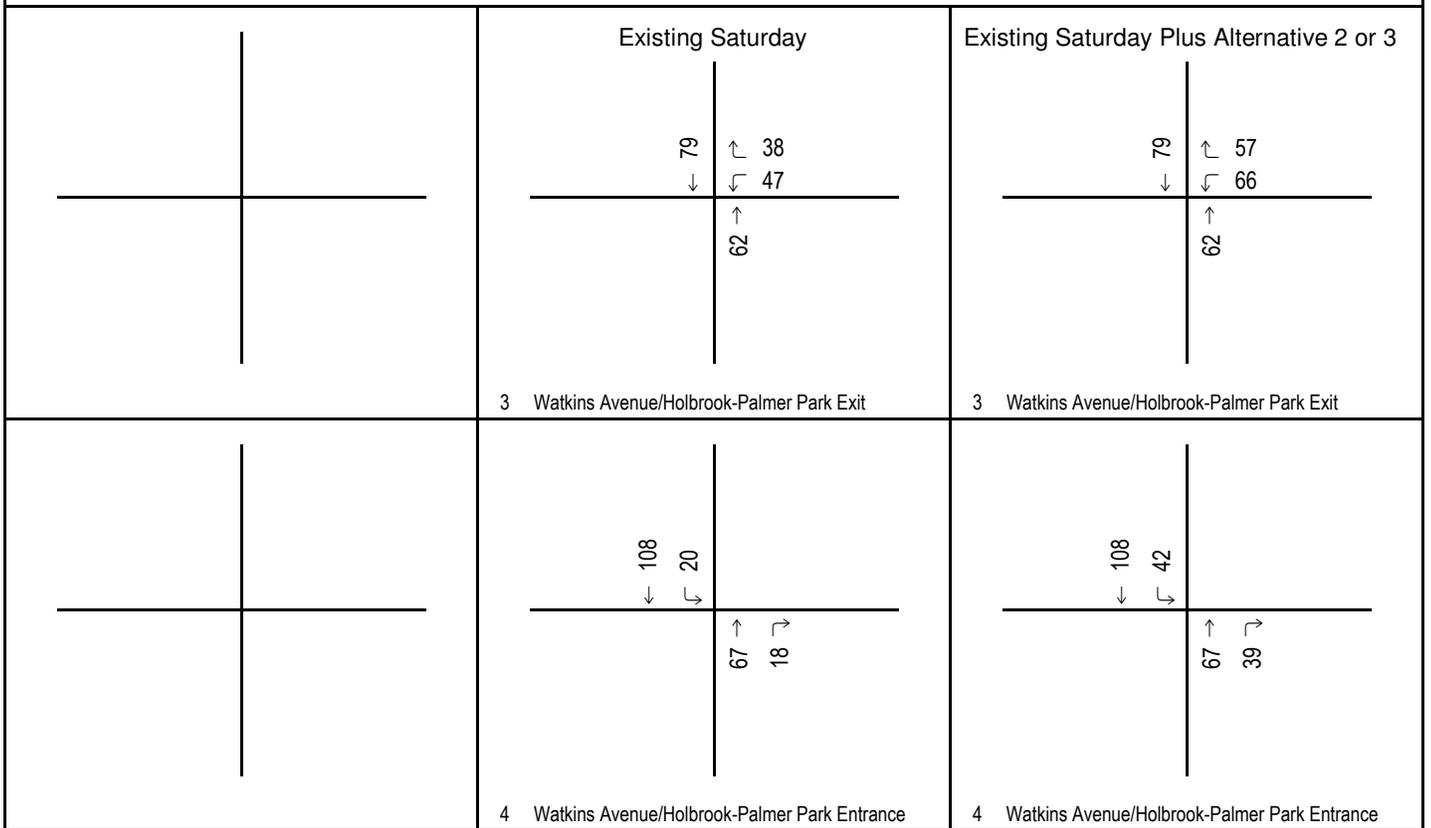
<sup>1</sup> Highest volume hour between 11:00 a.m. and 1:00 p.m.

LOS = level of service

## Parking

All Traffic Data collected parking accumulation counts at Holbrook-Palmer Park between the hours of 10:00 a.m. and 5:00 p.m. on Saturday, May 21, 2011. The result of that survey is provided on Table K. Unlike the surveyed weekday, the highest parking demand occurred in the morning at 10:00 a.m. At that time, 75 spaces were utilized and 49 were available. LSA consulted the schedule of events for Holbrook-Palmer Park. Weddings are occasionally held at the park, but none occurred on the surveyed day. The survey results are believed to represent a typical Saturday at the park. It should be noted that fewer than 40 percent of the Northern Lot was utilized during this typical Saturday.

ITE *Parking Generation* (Fourth Edition, 2010) provides limited data regarding weekend parking demand for libraries. The sites that were surveyed on a weekday, Saturday, and Sunday revealed parking rates that were 71 percent of weekday demand on Saturday and 87 percent of weekday demand on Sunday. LSA used the more conservative 87 percent figure to determine weekend peak parking demand for the library of 30 vehicles.



LSA

FIGURE 7

1234

Midday Volumes

Atherton Library

Existing Saturday and Saturday Plus Alternative 2 or 3 Midday Peak Hour Volumes

**Table K: Existing Holbrook-Palmer Park Saturday Parking Availability**

	Vehicles Parked			Total Available (124)
	Northern Lot (58 Spaces)	Central Lot (22 Spaces)	Civic Core Lot (44 Spaces)	
10:00 a.m.	19	15	41	49
11:00 a.m.	12	14	41	57
12:00 p.m.	5	18	26	75
1:00 p.m.	4	3	29	88
2:00 p.m.	16	11	11	86
3:00 p.m.	21	11	6	86
4:00 p.m.	15	4	5	100
5:00 p.m.	9	0	6	109

While weekend peak-parking demand is lower than weekday peak-parking demand for the library, total parking demand was higher during much of surveyed weekend for Holbrook-Palmer Park. An analysis of potential impacts to Holbrook-Palmer Park was conducted to determine if the library weekend parking demand would exceed the park's available weekend parking. The highest parking demand at the park (10:00 a.m.) is not the highest hour for parking at the library. Both ITE *Parking Generation* (Fourth Edition, 2010) and surveys of the existing library found parking demand at 10:00 a.m. to be approximately 57 percent of peak-parking demand or 17 spaces.

As Table L shows, Alternative 2 (replacing Main House in Holbrook-Palmer Park with a new library) would not require any additional parking spaces to accommodate weekend parking demand. Alternative 3 (placing the new library on the Northern Lot in Holbrook-Palmer Park) would require 26 additional parking spaces to accommodate total park demand during the 10:00 a.m. hour. This is greater than the number of parking spaces required for weekday parking. Based on the estimate of 270 to 300 sf per parking space provided earlier, approximately 7,800 sf of currently green space would need to be used for parking under Alternative 3.

**Table L: Parking Spaces Needed**

	Spaces Available at Site	Spaces Removed	Additional Parking Demand	Parking Surplus or (Shortage)
<b>Alternative 2</b>				
10:00 a.m.	49	0	17	32
3:00 p.m.	86	0	30	56
<b>Alternative 3</b>				
10:00 a.m.	49	58	17	(26)
3:00 p.m.	86	58	30	(2)

## MITIGATION

Alternative 1 is not anticipated to result in significant impacts at any project intersections. Placing the new library in Holbrook-Palmer Park (either Alternative 2 or 3) is anticipated to result in an impact to one intersection:

- Watkins Avenue/Middlefield Road (PM peak hour)

Watkins Avenue/Middlefield Road currently provides separate left- and right-turn lanes at the stop controlled approach of Watkins Avenue onto Middlefield Road. Middlefield Road is a two-lane roadway and cannot accommodate additional turning lanes from Watkins Avenue. Potential mitigation that would decrease average delay at the intersection and result in acceptable LOS include modifying the traffic control of the intersection. It should be noted that the intersection of Watkins Avenue/Middlefield Road currently operates at an unacceptable LOS in the PM peak hour. Modifying traffic control at the intersection may have more environmental impacts than the delay added by the project due to right-of-way constraints or resulting environmental impacts.

## SUMMARY

### Alternative 1

Alternative 1 would place the new 12,000 sf library at the site of the existing 4,790 sf library. No impacts to study area intersections are anticipated due to this alternative. No intersection mitigation would be required by this alternative. This alternative would require 2 parking spaces in excess of existing parking spaces. Sufficient space is available on the east side of Dinkelspiel (Station) Lane to expand the 5 parallel parking spaces to 7, satisfying the additional parking demand.

### Alternative 2

Alternative 2 would place the new 12,000 sf library in Holbrook-Palmer Park where the Main House is currently located. This alternative would impact one study area intersection, Watkins Avenue/Middlefield Road. Watkins Avenue/Middlefield Road could be mitigated by modifying the traffic control, which would reduce the traffic impact to a level of less-than-significant. This solution may, however, be undesirable due to right-of-way constraints or resulting environmental impacts. No additional parking spaces would be required in excess of existing parking at Holbrook-Palmer Park.

### Alternative 3

Alternative 3 would place the new 12,000 sf library in Holbrook-Palmer Park where the northern parking lot is currently located. This alternative would impact one study area intersection, Watkins Avenue/Middlefield Road. Watkins Avenue/Middlefield Road could be mitigated by modifying the traffic control, which would reduce the traffic impact to a level of less-than-significant. This solution may, however, be undesirable due to right-of-way constraints or resulting environmental impacts. This alternative would require 26 additional parking spaces to satisfy weekend parking demand. The additional parking spaces would require that approximately 7,800 sf of currently green space be converted to parking.

## CONCLUSIONS

This traffic analysis examined the potential impacts to study area intersections and parking resulting from replacing the existing library with a new 12,000 sf library. Three alternative locations for the library were examined. Additionally, impacts to Holbrook-Palmer Park on Saturday were analyzed.

Based on the results of this traffic analysis, no alternative is completely free of intersection or parking impacts. Alternative 1 would require the construction of additional parking spaces. Alternative 2 would impact one intersection. Alternative 3 would also impact one intersection and would require additional parking spaces to satisfy weekday and weekend parking demand.

# APPENDIX A

## TRAFFIC VOLUME COUNTS

Please note that traffic counts and worksheets contained in these appendices utilize a different directional convention than the body of the report. Because the San Francisco Bay is predominantly north of the Town of Atherton, roads headed toward the bay (e.g., Fair Oaks Lane) are designated northbound-southbound in the appendices while roadways parallel to the bay (e.g., Middlefield Road) are designated eastbound-westbound in the appendices. The body of the report utilizes the same directional convention as the Town of Atherton where roadways progressing along the peninsula toward the City of San Francisco (e.g., El Camino Real) are designated northbound-southbound.

# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-001 FAIR OAKS-DINKELSPIEL AM

Site Code : 00000000

Start Date : 6/1/2011

Page No : 1

## Groups Printed- Unshifted

Start Time	FAIR OAKS LANE Southbound				DINKELSPIEL (STATION) LANE Westbound				FAIR OAKS LANE Northbound				DINKELSPIEL (STATION) LANE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	6	46	0	52	3	0	1	4	0	25	6	31	0	0	0	0	87
07:15	6	54	0	60	8	0	0	8	0	33	2	35	0	0	0	0	103
07:30	5	87	0	92	1	0	3	4	0	40	1	41	0	0	0	0	137
07:45	5	82	0	87	1	0	3	4	0	49	1	50	0	0	0	0	141
Total	22	269	0	291	13	0	7	20	0	147	10	157	0	0	0	0	468
08:00	6	78	0	84	3	0	4	7	0	39	5	44	0	0	0	0	135
08:15	1	75	0	76	3	0	1	4	0	53	6	59	0	0	0	0	139
08:30	4	79	0	83	3	0	7	10	0	43	6	49	0	0	0	0	142
08:45	2	51	0	53	6	0	1	7	0	41	1	42	0	0	0	0	102
Total	13	283	0	296	15	0	13	28	0	176	18	194	0	0	0	0	518
Grand Total	35	552	0	587	28	0	20	48	0	323	28	351	0	0	0	0	986
Apprch %	6	94	0		58.3	0	41.7		0	92	8		0	0	0		
Total %	3.5	56	0	59.5	2.8	0	2	4.9	0	32.8	2.8	35.6	0	0	0	0	

Start Time	FAIR OAKS LANE Southbound				DINKELSPIEL (STATION) LANE Westbound				FAIR OAKS LANE Northbound				DINKELSPIEL (STATION) LANE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:45	5	<b>82</b>	0	<b>87</b>	1	0	3	4	0	49	1	50	0	0	0	0	141
08:00	<b>6</b>	78	0	84	<b>3</b>	0	4	7	0	39	5	44	0	0	0	0	135
08:15	1	75	0	76	3	0	1	4	0	<b>53</b>	<b>6</b>	<b>59</b>	0	0	0	0	139
08:30	4	79	0	83	3	0	<b>7</b>	<b>10</b>	0	43	6	49	0	0	0	0	<b>142</b>
Total Volume	16	314	0	330	10	0	15	25	0	184	18	202	0	0	0	0	557
% App. Total	4.8	95.2	0		40	0	60		0	91.1	8.9		0	0	0		
PHF	.667	.957	.000	.948	.833	.000	.536	.625	.000	.868	.750	.856	.000	.000	.000	.000	.981

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45

# All Traffic Data

(916) 771-8700

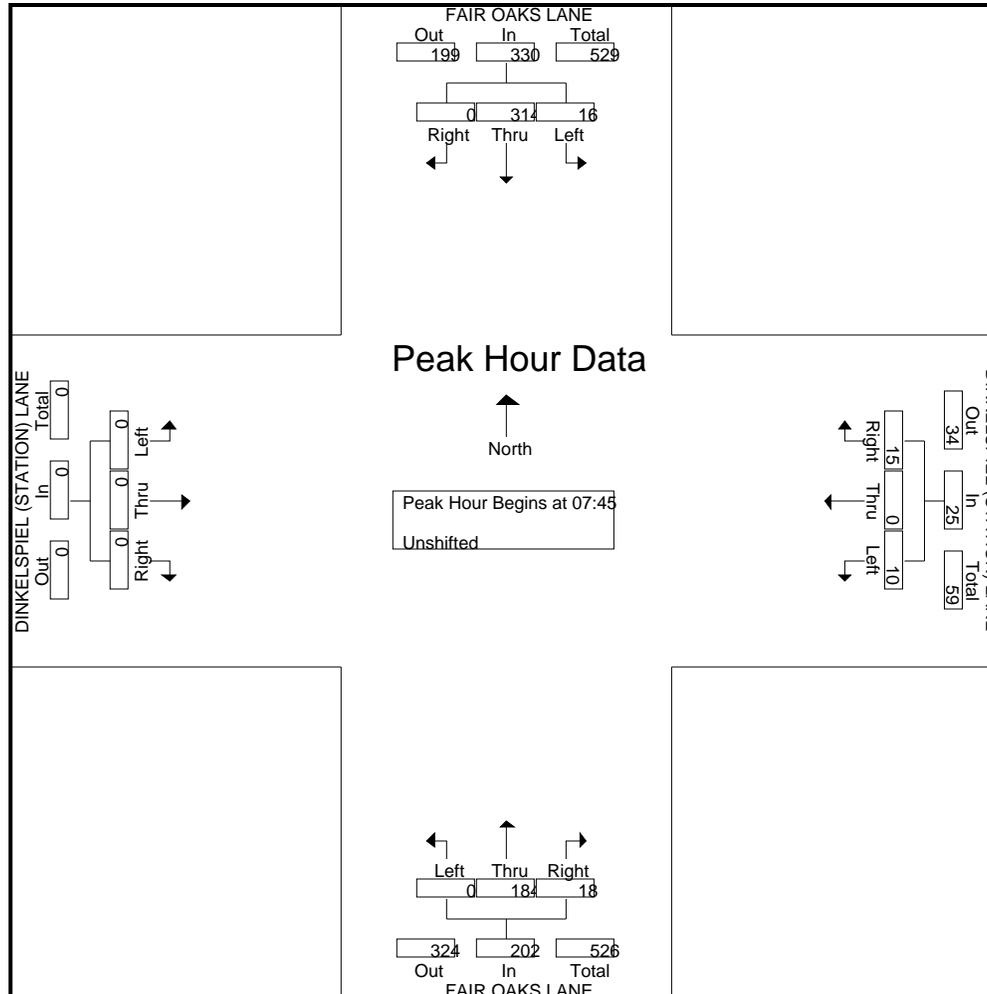
CITY OF ATHERTON

File Name : 11-7239-001 FAIR OAKS-DINKELSPIEL AM

Site Code : 00000000

Start Date : 6/1/2011

Page No : 2



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-001 FAIR OAKS-DINKELSPIEL

Site Code : 00000000

Start Date : 5/26/2011

Page No : 1

## Groups Printed- Unshifted

Start Time	FAIR OAKS LANE Southbound				DINKELSPIEL (STATION) LANE Westbound				FAIR OAKS LANE Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
16:00	9	52	0	61	6	0	7	13	0	69	5	74	0	0	0	0	148
16:15	5	51	0	56	8	0	14	22	0	44	3	47	0	0	0	0	125
16:30	3	50	0	53	1	0	2	3	0	55	3	58	0	0	0	0	114
16:45	2	50	0	52	2	0	2	4	0	45	3	48	0	0	0	0	104
Total	19	203	0	222	17	0	25	42	0	213	14	227	0	0	0	0	491
17:00	1	56	0	57	5	0	6	11	0	50	4	54	0	0	0	0	122
17:15	5	59	0	64	4	0	5	9	0	45	2	47	0	0	0	0	120
17:30	9	63	0	72	3	0	2	5	0	46	1	47	0	0	0	0	124
17:45	2	54	0	56	3	0	3	6	0	37	2	39	0	0	0	0	101
Total	17	232	0	249	15	0	16	31	0	178	9	187	0	0	0	0	467
Grand Total	36	435	0	471	32	0	41	73	0	391	23	414	0	0	0	0	958
Apprch %	7.6	92.4	0		43.8	0	56.2		0	94.4	5.6		0	0	0		
Total %	3.8	45.4	0	49.2	3.3	0	4.3	7.6	0	40.8	2.4	43.2	0	0	0	0	

Start Time	FAIR OAKS LANE Southbound				DINKELSPIEL (STATION) LANE Westbound				FAIR OAKS LANE Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	<b>9</b>	<b>52</b>	0	<b>61</b>	6	0	7	13	0	<b>69</b>	<b>5</b>	<b>74</b>	0	0	0	0	<b>148</b>
16:15	5	51	0	56	<b>8</b>	0	<b>14</b>	<b>22</b>	0	44	3	47	0	0	0	0	125
16:30	3	50	0	53	1	0	2	3	0	55	3	58	0	0	0	0	114
16:45	2	50	0	52	2	0	2	4	0	45	3	48	0	0	0	0	104
Total Volume	19	203	0	222	17	0	25	42	0	213	14	227	0	0	0	0	491
% App. Total	8.6	91.4	0		40.5	0	59.5		0	93.8	6.2		0	0	0		
PHF	.528	.976	.000	.910	.531	.000	.446	.477	.000	.772	.700	.767	.000	.000	.000	.000	.829

# All Traffic Data

(916) 771-8700

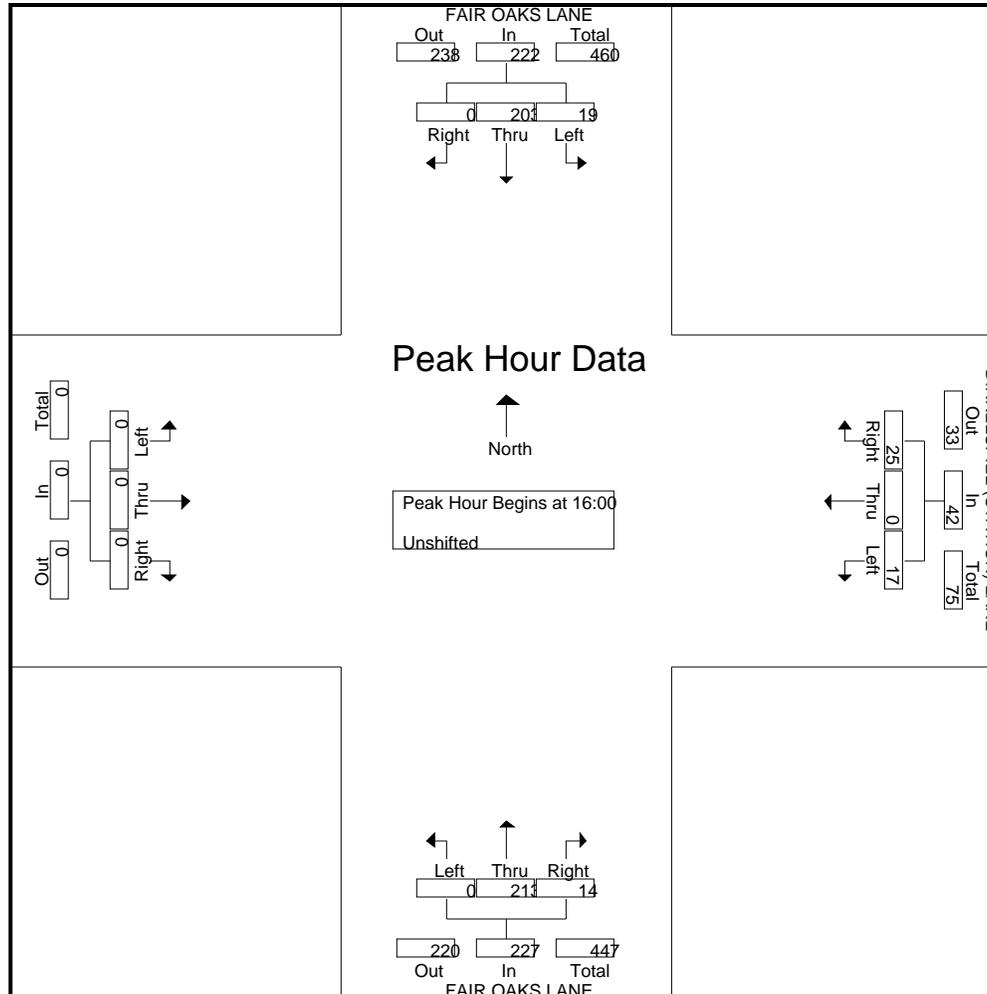
CITY OF ATHERTON

File Name : 11-7239-001 FAIR OAKS-DINKELSPIEL

Site Code : 00000000

Start Date : 5/26/2011

Page No : 2



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-003 WATKINS-MIDDLEFIELD

Site Code : 00000000

Start Date : 5/25/2011

Page No : 1

## Groups Printed- Unshifted

Start Time	Southbound				MIDDLEFIELD RD. Westbound				WATKINS AVE. Northbound				MIDDLEFIELD RD. Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	0	0	0	2	54	0	56	4	0	5	9	0	119	11	130	195
07:15	0	0	0	0	9	85	0	94	11	0	4	15	0	190	15	205	314
07:30	0	0	0	0	18	100	0	118	16	0	7	23	0	182	21	203	344
07:45	0	0	0	0	8	110	0	118	16	0	29	45	0	239	12	251	414
Total	0	0	0	0	37	349	0	386	47	0	45	92	0	730	59	789	1267
08:00	0	0	0	0	14	127	0	141	21	0	11	32	0	184	18	202	375
08:15	0	0	0	0	17	134	0	151	15	0	10	25	0	154	13	167	343
08:30	0	0	0	0	10	157	0	167	17	0	13	30	0	181	10	191	388
08:45	0	0	0	0	9	152	0	161	11	0	18	29	0	221	9	230	420
Total	0	0	0	0	50	570	0	620	64	0	52	116	0	740	50	790	1526
16:00	0	0	0	0	16	195	0	211	16	0	12	28	0	143	15	158	397
16:15	0	0	0	0	8	221	0	229	10	0	14	24	0	160	10	170	423
16:30	0	0	0	0	14	235	0	249	9	0	11	20	0	160	4	164	433
16:45	0	0	0	0	23	238	0	261	13	0	9	22	0	169	15	184	467
Total	0	0	0	0	61	889	0	950	48	0	46	94	0	632	44	676	1720
17:00	0	0	0	0	16	221	0	237	11	0	8	19	0	181	10	191	447
17:15	0	0	0	0	13	222	0	235	11	0	9	20	0	169	7	176	431
17:30	0	0	0	0	14	198	0	212	4	0	10	14	0	204	12	216	442
17:45	0	0	0	0	16	226	0	242	8	0	14	22	0	166	14	180	444
Total	0	0	0	0	59	867	0	926	34	0	41	75	0	720	43	763	1764
Grand Total	0	0	0	0	207	2675	0	2882	193	0	184	377	0	2822	196	3018	6277
Apprch %	0	0	0		7.2	92.8	0		51.2	0	48.8		0	93.5	6.5		
Total %	0	0	0		3.3	42.6	0	45.9	3.1	0	2.9	6	0	45	3.1	48.1	

# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-003 WATKINS-MIDDLEFIELD

Site Code : 00000000

Start Date : 5/25/2011

Page No : 2

Start Time	Southbound				MIDDLEFIELD RD. Westbound				WATKINS AVE. Northbound				MIDDLEFIELD RD. Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	0	0	0	14	127	0	141	21	0	11	32	0	184	18	202	375
08:15	0	0	0	0	17	134	0	151	15	0	10	25	0	154	13	167	343
08:30	0	0	0	0	10	157	0	167	17	0	13	30	0	181	10	191	388
08:45	0	0	0	0	9	152	0	161	11	0	18	29	0	221	9	230	420
Total Volume	0	0	0	0	50	570	0	620	64	0	52	116	0	740	50	790	1526
% App. Total	0	0	0	0	8.1	91.9	0		55.2	0	44.8		0	93.7	6.3		
PHF	.000	.000	.000	.000	.735	.908	.000	.928	.762	.000	.722	.906	.000	.837	.694	.859	.908

# All Traffic Data

(916) 771-8700

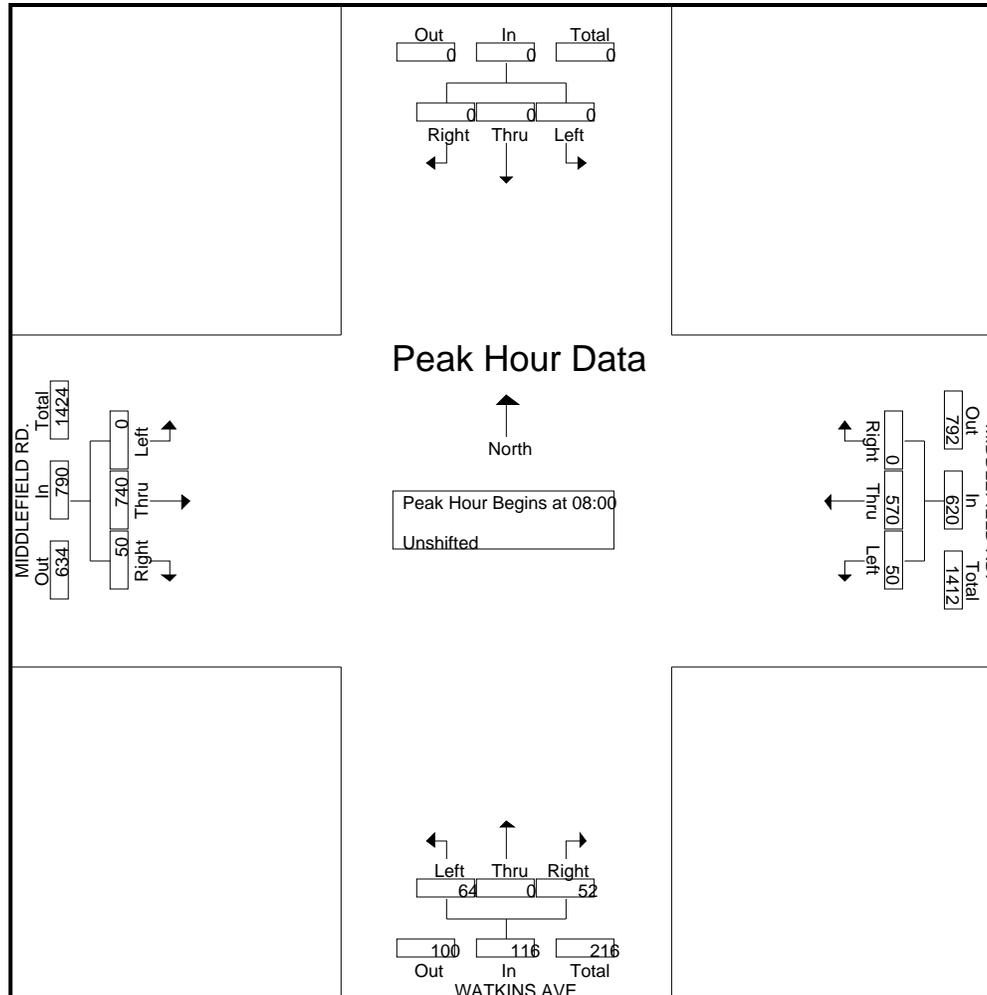
CITY OF ATHERTON

File Name : 11-7239-003 WATKINS-MIDDLEFIELD

Site Code : 00000000

Start Date : 5/25/2011

Page No : 3



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-003 WATKINS-MIDDLEFIELD

Site Code : 00000000

Start Date : 5/25/2011

Page No : 4

Start Time	Southbound				MIDDLEFIELD RD. Westbound				WATKINS AVE. Northbound				MIDDLEFIELD RD. Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	0	0	0	<b>23</b>	<b>238</b>	0	<b>261</b>	<b>13</b>	0	9	<b>22</b>	0	169	<b>15</b>	184	<b>467</b>
17:00	0	0	0	0	16	221	0	237	11	0	8	19	0	181	10	191	447
17:15	0	0	0	0	13	222	0	235	11	0	9	20	0	169	7	176	431
17:30	0	0	0	0	14	198	0	212	4	0	<b>10</b>	14	0	<b>204</b>	12	<b>216</b>	442
Total Volume	0	0	0	0	66	879	0	945	39	0	36	75	0	723	44	767	1787
% App. Total	0	0	0	0	7	93	0	94	52	0	48	75	0	94.3	5.7	94.3	94.3
PHF	.000	.000	.000	.000	.717	.923	.000	.905	.750	.000	.900	.852	.000	.886	.733	.888	.957

# All Traffic Data

(916) 771-8700

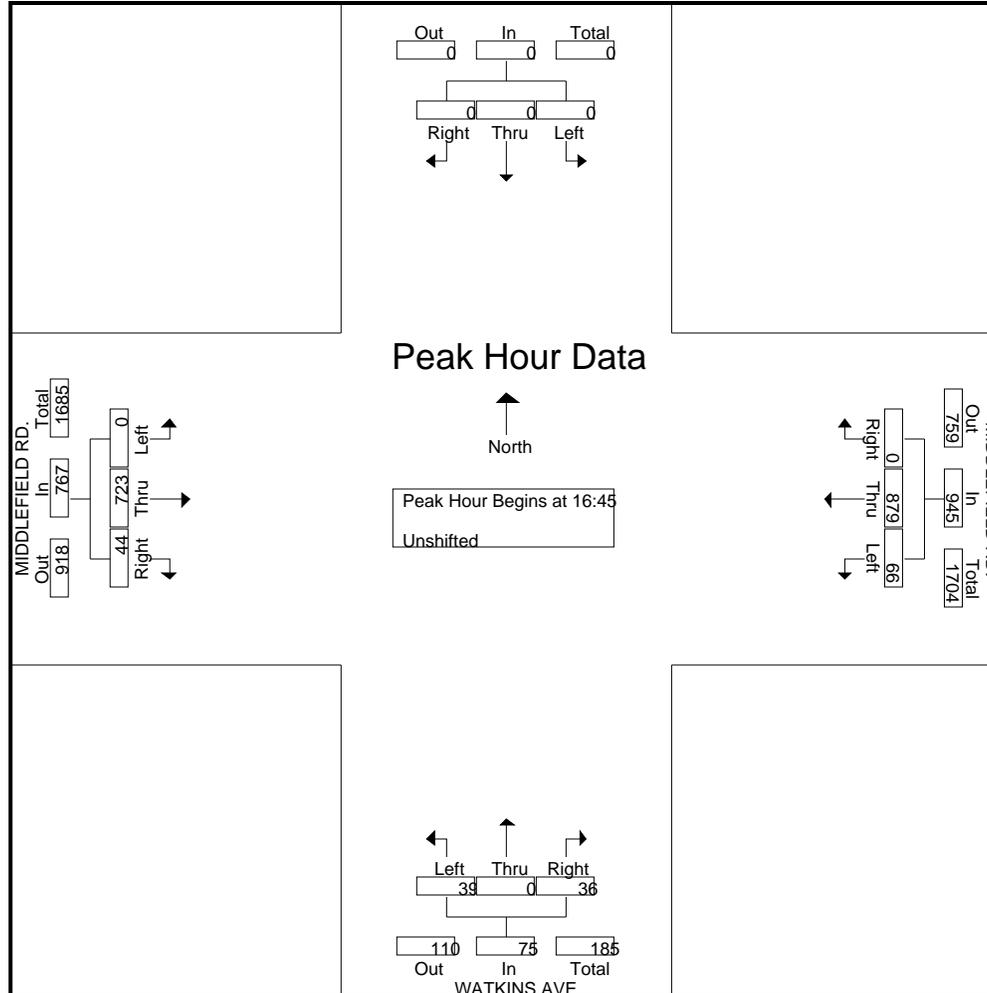
CITY OF ATHERTON

File Name : 11-7239-003 WATKINS-MIDDLEFIELD

Site Code : 00000000

Start Date : 5/25/2011

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# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-006 WATKINS-PARK EXIT

Site Code : 00000000

Start Date : 5/25/2011

Page No : 1

## Groups Printed- Unshifted

Start Time	WATKINS AVE. Southbound				PARK EXIT Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	13	0	13	0	0	0	0	0	9	0	9	0	0	0	0	22
07:15	0	21	0	21	2	0	0	2	0	14	0	14	0	0	0	0	37
07:30	0	34	0	34	3	0	1	4	0	25	0	25	0	0	0	0	63
07:45	1	17	0	18	1	0	0	1	0	51	0	51	0	0	0	0	70
Total	1	85	0	86	6	0	1	7	0	99	0	99	0	0	0	0	192
08:00	0	29	0	29	2	0	2	4	0	30	0	30	0	0	0	0	63
08:15	0	38	0	38	1	0	1	2	0	26	0	26	0	0	0	0	66
08:30	0	23	0	23	7	0	13	20	0	24	0	24	0	0	0	0	67
08:45	0	18	0	18	11	0	9	20	0	16	0	16	0	0	0	0	54
Total	0	108	0	108	21	0	25	46	0	96	0	96	0	0	0	0	250
16:00	0	25	0	25	21	0	13	34	0	16	0	16	0	0	0	0	75
16:15	0	20	0	20	3	0	7	10	0	16	0	16	0	0	0	0	46
16:30	0	19	0	19	5	0	3	8	0	16	0	16	0	0	0	0	43
16:45	0	36	0	36	1	0	2	3	0	22	0	22	0	0	0	0	61
Total	0	100	0	100	30	0	25	55	0	70	0	70	0	0	0	0	225
17:00	0	26	0	26	4	0	1	5	0	13	0	13	0	0	0	0	44
17:15	1	14	0	15	1	0	4	5	0	16	0	16	0	0	0	0	36
17:30	2	25	0	27	4	0	4	8	0	8	1	9	0	0	0	0	44
17:45	2	28	0	30	1	0	6	7	0	14	1	15	0	0	0	0	52
Total	5	93	0	98	10	0	15	25	0	51	2	53	0	0	0	0	176
Grand Total	6	386	0	392	67	0	66	133	0	316	2	318	0	0	0	0	843
Apprch %	1.5	98.5	0		50.4	0	49.6		0	99.4	0.6		0	0	0		
Total %	0.7	45.8	0	46.5	7.9	0	7.8	15.8	0	37.5	0.2	37.7	0	0	0	0	

# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-006 WATKINS-PARK EXIT

Site Code : 00000000

Start Date : 5/25/2011

Page No : 2

Start Time	WATKINS AVE. Southbound				PARK EXIT Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	1	17	0	18	1	0	0	1	0	51	0	51	0	0	0	0	70
08:00	0	29	0	29	2	0	2	4	0	30	0	30	0	0	0	0	63
08:15	0	38	0	38	1	0	1	2	0	26	0	26	0	0	0	0	66
08:30	0	23	0	23	7	0	13	20	0	24	0	24	0	0	0	0	67
Total Volume	1	107	0	108	11	0	16	27	0	131	0	131	0	0	0	0	266
% App. Total	0.9	99.1	0		40.7	0	59.3		0	100	0		0	0	0		
PHF	.250	.704	.000	.711	.393	.000	.308	.338	.000	.642	.000	.642	.000	.000	.000	.000	.950

# All Traffic Data

(916) 771-8700

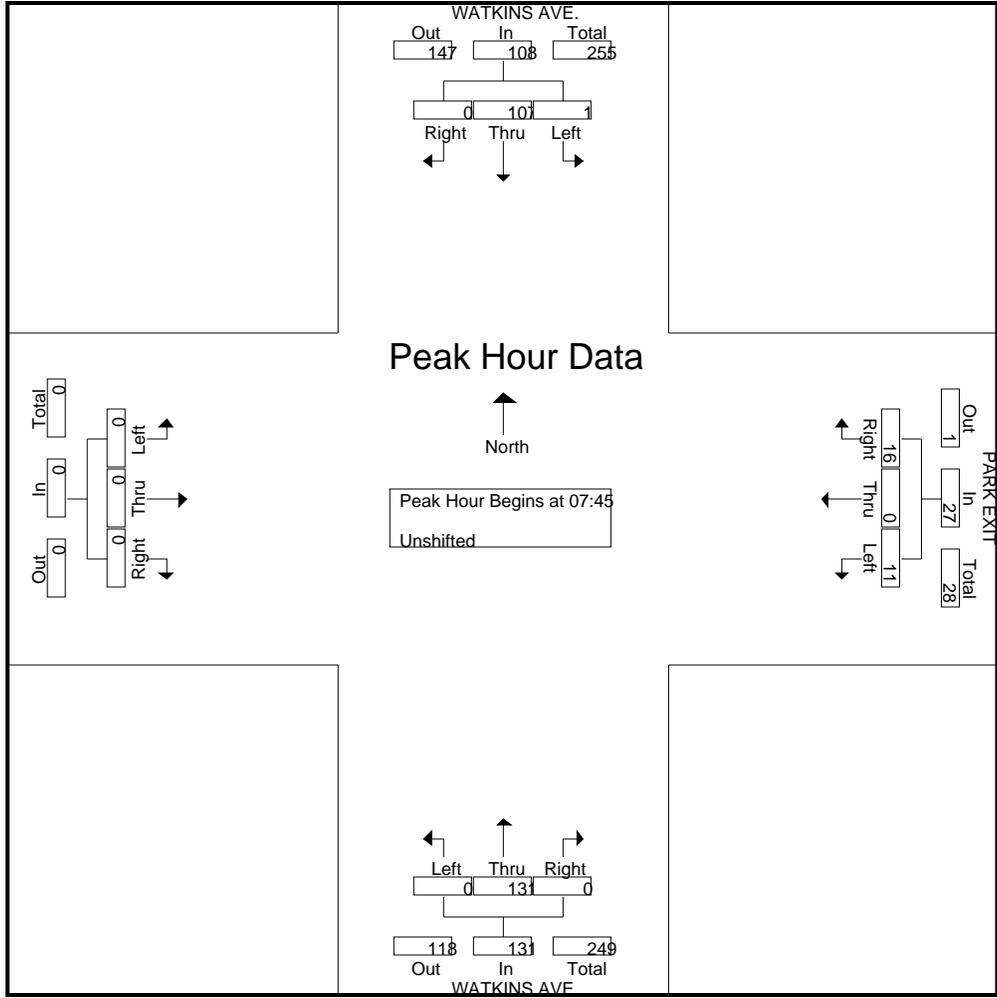
CITY OF ATHERTON

File Name : 11-7239-006 WATKINS-PARK EXIT

Site Code : 00000000

Start Date : 5/25/2011

Page No : 3



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-006 WATKINS-PARK EXIT

Site Code : 00000000

Start Date : 5/25/2011

Page No : 4

Start Time	WATKINS AVE. Southbound				PARK EXIT Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	25	0	25	21	0	13	34	0	16	0	16	0	0	0	0	75
16:15	0	20	0	20	3	0	7	10	0	16	0	16	0	0	0	0	46
16:30	0	19	0	19	5	0	3	8	0	16	0	16	0	0	0	0	43
16:45	0	36	0	36	1	0	2	3	0	22	0	22	0	0	0	0	61
Total Volume	0	100	0	100	30	0	25	55	0	70	0	70	0	0	0	0	225
% App. Total	0	100	0		54.5	0	45.5		0	100	0		0	0	0		
PHF	.000	.694	.000	.694	.357	.000	.481	.404	.000	.795	.000	.795	.000	.000	.000	.000	.750

# All Traffic Data

(916) 771-8700

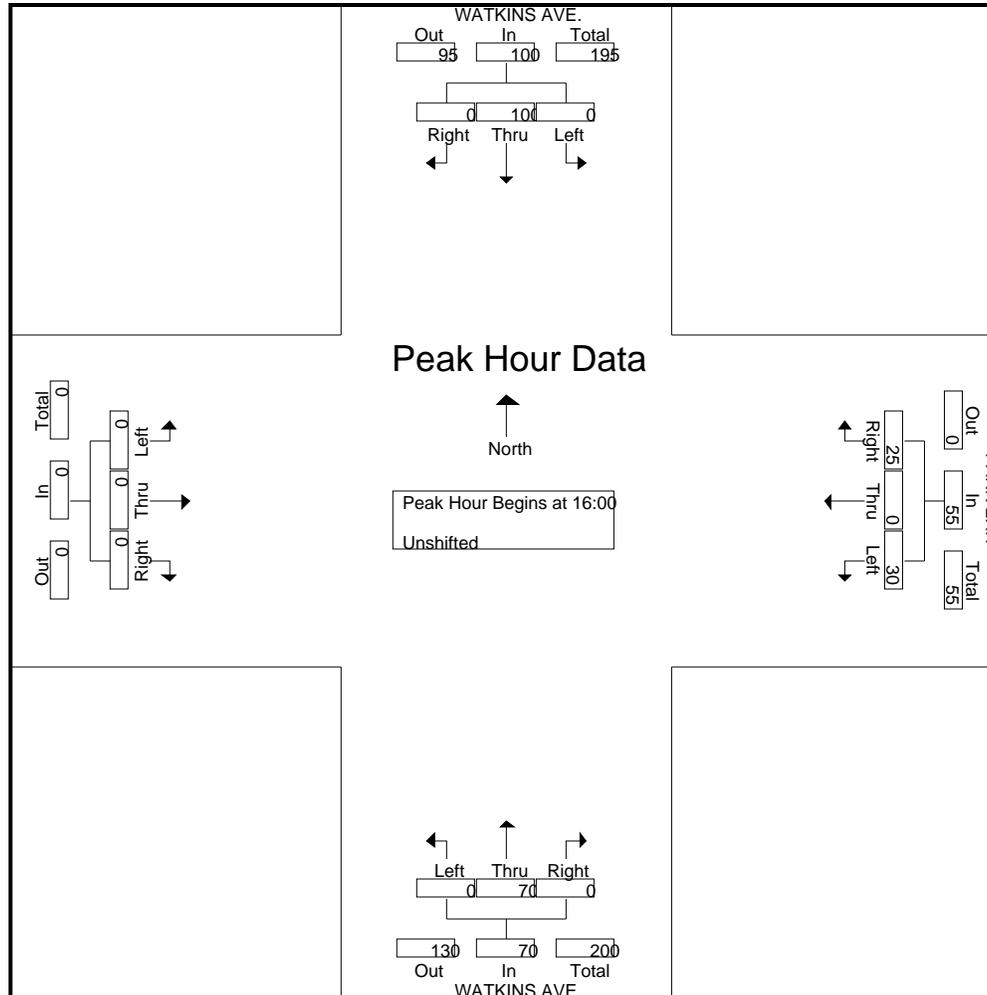
CITY OF ATHERTON

File Name : 11-7239-006 WATKINS-PARK EXIT

Site Code : 00000000

Start Date : 5/25/2011

Page No : 5



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-006 WATKINS-PARK EXIT

Site Code : 00000000

Start Date : 5/21/2011

Page No : 1

## Groups Printed- Unshifted

Start Time	WATKINS AVE. Southbound				PARK EXIT Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:00	0	20	0	20	15	0	11	26	0	18	0	18	0	0	0	0	64
11:15	0	22	0	22	10	0	7	17	0	11	0	11	0	0	0	0	50
11:30	0	17	0	17	11	0	11	22	0	10	1	11	0	0	0	0	50
11:45	0	20	0	20	11	0	9	20	0	23	1	24	0	0	0	0	64
Total	0	79	0	79	47	0	38	85	0	62	2	64	0	0	0	0	228
12:00	0	21	0	21	2	0	5	7	0	10	0	10	0	0	0	0	38
12:15	0	20	0	20	3	0	1	4	0	19	0	19	0	0	0	0	43
12:30	1	18	0	19	0	0	1	1	0	11	0	11	0	0	0	0	31
12:45	0	15	0	15	2	0	2	4	0	10	0	10	0	0	0	0	29
Total	1	74	0	75	7	0	9	16	0	50	0	50	0	0	0	0	141
Grand Total	1	153	0	154	54	0	47	101	0	112	2	114	0	0	0	0	369
Apprch %	0.6	99.4	0		53.5	0	46.5		0	98.2	1.8		0	0	0		
Total %	0.3	41.5	0	41.7	14.6	0	12.7	27.4	0	30.4	0.5	30.9	0	0	0	0	

Start Time	WATKINS AVE. Southbound				PARK EXIT Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:00	0	20	0	20	<b>15</b>	0	<b>11</b>	<b>26</b>	0	18	0	18	0	0	0	0	<b>64</b>
11:15	0	<b>22</b>	0	<b>22</b>	10	0	7	17	0	11	0	11	0	0	0	0	50
11:30	0	17	0	17	11	0	11	22	0	10	<b>1</b>	11	0	0	0	0	50
11:45	0	20	0	20	11	0	9	20	0	<b>23</b>	1	<b>24</b>	0	0	0	0	64
Total Volume	0	79	0	79	47	0	38	85	0	62	2	64	0	0	0	0	228
% App. Total	0	100	0		55.3	0	44.7		0	96.9	3.1		0	0	0		
PHF	.000	.898	.000	.898	.783	.000	.864	.817	.000	.674	.500	.667	.000	.000	.000	.000	.891

Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:00

# All Traffic Data

(916) 771-8700

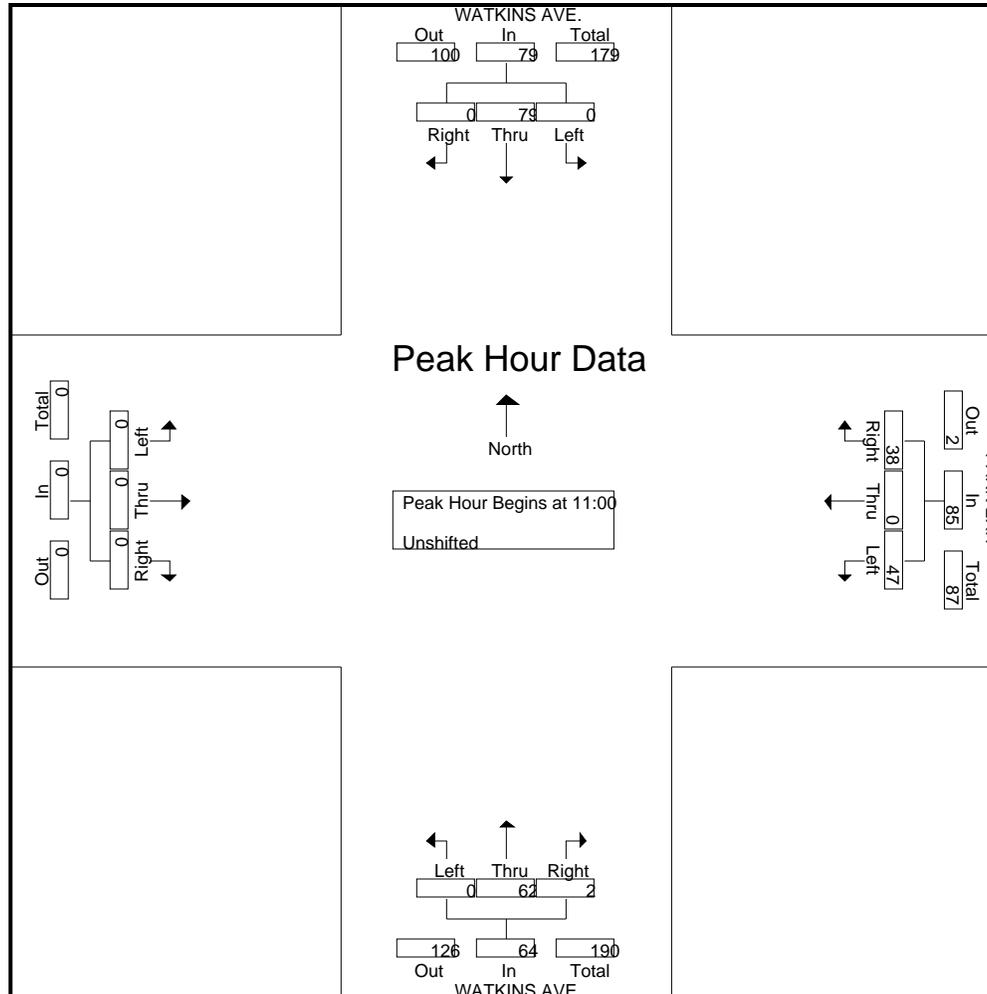
CITY OF ATHERTON

File Name : 11-7239-006 WATKINS-PARK EXIT

Site Code : 00000000

Start Date : 5/21/2011

Page No : 2



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-005 WATKINS-PARK ENTRANCE

Site Code : 00000000

Start Date : 5/25/2011

Page No : 1

## Groups Printed- Unshifted

Start Time	WATKINS AVE. Southbound				PARK ENTRANCE Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	1	11	0	12	0	0	0	0	0	9	2	11	0	0	0	0	23
07:15	1	22	0	23	0	0	0	0	0	14	5	19	0	0	0	0	42
07:30	3	33	0	36	0	0	0	0	0	27	1	28	0	0	0	0	64
07:45	2	18	0	20	0	0	0	0	0	50	3	53	0	0	0	0	73
Total	7	84	0	91	0	0	0	0	0	100	11	111	0	0	0	0	202
08:00	1	28	0	29	0	0	0	0	0	31	5	36	0	0	0	0	65
08:15	18	20	0	38	0	0	0	0	0	27	16	43	0	0	0	0	81
08:30	12	16	0	28	0	0	0	0	0	23	11	34	0	0	0	0	62
08:45	5	27	0	32	0	0	0	0	0	15	10	25	0	0	0	0	57
Total	36	91	0	127	0	0	0	0	0	96	42	138	0	0	0	0	265
16:00	8	39	0	47	0	0	0	0	0	16	2	18	0	0	0	0	65
16:15	5	20	0	25	0	0	0	0	0	17	0	17	0	0	0	0	42
16:30	1	22	0	23	0	0	0	0	0	17	2	19	0	0	0	0	42
16:45	4	34	0	38	0	0	0	0	0	22	3	25	0	0	0	0	63
Total	18	115	0	133	0	0	0	0	0	72	7	79	0	0	0	0	212
17:00	7	22	0	29	0	0	0	0	0	13	2	15	0	0	0	0	44
17:15	3	14	0	17	0	0	0	0	0	18	3	21	0	0	0	0	38
17:30	5	21	0	26	0	0	0	0	0	6	4	10	0	0	0	0	36
17:45	8	22	0	30	0	0	0	0	0	15	3	18	0	0	0	0	48
Total	23	79	0	102	0	0	0	0	0	52	12	64	0	0	0	0	166
Grand Total	84	369	0	453	0	0	0	0	0	320	72	392	0	0	0	0	845
Apprch %	18.5	81.5	0		0	0	0		0	81.6	18.4		0	0	0		
Total %	9.9	43.7	0	53.6	0	0	0	0	0	37.9	8.5	46.4	0	0	0	0	

# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-005 WATKINS-PARK ENTRANCE

Site Code : 00000000

Start Date : 5/25/2011

Page No : 2

Start Time	WATKINS AVE. Southbound				PARK ENTRANCE Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	3	<b>33</b>	0	36	0	0	0	0	0	27	1	28	0	0	0	0	64
07:45	2	18	0	20	0	0	0	0	0	<b>50</b>	3	<b>53</b>	0	0	0	0	73
08:00	1	28	0	29	0	0	0	0	0	31	5	36	0	0	0	0	65
08:15	<b>18</b>	20	0	<b>38</b>	0	0	0	0	0	27	<b>16</b>	43	0	0	0	0	<b>81</b>
Total Volume	24	99	0	123	0	0	0	0	0	135	25	160	0	0	0	0	283
% App. Total	19.5	80.5	0		0	0	0		0	84.4	15.6		0	0	0		
PHF	.333	.750	.000	.809	.000	.000	.000	.000	.000	.675	.391	.755	.000	.000	.000	.000	.873

# All Traffic Data

(916) 771-8700

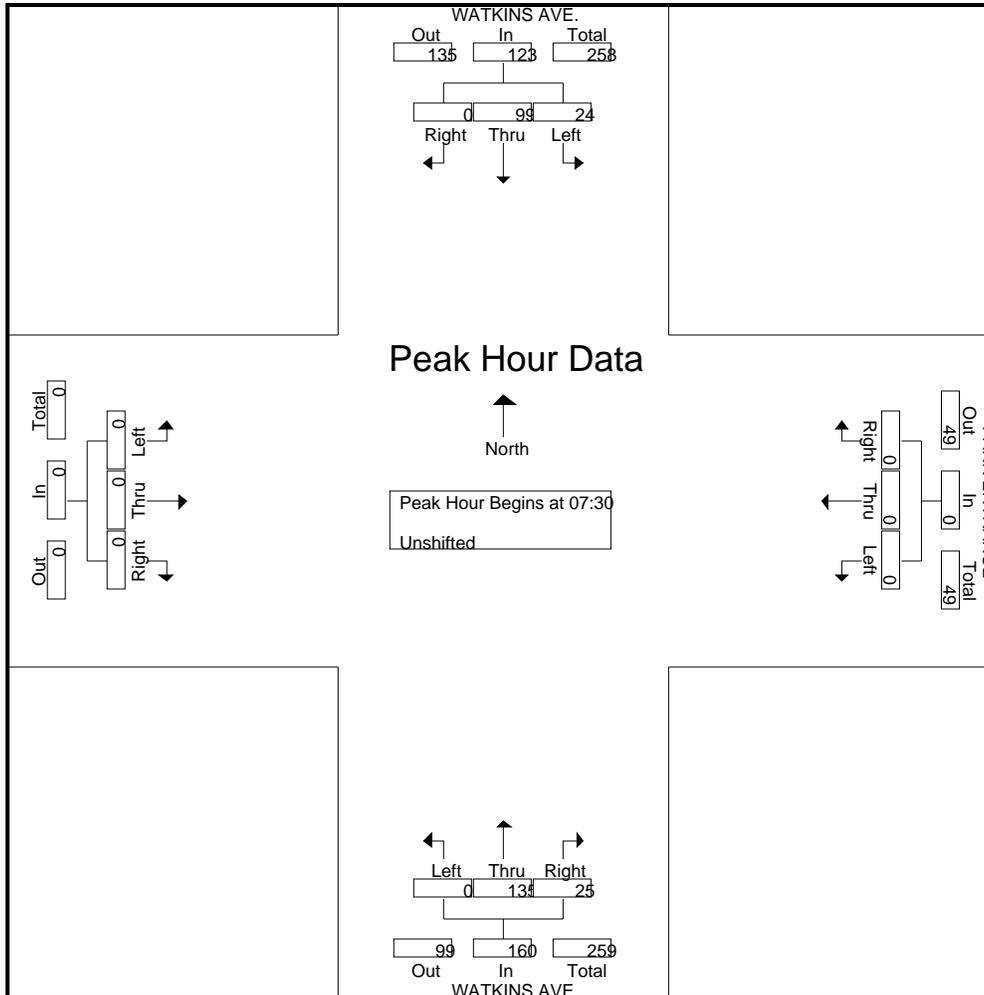
CITY OF ATHERTON

File Name : 11-7239-005 WATKINS-PARK ENTRANCE

Site Code : 00000000

Start Date : 5/25/2011

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# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-005 WATKINS-PARK ENTRANCE

Site Code : 00000000

Start Date : 5/25/2011

Page No : 4

Start Time	WATKINS AVE. Southbound				PARK ENTRANCE Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	8	39	0	47	0	0	0	0	0	16	2	18	0	0	0	0	65
16:15	5	20	0	25	0	0	0	0	0	17	0	17	0	0	0	0	42
16:30	1	22	0	23	0	0	0	0	0	17	2	19	0	0	0	0	42
16:45	4	34	0	38	0	0	0	0	0	22	3	25	0	0	0	0	63
Total Volume	18	115	0	133	0	0	0	0	0	72	7	79	0	0	0	0	212
% App. Total	13.5	86.5	0		0	0	0		0	91.1	8.9		0	0	0		
PHF	.563	.737	.000	.707	.000	.000	.000	.000	.000	.818	.583	.790	.000	.000	.000	.000	.815

# All Traffic Data

(916) 771-8700

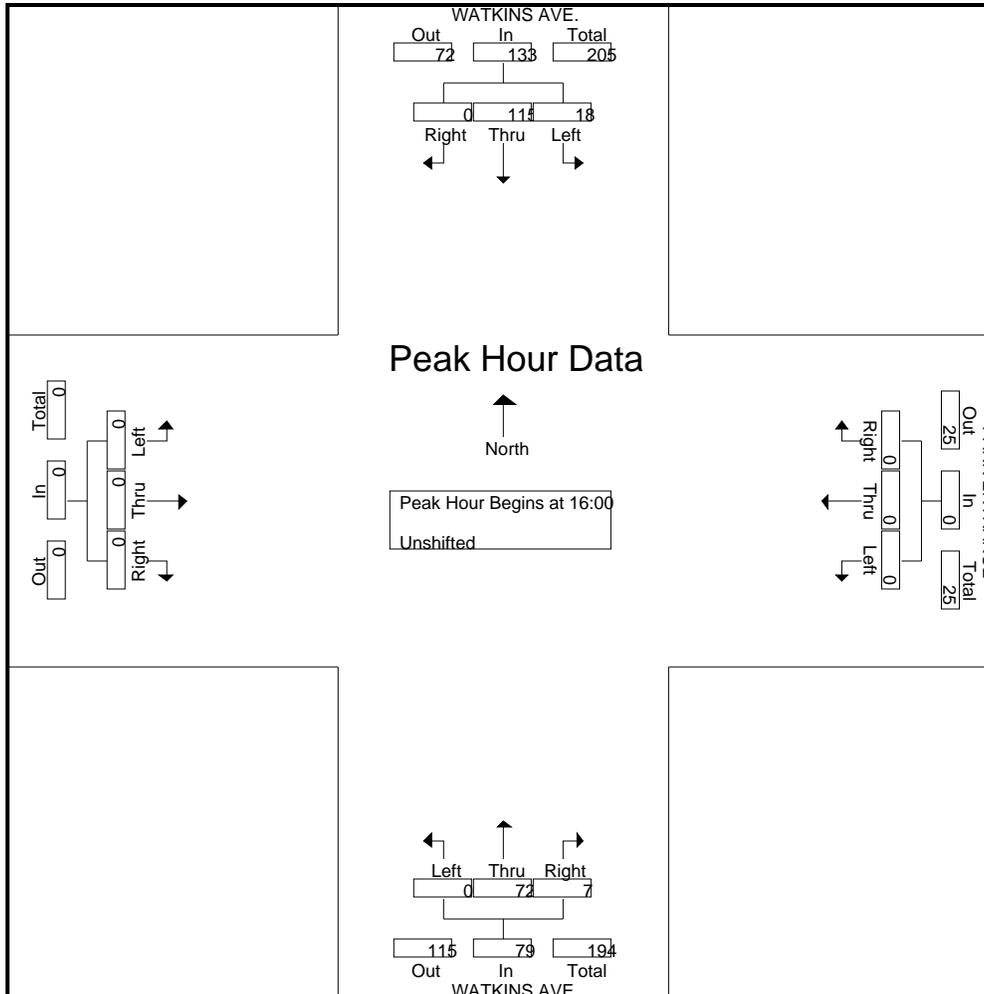
CITY OF ATHERTON

File Name : 11-7239-005 WATKINS-PARK ENTRANCE

Site Code : 00000000

Start Date : 5/25/2011

Page No : 5



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-005 WATKINS-PARK ENTRANCE

Site Code : 00000000

Start Date : 5/21/2011

Page No : 1

## Groups Printed- Unshifted

Start Time	WATKINS AVE. Southbound				PARK ENTRANCE Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:00	5	29	0	34	0	0	0	0	0	19	9	28	0	0	0	0	62
11:15	4	27	0	31	1	0	0	1	0	12	1	13	0	0	0	0	45
11:30	5	24	0	29	0	0	0	0	0	12	3	15	0	0	0	0	44
11:45	6	28	0	34	0	0	0	0	0	24	5	29	0	0	0	0	63
Total	20	108	0	128	1	0	0	1	0	67	18	85	0	0	0	0	214
12:00	3	17	0	20	0	0	0	0	0	11	3	14	0	0	0	0	34
12:15	4	20	0	24	0	0	0	0	0	14	2	16	0	0	0	0	40
12:30	4	16	0	20	0	0	0	0	0	11	1	12	0	0	0	0	32
12:45	3	17	0	20	0	0	0	0	0	10	5	15	0	0	0	0	35
Total	14	70	0	84	0	0	0	0	0	46	11	57	0	0	0	0	141
Grand Total	34	178	0	212	1	0	0	1	0	113	29	142	0	0	0	0	355
Apprch %	16	84	0		100	0	0		0	79.6	20.4		0	0	0		
Total %	9.6	50.1	0	59.7	0.3	0	0	0.3	0	31.8	8.2	40	0	0	0	0	

Start Time	WATKINS AVE. Southbound				PARK ENTRANCE Westbound				WATKINS AVE. Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
11:00	5	<b>29</b>	0	<b>34</b>	0	0	0	0	0	19	<b>9</b>	28	0	0	0	0	62
11:15	4	27	0	31	<b>1</b>	0	0	<b>1</b>	0	12	1	13	0	0	0	0	45
11:30	5	24	0	29	0	0	0	0	0	12	3	15	0	0	0	0	44
11:45	<b>6</b>	28	0	34	0	0	0	0	0	<b>24</b>	5	<b>29</b>	0	0	0	0	<b>63</b>
Total Volume	20	108	0	128	1	0	0	1	0	67	18	85	0	0	0	0	214
% App. Total	15.6	84.4	0		100	0	0		0	78.8	21.2		0	0	0		
PHF	.833	.931	.000	.941	.250	.000	.000	.250	.000	.698	.500	.733	.000	.000	.000	.000	.849

Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:00

# All Traffic Data

(916) 771-8700

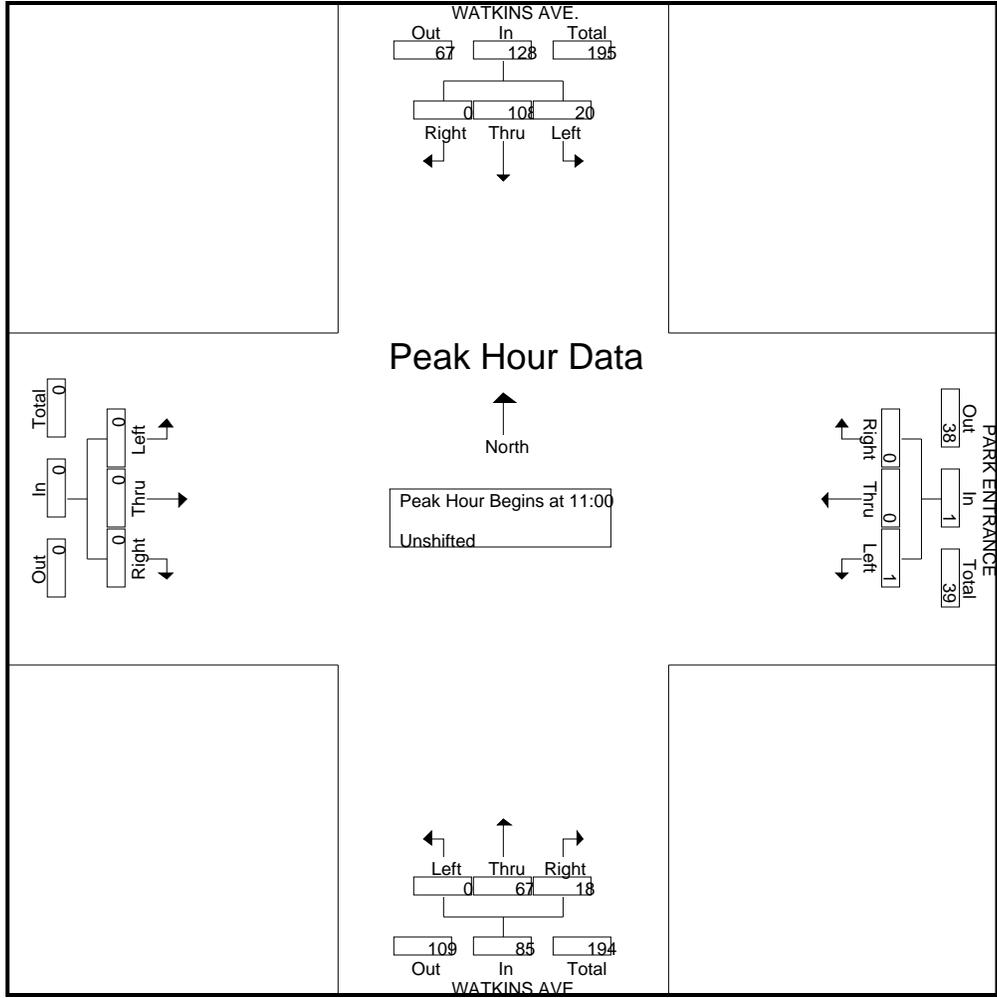
CITY OF ATHERTON

File Name : 11-7239-005 WATKINS-PARK ENTRANCE

Site Code : 00000000

Start Date : 5/21/2011

Page No : 2



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-002 WATKINS-DINKELSPIEL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 1

## Groups Printed- Unshifted

Start Time	WATKINS AVE. Southbound				Westbound				WATKINS AVE. Northbound				DINKELSPIEL (STATION) LANE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	12	0	12	0	0	0	0	0	11	0	11	2	0	0	2	25
07:15	0	22	2	24	0	0	0	0	0	19	0	19	0	0	0	0	43
07:30	0	37	1	38	0	0	0	0	0	27	0	27	4	0	1	5	70
07:45	0	17	1	18	0	0	0	0	0	45	0	45	6	0	1	7	70
Total	0	88	4	92	0	0	0	0	0	102	0	102	12	0	2	14	208
08:00	0	31	1	32	0	0	0	0	1	37	0	38	6	0	0	6	76
08:15	0	14	8	22	0	0	0	0	0	33	0	33	6	0	1	7	62
08:30	0	18	1	19	0	0	0	0	0	33	0	33	1	0	0	1	53
08:45	0	25	1	26	0	0	0	0	1	23	0	24	5	0	0	5	55
Total	0	88	11	99	0	0	0	0	2	126	0	128	18	0	1	19	246
16:00	0	28	12	40	0	0	0	0	0	20	0	20	1	0	2	3	63
16:15	0	16	4	20	0	0	0	0	0	14	0	14	2	0	1	3	37
16:30	0	12	6	18	0	0	0	0	0	16	0	16	5	0	1	6	40
16:45	0	31	8	39	0	0	0	0	1	23	0	24	3	0	0	3	66
Total	0	87	30	117	0	0	0	0	1	73	0	74	11	0	4	15	206
17:00	0	19	3	22	0	0	0	0	1	13	0	14	3	0	0	3	39
17:15	0	14	2	16	0	0	0	0	1	14	0	15	6	0	0	6	37
17:30	0	14	5	19	0	0	0	0	1	7	0	8	2	0	0	2	29
17:45	0	18	6	24	0	0	0	0	1	20	0	21	1	0	0	1	46
Total	0	65	16	81	0	0	0	0	4	54	0	58	12	0	0	12	151
Grand Total	0	328	61	389	0	0	0	0	7	355	0	362	53	0	7	60	811
Apprch %	0	84.3	15.7		0	0	0		1.9	98.1	0		88.3	0	11.7		
Total %	0	40.4	7.5	48	0	0	0	0	0.9	43.8	0	44.6	6.5	0	0.9	7.4	

# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-002 WATKINS-DINKELSPIEL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 2

Start Time	WATKINS AVE. Southbound				Westbound				WATKINS AVE. Northbound				DINKELSPIEL (STATION) LANE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	<b>37</b>	1	<b>38</b>	0	0	0	0	0	27	0	27	4	0	<b>1</b>	5	70
07:45	0	17	1	18	0	0	0	0	0	<b>45</b>	0	<b>45</b>	<b>6</b>	0	1	<b>7</b>	70
08:00	0	31	1	32	0	0	0	0	<b>1</b>	37	0	38	6	0	0	6	<b>76</b>
08:15	0	14	<b>8</b>	22	0	0	0	0	0	33	0	33	6	0	1	7	62
Total Volume	0	99	11	110	0	0	0	0	1	142	0	143	22	0	3	25	278
% App. Total	0	90	10		0	0	0		0.7	99.3	0		88	0	12		
PHF	.000	.669	.344	.724	.000	.000	.000	.000	.250	.789	.000	.794	.917	.000	.750	.893	.914

# All Traffic Data

(916) 771-8700

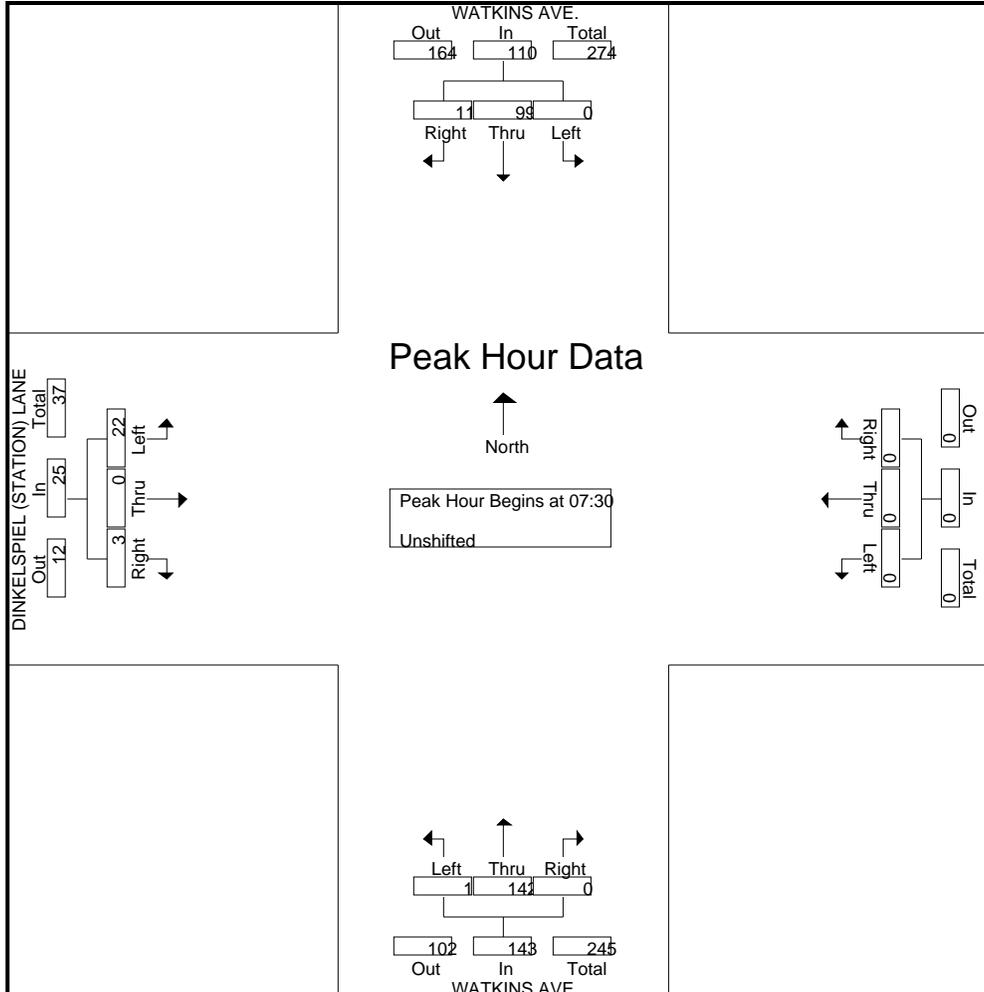
CITY OF ATHERTON

File Name : 11-7239-002 WATKINS-DINKELSPIEL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 3



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-002 WATKINS-DINKELSPIEL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 4

Start Time	WATKINS AVE. Southbound				Westbound				WATKINS AVE. Northbound				DINKELSPIEL (STATION) LANE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	28	12	40	0	0	0	0	0	20	0	20	1	0	2	3	63
16:15	0	16	4	20	0	0	0	0	0	14	0	14	2	0	1	3	37
16:30	0	12	6	18	0	0	0	0	0	16	0	16	5	0	1	6	40
16:45	0	31	8	39	0	0	0	0	1	23	0	24	3	0	0	3	66
Total Volume	0	87	30	117	0	0	0	0	1	73	0	74	11	0	4	15	206
% App. Total	0	74.4	25.6		0	0	0		1.4	98.6	0		73.3	0	26.7		
PHF	.000	.702	.625	.731	.000	.000	.000	.000	.250	.793	.000	.771	.550	.000	.500	.625	.780

# All Traffic Data

(916) 771-8700

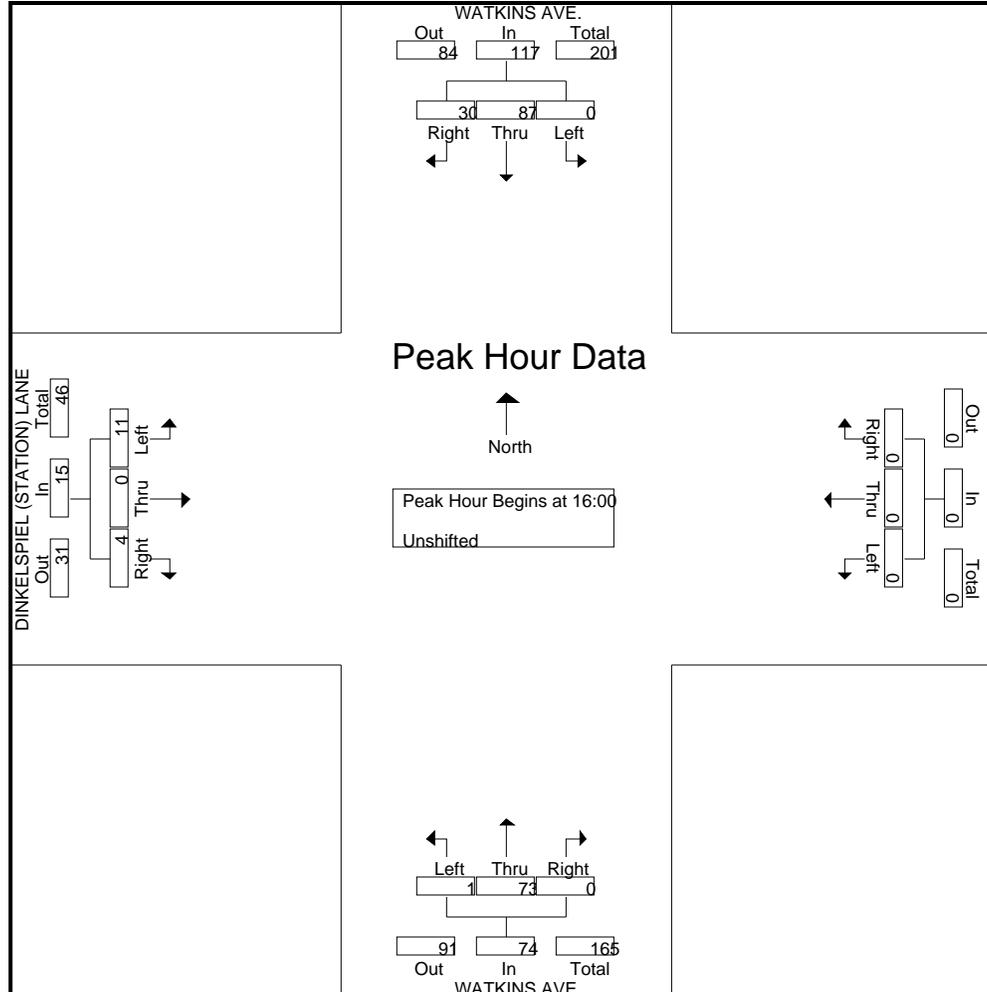
CITY OF ATHERTON

File Name : 11-7239-002 WATKINS-DINKELSPIEL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 5



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-004 WATKINS-EL CAMINO REAL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 1

## Groups Printed- Unshifted

Start Time	WATKINS AVE. Southbound				EL CAMINO REAL Westbound				Northbound				EL CAMINO REAL Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	10	0	3	13	0	89	6	95	0	0	0	0	6	236	0	242	350
07:15	18	0	4	22	0	103	14	117	0	0	0	0	4	329	0	333	472
07:30	20	0	20	40	0	168	18	186	0	0	0	0	9	543	0	552	778
07:45	6	0	14	20	0	231	28	259	0	0	0	0	19	535	0	554	833
Total	54	0	41	95	0	591	66	657	0	0	0	0	38	1643	0	1681	2433
08:00	17	0	15	32	0	226	26	252	0	0	0	0	8	438	0	446	730
08:15	8	0	5	13	0	208	28	236	0	0	0	0	8	442	0	450	699
08:30	8	0	8	16	0	195	26	221	0	0	0	0	9	490	0	499	736
08:45	10	0	13	23	0	190	19	209	0	0	0	0	4	406	0	410	642
Total	43	0	41	84	0	819	99	918	0	0	0	0	29	1776	0	1805	2807
16:00	0	0	27	27	0	404	14	418	0	0	0	0	8	284	0	292	737
16:15	1	0	15	16	0	392	11	403	0	0	0	0	5	279	0	284	703
16:30	0	0	11	11	0	421	11	432	0	0	0	0	7	269	0	276	719
16:45	3	0	26	29	0	384	15	399	0	0	0	0	8	305	0	313	741
Total	4	0	79	83	0	1601	51	1652	0	0	0	0	28	1137	0	1165	2900
17:00	0	0	20	20	0	449	12	461	0	0	0	0	2	324	0	326	807
17:15	2	0	15	17	0	470	6	476	0	0	0	0	7	297	0	304	797
17:30	2	0	11	13	0	462	6	468	0	0	0	0	1	288	0	289	770
17:45	2	0	15	17	0	440	15	455	0	0	0	0	8	252	0	260	732
Total	6	0	61	67	0	1821	39	1860	0	0	0	0	18	1161	0	1179	3106
Grand Total	107	0	222	329	0	4832	255	5087	0	0	0	0	113	5717	0	5830	11246
Apprch %	32.5	0	67.5		0	95	5		0	0	0	0	1.9	98.1	0		
Total %	1	0	2	2.9	0	43	2.3	45.2	0	0	0	0	1	50.8	0	51.8	

# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-004 WATKINS-EL CAMINO REAL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 2

Start Time	WATKINS AVE. Southbound				EL CAMINO REAL Westbound				Northbound				EL CAMINO REAL Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	20	0	20	40	0	168	18	186	0	0	0	0	9	543	0	552	778
07:45	6	0	14	20	0	231	28	259	0	0	0	0	19	535	0	554	833
08:00	17	0	15	32	0	226	26	252	0	0	0	0	8	438	0	446	730
08:15	8	0	5	13	0	208	28	236	0	0	0	0	8	442	0	450	699
Total Volume	51	0	54	105	0	833	100	933	0	0	0	0	44	1958	0	2002	3040
% App. Total	48.6	0	51.4		0	89.3	10.7		0	0	0		2.2	97.8	0		
PHF	.638	.000	.675	.656	.000	.902	.893	.901	.000	.000	.000	.000	.579	.901	.000	.903	.912

# All Traffic Data

(916) 771-8700

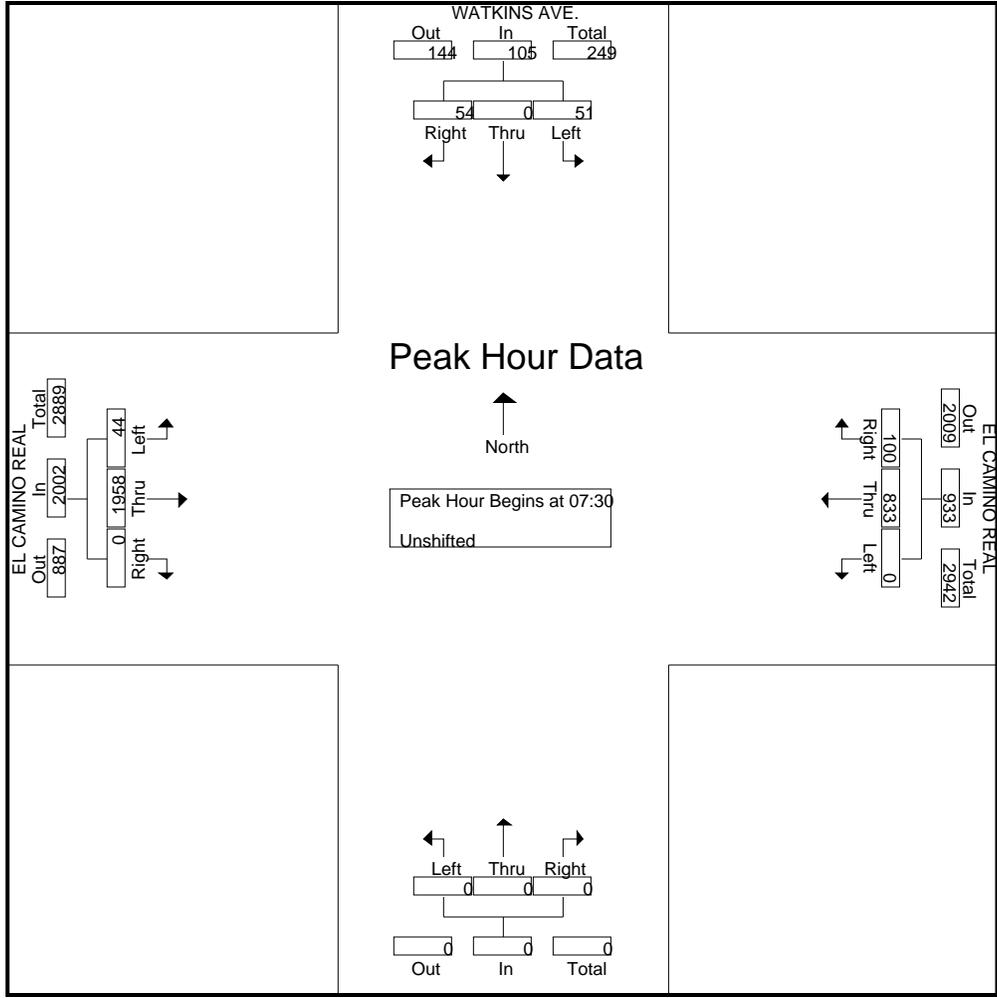
CITY OF ATHERTON

File Name : 11-7239-004 WATKINS-EL CAMINO REAL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 3



# All Traffic Data

(916) 771-8700

CITY OF ATHERTON

File Name : 11-7239-004 WATKINS-EL CAMINO REAL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 4

Start Time	WATKINS AVE. Southbound				EL CAMINO REAL Westbound				Northbound				EL CAMINO REAL Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	<b>3</b>	0	<b>26</b>	<b>29</b>	0	384	<b>15</b>	399	0	0	0	0	<b>8</b>	305	0	313	741
17:00	0	0	20	20	0	449	12	461	0	0	0	0	2	<b>324</b>	0	<b>326</b>	<b>807</b>
17:15	2	0	15	17	0	<b>470</b>	6	<b>476</b>	0	0	0	0	7	297	0	304	797
17:30	2	0	11	13	0	462	6	468	0	0	0	0	1	288	0	289	770
Total Volume	7	0	72	79	0	1765	39	1804	0	0	0	0	18	1214	0	1232	3115
% App. Total	8.9	0	91.1		0	97.8	2.2		0	0	0		1.5	98.5	0		
PHF	.583	.000	.692	.681	.000	.939	.650	.947	.000	.000	.000	.000	.563	.937	.000	.945	.965

# All Traffic Data

(916) 771-8700

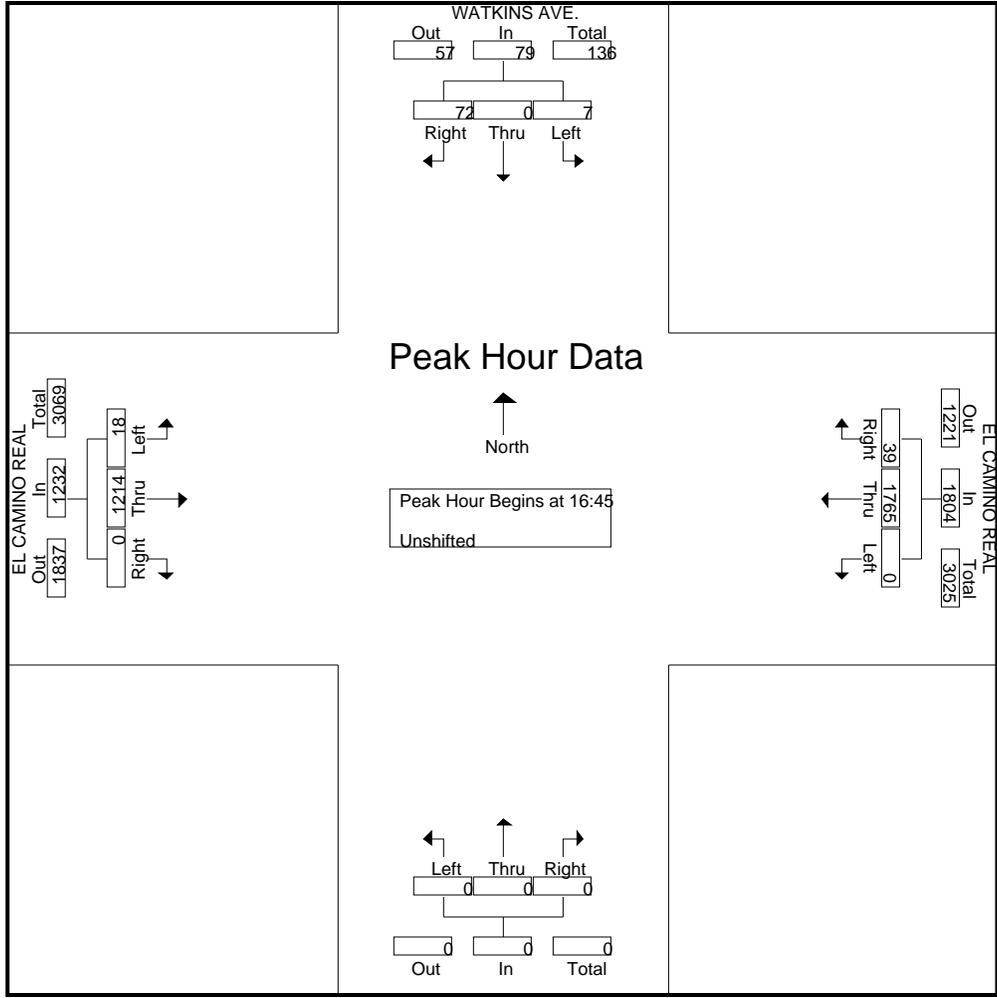
CITY OF ATHERTON

File Name : 11-7239-004 WATKINS-EL CAMINO REAL

Site Code : 00000000

Start Date : 5/25/2011

Page No : 5



# Atherton Library

Project # 11-7240

Location: Atherton Library

City: Atherton

Wednesday

5/25/2011

TIME	Parking Lot Perpendicular to the Street		On Street North Side		On Street South Side		TOTAL
	Reg.		2 Hour		Reg.		
Spaces	<u>11</u>	<u>1</u>	<u>5</u>	<u>None</u>		<u>None</u>	17+
10:00 AM	2	1	3		2		8
11:00 AM	4	0	4		2		10
12:00 PM	3	0	3		3		9
1:00 PM	2	0	2		5		9
2:00 PM	5	0	3		4		12
3:00 PM	4	1	3		6		14
4:00 PM	4	1	3		1		9
5:00 PM	3	0	1		1		5
6:00 PM	4	0	0		5		9
7:00 PM	4	0	0		2		6
8:00 PM	4	0	0		2		6

# Holbrook-Palmer Park

Project # 11-7240

Location: Holbrook-Palmer Park

City: Atherton

Wednesday

5/25/2011

TIME Spaces	Lot A		Lot B		Lot C			TOTAL
	Reg. <u>58</u>	 <u>None</u>	Reg. <u>21</u>	 <u>1</u>	Reg. <u>35</u>	15 Min <u>6</u>	 <u>3</u>	
10:00 AM	3		18	0	10	0	0	31
11:00 AM	2		17	0	11	0	0	30
12:00 PM	2		17	0	18	6	0	43
1:00 PM	4		20	0	19	6	0	49
2:00 PM	4		19	0	4	0	0	27
3:00 PM	7		20	0	8	0	1	36
4:00 PM	11		4	0	6	0	0	21
5:00 PM	14		2	0	4	0	0	20
6:00 PM	11		5	0	11	4	0	31
7:00 PM	11		15	0	31	6	1	64
8:00 PM	10		13	0	19	6	1	49

# Holbrook-Palmer Park

Project # 11-7240

Location: Holbrook-Palmer Park

City: Atherton

Saturday

5/21/2011

TIME	Lot A		Lot B		Lot C			TOTAL
	Reg.		Reg.		Reg.	15 Min		
Spaces	<u>58</u>	<u>None</u>	<u>21</u>	<u>1</u>	<u>35</u>	<u>6</u>	<u>3</u>	<u>124</u>
10:00 AM	19		15	0	33	5	3	75
11:00 AM	12		13	1	33	6	2	67
12:00 PM	5		18	0	21	5	0	49
1:00 PM	4		3	0	24	4	1	36
2:00 PM	16		11	0	9	2	0	38
3:00 PM	21		11	0	6	0	0	38
4:00 PM	15		4	0	5	0	0	24
5:00 PM	9		0	0	6	0	0	15

**APPENDIX B**  
**LOS CALCULATION WORKSHEETS**

Please note that traffic counts and worksheets contained in these appendices utilize a different directional convention than the body of the report. Because the San Francisco Bay is predominantly north of the Town of Atherton, roads headed toward the bay (e.g., Fair Oaks Lane) are designated northbound-southbound in the appendices while roadways parallel to the bay (e.g., Middlefield Road) are designated eastbound-westbound in the appendices. The body of the report utilizes the same directional convention as the Town of Atherton where roadways progressing along the peninsula toward the City of San Francisco (e.g., El Camino Real) are designated northbound-southbound.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Fair Oaks Ln/Dinlelspiel Station Ln
\*\*\*\*\*

Cycle (sec): 1 Critical Vol./Cap.(X): 0.322
Loss Time (sec): 0 Average Delay (sec/veh): 2.9
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), and Lanes (0 0 0 1 0).

Volume Module table with 12 columns and 12 rows. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Saturation Flow Module table with 12 columns and 4 rows. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with 12 columns and 8 rows. Rows include Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, Delay Adj, AdjDel/Veh, and DesignQueue.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Watkins Ave/Middlefield Rd
\*\*\*\*\*

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: D[ 34.2]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (1 0 0 0 1).

Volume Module: Table with 13 columns for volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 rows for North, South, East, and West bounds.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gp, FollowUpTim) and 4 rows for North, South, East, and West bounds.

Capacity Module: Table with 13 columns for capacity metrics (Cnflict Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows for North, South, East, and West bounds.

Level Of Service Module: Table with 13 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 rows for North, South, East, and West bounds.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Watkins Ave/Park Exit
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A[ 9.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 columns for North, South, East, West bounds.

Critical Gap Module: Table with 13 columns for gap components (Critical Gp, FollowUpTim) and 4 columns for North, South, East, West bounds.

Capacity Module: Table with 13 columns for capacity components (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 columns for North, South, East, West bounds.

Level Of Service Module: Table with 13 columns for LOS components (2Way95thQ, Control Del, LOS by Move, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 columns for North, South, East, West bounds.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #4 Watkins Ave/Park Entrance
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[ 7.6]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module table with 13 columns and 13 rows including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module table with 3 columns and 2 rows showing Critical Gp and FollowUpTim values.

Capacity Module table with 3 columns and 4 rows showing Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module table with 3 columns and 10 rows showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Watkins Ave/Dinkelspiel Station Ln
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A[ 9.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1-0-0).

Volume Module table with 13 columns and 13 rows including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module table with 13 columns and 2 rows showing Critical Gp and FollowUpTim values.

Capacity Module table with 13 columns and 4 rows showing Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module table with 13 columns and 10 rows showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Watkins Ave/El Camino Real
\*\*\*\*\*

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: F[ 59.6]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0 0 0 0 0).

Volume Module: Table with 13 columns for volume components. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module: Table with 13 columns for gap metrics. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 13 columns for LOS metrics. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Fair Oaks Ln/Dinlelspiel Station Ln
\*\*\*\*\*

Cycle (sec): 1 Critical Vol./Cap.(X): 0.249
Loss Time (sec): 0 Average Delay (sec/veh): 2.4
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different volume categories and 12 rows of adjustment factors.

Saturation Flow Module: Table with 12 columns and 4 rows showing saturation flow and adjustment factors.

Capacity Analysis Module: Table with 12 columns and 8 rows showing capacity analysis metrics.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Watkins Ave/Middlefield Rd
\*\*\*\*\*

Average Delay (sec/veh): 2.3 Worst Case Level Of Service: E[ 45.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (1 0 0 0 1).

Volume Module: Table with 13 columns for volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 rows for North, South, East, and West bounds.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gp, FollowUpTim) and 4 rows for North, South, East, and West bounds.

Capacity Module: Table with 13 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows for North, South, East, and West bounds.

Level Of Service Module: Table with 13 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 rows for North, South, East, and West bounds.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Watkins Ave/Park Exit
\*\*\*\*\*

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: A[ 9.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns for various volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 rows for North, South, East, and West bounds.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gp, FollowUpTim) and 4 rows for North, South, East, and West bounds.

Capacity Module: Table with 13 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows for North, South, East, and West bounds.

Level Of Service Module: Table with 13 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 rows for North, South, East, and West bounds.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Watkins Ave/Park Entrance
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[ 7.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns representing different volume components like Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Critical Gap Module: Table with 3 columns showing Critical Gp, FollowUpTim, and other gap-related metrics.

Capacity Module: Table with 3 columns showing Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 3 columns showing 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Watkins Ave/Dinkelspiel Station Ln
\*\*\*\*\*

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: A[ 9.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1-0-0-0).

Volume Module: Table with 13 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 rows of data.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gp, FollowUpTim) and 2 rows of data.

Capacity Module: Table with 13 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows of data.

Level of Service Module: Table with 13 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 10 rows of data.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Watkins Ave/El Camino Real
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: D[ 29.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0 0 0 0 0).

Volume Module: Table with 13 columns for various volume metrics like Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Table with 13 columns for gap metrics like Critical Gp, FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Watkins Ave/Park Exit
\*\*\*\*\*

Average Delay (sec/veh): 3.4 Worst Case Level Of Service: A[ 9.1]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module table with 13 columns and 13 rows including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module table with 13 columns and 2 rows: Critical Gp and FollowUpTim.

Capacity Module table with 13 columns and 4 rows: Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module table with 13 columns and 10 rows including 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Watkins Ave/Park Entrance
\*\*\*\*\*

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: A[ 7.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 rows for North, South, East, West bounds.

Critical Gap Module: Table with 4 columns for North, South, East, West bounds. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 4 columns for North, South, East, West bounds. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 4 columns for North, South, East, West bounds. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Fair Oaks Ln/Dinlelspiel Station Ln
\*\*\*\*\*

Cycle (sec): 1 Critical Vol./Cap.(X): 0.324
Loss Time (sec): 0 Average Delay (sec/veh): 2.9
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), and Lanes (0 0 0 1 0).

Volume Module: Table with 12 columns for volume adjustments. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Saturation Flow Module: Table with 12 columns for saturation flow. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for capacity analysis. Rows include Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, Delay Adj, AdjDel/Veh, and DesignQueue.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Watkins Ave/Middlefield Rd
\*\*\*\*\*

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: D[ 34.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (1 0 0 0 1, etc.).

Volume Module: Table with 13 columns for different volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) and 4 rows for North, South, East, and West bounds.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gp, FollowUpTim) and 4 rows for North, South, East, and West bounds.

Capacity Module: Table with 13 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows for North, South, East, and West bounds.

Level Of Service Module: Table with 13 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 rows for North, South, East, and West bounds.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Watkins Ave/Park Exit
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A[ 9.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns for various volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) and 4 rows for North, South, East, and West bounds.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gp, FollowUpTim) and 4 rows for North, South, East, and West bounds.

Capacity Module: Table with 13 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows for North, South, East, and West bounds.

Level of Service Module: Table with 13 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 rows for North, South, East, and West bounds.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Watkins Ave/Park Entrance
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[ 7.6]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns for traffic volumes and adjustments. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 13 columns for gap and follow-up times. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity and volume. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 13 columns for LOS metrics. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Watkins Ave/Dinkelspiel Station Ln
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A[ 9.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1-0-0-0).

Volume Module: Table with 13 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) and 4 rows for North, South, East, West bounds.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gp, FollowUpTim) and 4 rows for North, South, East, West bounds.

Capacity Module: Table with 13 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows for North, South, East, West bounds.

Level of Service Module: Table with 13 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 rows for North, South, East, West bounds.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Watkins Ave/El Camino Real
\*\*\*\*\*

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: F[ 59.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0 0 0 0 0).

Volume Module: Table with 13 columns for traffic volumes and adjustment factors. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 13 columns for gap and follow-up times. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity and volume. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 13 columns for LOS and delay. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #1 Fair Oaks Ln/Dinlelspiel Station Ln
\*\*\*\*\*

Cycle (sec): 1 Critical Vol./Cap.(X): 0.258
Loss Time (sec): 0 Average Delay (sec/veh): 2.6
Optimal Cycle: 0 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign), Rights (Include), and Lanes (0 0 0 1 0).

Volume Module: Table with 12 columns representing different traffic directions. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Saturation Flow Module: Table with 12 columns. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns. Rows include Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, Delay Adj, AdjDel/Veh, and DesignQueue.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Watkins Ave/Middlefield Rd
\*\*\*\*\*

Average Delay (sec/veh): 2.3 Worst Case Level Of Service: E[ 44.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (1 0 0 0 1, etc.).

Volume Module: Table with 13 columns for volume components. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 13 columns for gap metrics. Rows include Critical Gp, FollowUpTim, and various 'xxxx' values.

Capacity Module: Table with 13 columns for capacity metrics. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS metrics. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #3 Watkins Ave/Park Exit
\*\*\*\*\*

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: A[ 9.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns for various volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Critical Gap Module: Table with 13 columns for critical gap and follow-up time values, some marked as xxxxx.

Capacity Module: Table with 13 columns for capacity-related metrics like Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS-related metrics like 2Way95thQ, Control Del, LOS by Move, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Watkins Ave/Park Entrance
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[ 7.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume).

Critical Gap Module: Table with 3 columns for Critical Gp, FollowUpTim, and other metrics.

Capacity Module: Table with 3 columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 3 columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Watkins Ave/Dinkelspiel Station Ln
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A[ 9.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1-0-0-0).

Volume Module: Table with 13 columns for different volume types (Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) and 4 rows for North, South, East, and West bounds.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gap, FollowUpTim) and 4 rows for North, South, East, and West bounds.

Capacity Module: Table with 13 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows for North, South, East, and West bounds.

Level of Service Module: Table with 13 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 rows for North, South, East, and West bounds.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Watkins Ave/El Camino Real
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: D[ 30.2]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0 0 0 0 0).

Volume Module: Table with 13 columns for different volume types (Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) and 4 rows for North, South, East, and West bounds.

Critical Gap Module: Table with 13 columns for gap metrics and 2 rows for Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics and 4 rows for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 13 columns for LOS metrics and 8 rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*

Intersection #1 Fair Oaks Ln/Dinlelspiel Station Ln

\*\*\*\*\*

Cycle (sec): 1 Critical Vol./Cap.(X): 0.322
Loss Time (sec): 0 Average Delay (sec/veh): 2.9
Optimal Cycle: 0 Level Of Service: A

\*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Yield Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1! 0 0

Volume Module:
Base Vol: 0 184 18 16 314 0 0 0 0 10 0 15
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 184 18 16 314 0 0 0 0 10 0 15
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Project: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 184 18 16 314 0 0 0 0 10 0 15
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 184 18 16 314 0 0 0 0 10 0 15
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 184 18 16 314 0 0 0 0 10 0 15

Saturation Flow Module:
Sat/Lane: 0 0 0 0 0 0 0 0 0 0 0 0
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 0.91 0.09 0.05 0.95 0.00 0.00 0.00 0.00 0.40 0.00 0.60
Final Sat.: 0 841 82 50 974 0 0 0 0 98 0 148

Capacity Analysis Module:
Vol/Sat: 0.00 0.22 0.22 0.32 0.32 0.00 0.00 0.00 0.00 0.10 0.00 0.10
Crit Moves: \*\*\*\*
Green/Cycle: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Volume/Cap: 0.00 0.22 0.22 0.32 0.32 0.00 0.00 0.00 0.00 0.10 0.00 0.10
Delay/Veh: 0.0 2.3 2.3 3.4 3.4 0.0 0.0 0.0 0.0 1.5 0.0 1.5
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 2.3 2.3 3.4 3.4 0.0 0.0 0.0 0.0 1.5 0.0 1.5
DesignQueue: 0 0 0 0 0 0 0 0 0 0 0 0

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Watkins Ave/Middlefield Rd
\*\*\*\*\*

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: D[ 34.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (1 0 0 0 1).

Volume Module: Table with 13 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) and 4 rows of data.

Critical Gap Module: Table with 13 columns for gap metrics (Critical Gp, FollowUpTim) and 2 rows of data.

Capacity Module: Table with 13 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 4 rows of data.

Level Of Service Module: Table with 13 columns for LOS metrics (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 10 rows of data.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*

Intersection #3 Watkins Ave/Park Exit

\*\*\*\*\*

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: A[ 9.4]

\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound											
Movement:	L	T	R	L	T	R	L	T	R	L	T	R									
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign											
Rights:	Include			Include			Include			Include											
Lanes:	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1

Volume Module:

Base Vol:	0	131	0	0	107	0	0	0	0	11	0	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	131	0	0	107	0	0	0	0	11	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	0	0	0	0	4	0	0	0	0	2	0	2
Initial Fut:	0	131	0	0	111	0	0	0	0	13	0	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	131	0	0	111	0	0	0	0	13	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	131	0	0	111	0	0	0	0	13	0	18

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	242	xxxx	131
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	751	xxxx	924
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	751	xxxx	924
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.02

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.9	xxxx	9.0
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	A
Movement:	LT - LTR - RT											
Shared Cap.:	xxxx	xxxx	xxxxx									
SharedQueue:	xxxxx	xxxx	xxxxx									
Shrd ConDel:	xxxxx	xxxx	xxxxx									
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.4		
ApproachLOS:	*			*			*			A		

\*\*\*\*\*

Note: Queue reported is the number of cars per lane.

\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Watkins Ave/Park Entrance
\*\*\*\*\*

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: A[ 7.6]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns for traffic volumes and adjustments. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 13 columns for gap and follow-up times. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity and volume. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 13 columns for LOS and delay. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Watkins Ave/Dinkelspiel Station Ln
\*\*\*\*\*

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A[ 9.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1-0-0-0).

Volume Module: Table with 13 columns for volume components. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 13 columns for gap metrics. Rows include Critical Gp, FollowUpTim, and various 'xxxx' placeholders.

Capacity Module: Table with 13 columns for capacity metrics. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 13 columns for LOS metrics. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Watkins Ave/El Camino Real
\*\*\*\*\*

Average Delay (sec/veh): 2.3 Worst Case Level Of Service: F[ 60.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes (0 0 0 0 0).

Volume Module: Table with 13 columns for traffic volumes and adjustment factors. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module: Table with 13 columns for gap and follow-up times. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity and volume. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module: Table with 13 columns for LOS and delay. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*

Intersection #1 Fair Oaks Ln/Dinlelspiel Station Ln

\*\*\*\*\*

Cycle (sec): 1 Critical Vol./Cap.(X): 0.249
Loss Time (sec): 0 Average Delay (sec/veh): 2.4
Optimal Cycle: 0 Level Of Service: A

\*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Yield Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0

Volume Module:
Base Vol: 0 213 14 19 203 0 0 0 0 17 0 25
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 213 14 19 203 0 0 0 0 17 0 25
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Project: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 213 14 19 203 0 0 0 0 17 0 25
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 213 14 19 203 0 0 0 0 17 0 25
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 213 14 19 203 0 0 0 0 17 0 25

Saturation Flow Module:
Sat/Lane: 0 0 0 0 0 0 0 0 0 0 0 0
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.00 0.94 0.06 0.09 0.91 0.00 0.00 0.00 0.00 0.40 0.00 0.60
Final Sat.: 0 854 56 81 864 0 0 0 0 114 0 168

Capacity Analysis Module:
Vol/Sat: 0.00 0.25 0.25 0.23 0.23 0.00 0.00 0.00 0.00 0.15 0.00 0.15
Crit Moves: \*\*\*\*
Green/Cycle: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Volume/Cap: 0.00 0.25 0.25 0.23 0.23 0.00 0.00 0.00 0.00 0.15 0.00 0.15
Delay/Veh: 0.0 2.6 2.6 2.4 2.4 0.0 0.0 0.0 0.0 1.8 0.0 1.8
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 2.6 2.6 2.4 2.4 0.0 0.0 0.0 0.0 1.8 0.0 1.8
DesignQueue: 0 0 0 0 0 0 0 0 0 0 0 0

\*\*\*\*\*

Note: Queue reported is the number of cars per lane.

\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #2 Watkins Ave/Middlefield Rd
\*\*\*\*\*

Average Delay (sec/veh): 3.5 Worst Case Level Of Service: F[ 57.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for volume components like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for gap metrics like Critical Gp, FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*

Intersection #3 Watkins Ave/Park Exit

\*\*\*\*\*

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: A[ 10.0]

\*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign										
Rights:	Include			Include			Include			Include										
Lanes:	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1

Volume Module:

Base Vol:	0	170	0	0	100	0	0	0	0	30	0	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	170	0	0	100	0	0	0	0	30	0	25
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	0	0	0	0	21	0	0	0	0	23	0	23
Initial Fut:	0	170	0	0	121	0	0	0	0	53	0	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	170	0	0	121	0	0	0	0	53	0	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	170	0	0	121	0	0	0	0	53	0	48

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3

Capacity Module:

Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	291	xxxx	170
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	704	xxxx	879
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	704	xxxx	879
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.08	xxxx	0.05

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	0.2			
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.5	xxxx	9.3			
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	A			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.0					
ApproachLOS:	*			*			*			A					

\*\*\*\*\*

Note: Queue reported is the number of cars per lane.

\*\*\*\*\*

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #4 Watkins Ave/Park Entrance
\*\*\*\*\*

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: A[ 7.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Volume Module: Table with 13 columns for different volume types (Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume).

Critical Gap Module: Table with 3 columns for Critical Gp, FollowUpTim, and other metrics.

Capacity Module: Table with 3 columns for Cnflict Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 3 columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #5 Watkins Ave/Dinkelspiel Station Ln
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[ 9.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0 1 0 0 0).

Volume Module: Base Vol, Growth Adj, Initial Bse, Added Vol, Project, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Critical Gap Module: Critical Gp, FollowUpTim.

Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*
Intersection #6 Watkins Ave/El Camino Real
\*\*\*\*\*

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: D[ 30.5]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for various volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for gap metrics like Critical Gp, FollowUpTim, etc.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level Of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #3 Watkins Ave/Park Exit  
 \*\*\*\*\*

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: A[ 9.2]

Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign										
Rights:	Include			Include			Include			Include										
Lanes:	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1

Volume Module:

Base Vol:	0	62	0	0	79	0	0	0	0	47	0	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	62	0	0	79	0	0	0	0	47	0	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	0	0	0	0	0	0	0	0	0	19	0	19
Initial Fut:	0	62	0	0	79	0	0	0	0	66	0	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	62	0	0	79	0	0	0	0	66	0	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	62	0	0	79	0	0	0	0	66	0	57

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	141	xxxx	62
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	857	xxxx	1009
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	857	xxxx	1009
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.08	xxxx	0.06

Level of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	0.2			
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.6	xxxx	8.8			
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	A			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2					
ApproachLOS:	*			*			*			A					

Note: Queue reported is the number of cars per lane.  
 \*\*\*\*\*

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #4 Watkins Ave/Park Entrance  
 \*\*\*\*\*

Average Delay (sec/veh): 1.2 Worst Case Level Of Service: A[ 7.5]  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign										
Rights:	Include			Include			Include			Include										
Lanes:	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1

Volume Module:

Base Vol:	0	67	18	20	108	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	67	18	20	108	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	0	0	21	22	0	0	0	0	0	0	0	0
Initial Fut:	0	67	39	42	108	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	67	39	42	108	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	67	39	42	108	0	0	0	0	0	0	0

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxxx	106	xxxx	xxxxx	xxxx	xxxx	xxxxx	279	xxxx	87
Potent Cap.:	xxxx	xxxx	xxxxx	1498	xxxx	xxxxx	xxxx	xxxx	xxxxx	716	xxxx	978
Move Cap.:	xxxx	xxxx	xxxxx	1498	xxxx	xxxxx	xxxx	xxxx	xxxxx	700	xxxx	978
Volume/Cap:	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.00

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
Control Del:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx												
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:	*			*			*			*					

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 Note: Queue reported is the number of cars per lane.  
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Level Of Service Computation Report

FHWA Roundabout Method (Future Volume Alternative)

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Intersection #2 Watkins Ave/Middlefield Rd

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Average Delay (sec/veh): 7.8 Level Of Service: A

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Yield Sign			Yield Sign			Yield Sign		
Lanes:	1			0			1			1		

Volume Module:

Base Vol:	64	0	52	0	0	0	0	740	50	50	570	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	64	0	52	0	0	0	0	740	50	50	570	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	1	0	1	0	0	0	0	0	2	2	0	0
Initial Fut:	65	0	53	0	0	0	0	740	52	52	570	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	0	53	0	0	0	0	740	52	52	570	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	0	53	0	0	0	0	740	52	52	570	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	0	53	0	0	0	0	740	52	52	570	0

PCE Module:

AutoPCE:	65	0	53	0	0	0	0	740	52	52	570	0
TruckPCE:	0	0	0	0	0	0	0	0	0	0	0	0
ComboPCE:	0	0	0	0	0	0	0	0	0	0	0	0
BicyclePCE:	0	0	0	0	0	0	0	0	0	0	0	0
AdjVolume:	65	0	53	0	0	0	0	740	52	52	570	0

Delay Module: >> Time Period: 0.25 hours <<

CircVolume:	740	687	52	65
MaxVolume:	800	xxxxxx	1172	1165
PedVolume:	0	0	0	0
AdjMaxVol:	800	xxxxxx	1172	1165
ApproachVol:	118	xxxxxx	792	622
ApproachV/C:	0.15	1.00	0.68	0.53
ApproachDel:	5.3	xxxxxx	9.2	6.6
ApproachLOS:	A	*	A	A
Queue:	0.5	xxxx	5.6	3.3

Level Of Service Computation Report

FHWA Roundabout Method (Future Volume Alternative)

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Intersection #2 Watkins Ave/Middlefield Rd

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Average Delay (sec/veh): 11.9 Level Of Service: B

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Yield Sign			Yield Sign			Yield Sign			Yield Sign		
Lanes:	1			0			1			1		

Volume Module:

Base Vol:	39	0	36	0	0	0	0	723	44	66	879	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	0	36	0	0	0	0	723	44	66	879	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	12	0	11	0	0	0	0	0	11	10	0	0
Initial Fut:	51	0	47	0	0	0	0	723	55	76	879	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	0	47	0	0	0	0	723	55	76	879	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	0	47	0	0	0	0	723	55	76	879	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	0	47	0	0	0	0	723	55	76	879	0

PCE Module:

AutoPCE:	51	0	47	0	0	0	0	723	55	76	879	0
TruckPCE:	0	0	0	0	0	0	0	0	0	0	0	0
ComboPCE:	0	0	0	0	0	0	0	0	0	0	0	0
BicyclePCE:	0	0	0	0	0	0	0	0	0	0	0	0
AdjVolume:	51	0	47	0	0	0	0	723	55	76	879	0

Delay Module: >> Time Period: 0.25 hours <<

CircVolume:	723	1006	76	51
MaxVolume:	810	xxxxxx	1159	1172
PedVolume:	0	0	0	0
AdjMaxVol:	810	xxxxxx	1159	1172
ApproachVol:	98	xxxxxx	778	955
ApproachV/C:	0.12	1.00	0.67	0.81
ApproachDel:	5.1	xxxxxx	9.2	14.9
ApproachLOS:	A	*	A	B
Queue:	0.4	xxxx	5.5	9.7